Longing for Leverage?

Examination of leveraged loan volume and the underlying drivers impacting the market

12/4/2013

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**Executive Summary**

This report explores the factors that affect leveraged loan monthly volume. The leveraged loan market, currently valued at $55.74 billion dollars, has attracted significant attention in the last few years. The name of this debt-instrument is attributed to the below investment-grade companies who use these loans, and are already laden with debt. Since these senior loans are paid with a floating rate, many investors are looking to leveraged loans as a protection mechanism in a rising interest rate environment. Given the current Quantitative Easing policies of the Federal Reserve, interest rates are at historic lows. Furthermore, investors are lulled by the below-average default risks in the current market, and seek to boost returns while the Fed keeps interest rates at about zero⁰.

The leveraged loan market has experienced various peaks and troughs over different time periods, and these trends have been attributed to various factors. In attempts to distinguish the variables with the strongest influence over the market, we compared five variables to leveraged loan volume: secondary pricing, Libor rate, investor confidence, unemployment rate, and 30 year mortgage rate. After further analysis, we discovered that the optimal regression model did not include the Libor rate, so that our final regression was as follows:

\[
\text{US Volume (in US$B) = -20.9 - 0.441 \ North \ American \ Investor \ Confidence } \\
\text{ - 13.0 \ US \ Unemployment \ Rate \ (Seasonal)} \\
\text{ + 11.3 \ 30 \ Year \ Fixed \ Mortgage \ Rate} \\
\text{ + 1.72 \ US \ Secondary \ Pricing}
\]

While the variables only explain 59.5% of change in leveraged loan volume, this model sheds insight into possible causes for the status of today’s markets. It helps in understanding inherent problems and weaknesses of the American and European leveraged loan market structure. As the United States faces issues within the market, our model can help predict how changes in regulations may impact leveraged loan volume.

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Introduction

Although people define leveraged loans differently, the general definition describes them as debt instruments issued by financial institutions, and syndicated through a group of banks and institutional investors. The loan is extended to companies with below investment grade credit ratings (Below BBB-Baa3), and it is often secured by physical collateral. Leveraged loans typically constitute a large piece of these below investment grade companies’ capital structure, and the term itself reflects “the highly leveraged nature of the issuing companies’ balance sheets.”

Leveraged loans can either take the form of a revolving credit facility (RCF), or that of a term loan. While both of these follow a floating rate with fixed rate spreads above The London Interbank Offered Rate (Libor), they differ in their terms of use and general composition. RCFs work similarly to credit cards; they are unfunded instruments that can be drawn upon at the issuer’s discretion and repaid at any point. An RCF’s balance must be paid in full at its maturity, but is often renewed into a new facility. Conversely, term loans resemble the structure of a car loan; a term loan is fully funded and immediately drawn upon being issued. These loans are amortized throughout their term, with a balloon-payment at maturity. Financial institutions grant leveraged loans either on a “best-efforts” basis, in which there is no guarantee that the full amount of financing will be raised, or on an “underwritten” basis, where the arranger (the investment bank) provides the entire financing upfront and syndicates its exposure to other firms. The average syndicated loan issuance process takes between 8 to 12 weeks, from pitch to close.

Collateralized loan obligations (CLOs) compose the majority of the leveraged loan secondary market. CLOs are a type of collateralized debt obligation that pool leveraged-loans and slice them into securities of varying risk and return. A successful leveraged loan investor focuses on a credit-intensive
process that requires a solid understanding of the company’s business fundamentals, corporate management, stability of financing, covenants, etc. With the global rise of leverage loan volume, individual investors have also entered this secondary market, despite the necessary credit-intensive process. Previously, investors faced challenges in their attempts to participate in this market. However, several brokerage houses have created their own Exchange Traded Funds (ETFs) that expose individual investors to the leveraged loan market. In particular, Powershares recently unveiled their leveraged loan ETF, which tracks the market-weighted performance of the largest institutional leveraged loans based on market weightings, spreads and interest payments. Mutual funds have also increased investments in CLOs, providing individual investors with access to these instruments.

**Leveraged Loan vs. High Yield Bond**

Leveraged finance groups at investment banks also issue high-yield bonds, which are different from leveraged loans. High-yield bonds are public securities registered with the Security Markets and Exchange Commission (SEC) and sold directly to investors. Loans, on the other hand, are made directly from the investment bank to the corporation, and can then be sold to investors through CLOs. This major difference gives way to other distinct characteristics. In the event of a default, holders of leveraged loans get paid first because of the asset’s seniority. Furthermore, unlike bonds, leveraged loans have “covenant protection,” which restricts borrowers from actions that could impact the loan’s creditworthiness. The two debt instruments also differ in their interest rates; while leveraged loans pay a floating rate, high yield bonds are fixed rate debt instruments.

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8 Johnson, Michael. "PowerShares Debuts Senior Loan ETF (BKLN"


Ultimately, spread duration serves as the most important factor in assessing the relative value between leveraged loans and high yield bonds\(^1\). Due to the fact that loans are callable, the spread duration of a loan trading at or above par depends on the direction of the spread move. While loans don’t experience further upside appreciation as spreads tighten, they absorb depreciation in its entirety as spreads widen\(^2\). Since loans generally trade above par, the lack of call protection limits upside or capital appreciation, which renders the loan market a carry market. In a carry market, limited trading is limited, and investors hold onto their investment until maturity. Due to their seniority in the capital structure and floating rate coupons, loans generally outperform bonds in periods of significant spread widening or rapidly rising interest rates\(^3\).

**Historic Performance Overview**

Before the onset of the 2008-2009 credit crisis, leveraged loans put up consistent mid-single-digit returns, and delivered strong risk-adjusted performance as measured by the *Sharpe ratio*\(^4\). However, the liquidity crunch caused by the economic crisis left many companies unable to fulfill their loan obligations. Financial institutions and investors were forced to sell their leveraged loans to pay off other margin calls, which lead to a significant decline in price as the face value fell by 38%. Default rates for leveraged loans peaked at a record 11% in November 2009\(^5\).

The collateral protection that backed the majority of these loans saved the leverage loan market. Once the dust settled, so to speak, leverage loans rebounded sharply with the S&P LSTA Loan Index returning 52% in 2009\(^6\). Nonetheless, the market has been more volatile in the last three years than it had been during prior economic expansions. Since September of 2009 the leveraged loan market has observed

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\(^2\) Ibid.

\(^3\) Ibid.


\(^5\) Ibid.

\(^6\) Ibid.
four cycles of tightening/widening, where yields have increased by at least 50 basis points and then retraced the entire move\textsuperscript{17}.

**European Leveraged Loan Market**

The institutional involvement in the loan market became substantial between 2003 and 2007, when the European acceptance and appetite for CLOs grew. Similar to the American market, as more investor funds flowed into CLOs and credit hedge funds, the demand for loans increased, and deal structures weakened between 2006 and 2007\textsuperscript{18}.

Europe suffered comparatively greater losses from the collapse of the leveraged loan market. Icelandic banks played a significant role in this outcome, as they expanded their balance sheets by gaining exposure to the loan market. The downfall of the Icelandic banks released more loans into the market, and the sudden increase in supply set off an unprecedented fall in loan prices\textsuperscript{19}.

Since the crisis, the United States’ leveraged loan volume has been higher than European volume every month except for June of 2009 (Exhibit 1). Even though Europe had only reached a high of $530 million in the months of 2009 preceding this outburst, they experienced an abnormally high volume over $13 billion\textsuperscript{20}. Though the leveraged loan markets in both Europe and the United States have been highly volatile since 2009, (standard deviations of $3.628 billion in Europe and $20.607 billion for the United States), the United States’ leveraged loan volume has been consistently and significantly higher than that of Europe, establishing a median volume of $22.16 billion over the four year time frame compared to Europe’s median volume of only $3.65 billion\textsuperscript{21}.

\textsuperscript{19} Ibid.
\textsuperscript{20} *Capital IQ LCD*. S&P Capital IQ, 2013.
\textsuperscript{21} Ibid.
The European loan market’s slower recovery can be partially attributed to concerns over Greece and other European sovereigns, which have introduced more volatility to the high yield market’s, and slowed the pipeline of new issuance\(^22\).

**United States’ Leveraged Loan Volume 2009-2013**


In the first period, between January 2009 and February 2010, leveraged loan volumes in the United States were particularly low. This time period embodies the pinnacle of post great recession recovery efforts, when congress passed acts like the **American Recovery and Reinvestment Act** (February 13, 2009), the **Job Creation Through Entrepreneurship Act** (May 2009), and the **Cash for Clunkers Program** (June 2009)\(^23\). Congress passed these acts- which provided funds for banks, companies, and individuals- to stimulate the weakened economy. The leveraged loan volume for the United States during this time period reflected the economy’s poor state, and the need for these reforms and far-reaching fiscal actions. Though the recession forced several companies to fall below investment grade, since banks themselves were also suffering, they were either unwilling or unable to provide loans to troubled companies. The decreased supply for this market generated a median leveraged loan volume of only $6.97 billion.

However, the drastic actions taken in 2009 made banks more willing and able to grant leveraged loans in the second period from March 2010 to July 2011. The American Recovery and Reinvestment Act, for example, provided banks a desperately needed sum of capital and enabled them to distribute more resources, such as leveraged loans, to besieged companies across the country\(^24\). Armed with these new funds, banks increased the leveraged loan volume, and the median monthly volume resulted in $27.64

\(^{22}\) Ibid.
\(^{24}\) Ibid.
billion. Furthermore, the Federal Reserve carried out the second round of quantitative easing from November of 2010 to June of 2011, which also stimulated growth in the leveraged loan market.25

United States’ leveraged loan volume fell in the period that followed, however, and from August 2011 to August 2012 the median monthly volume was $24.66 billion. This stage occurred between the second and third rounds of quantitative easing from the Federal Reserve, which likely influenced the slight regression from the prior period as banks and corporations were discouraged by the federal intervention’s temporary slowdown.

Between September 2012 and September 2013, the United States enjoyed its highest monthly volume of leveraged loans since the great recession, establishing a median monthly volume of $55.74 billion. While more than double that of the previous year, this period’s median monthly leveraged loan volume exemplifies the latter stages of the long recovery process. In November 2012, the Federal Reserve announced the third round of their quantitative easing program aimed at keeping interest rates between 0% and 0.25%; a program that is still being employed as of November 201326. The high leveraged loan volume reflects both the increased demand that remains since the last recession, and the banks’ ability to provide these risky loans to below investment grade companies.

Influencing Factors for Leveraged Loan Volume

While many factors have been used to explain changes in leveraged loan volumes within the last five years, there are specific variables that show strong correlations with leveraged loan volume. One must understand which factors hold the greatest influence over loan volume in order to create fiscal and monetary policy that encourage this form of lending. Our research distinguished a multitude of factors that have been linked to leveraged loan volume in the past. To identify the validity of these relationships, we retrieved data from five factors to create a regression model. The five factors we chose were secondary pricing, 3 month libor rate, investor confidence, unemployment rate, and 30 year fixed


26 Persaud, Chris. "Great Recession Timeline."
mortgage rates. This regression determines the strength of each factor in relation to leveraged loan volume, as we attempt to detect the variables that hold the greatest influence over this market.

**Secondary Pricing (Exhibits 2 and 3)**

On 01 March 2013, the Wall Street Journal reported the return of large leveraged buyouts; “Wall Street appears willing once again to bankroll some buyouts on short notice because bankers are confident they can parcel out to investors chunks of the loans backing the deal”\(^{27}\). The article attributes HJ Heinz’s recent acquisition to the growth in the leveraged loans’ secondary market. In so doing, the article suggests that banks are more willing to make loans to non-investment grade companies when they can syndicate the loan out to other investors rather than having it on their books. The journalists go on to say, “The rising appetite for loans is a boon for companies and private-equity firms because it drives down borrowing costs to finance takeovers”\(^{28}\). Thus, not only are banks more willing to make loans when there is a secondary market to sell it to, but, as with all markets, rates are inversely correlated with price and demand. Consequently, high demand in the secondary market cause low expected rates of return for investors. As a result, banks can lend out at lower rates as well, which increases the demand for loans.

In order to analyze the validity of this relationship, we ran a regression between the price of the S&P LSTA U.S. Leveraged Loan 100 Index and leveraged loan volume on a monthly basis. As we can observe from the table below, for every $1 increase in the secondary market price of a leveraged loan, the US leveraged loan volume increases by $1.647 billion.

<table>
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<tr>
<th>Model Summary</th>
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<tbody>
<tr>
<td>Model</td>
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<td>1</td>
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</table>

a. Predictors: (Constant), US Secondary Pricing

<table>
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<th>Coefficients(a)</th>
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<tr>
<td>Model</td>
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<tr>
<td>US Secondary Pricing</td>
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\(^{28}\) Ibid.
As mentioned before, prices should move inversely with interest rate. Based on the article, we expect a higher volume of leveraged loans when interest rates are low, and a positive correlation between price and volume. The results of the regression support our hypothesis. Our regression had a correlation of $r = 0.661$, which is a relatively strong positive correlation. The regression also shows an extremely low $p$-value, emphasizing the relationship’s statistical significance.

**Libor Rate (Exhibits 4 and 5)**

Libor rate has a dual effect on leveraged loan volume. First, since most leveraged loans are pegged to Libor, the rate affects the amount paid by the loan recipient. In this regard, companies and financial sponsors prefer low Libor rates as they entail lower interest payments on loans. Secondly, lower Libor rates may result in lower yields for investors in the secondary market, which could negatively affect leveraged loan volume.

On 26 January 2008, a Wall Street Journal article explained, “With three-month Libor in the 3.3% area, underwriters are faced with the task of making leveraged loans attractive to investors who’ve grown accustomed to healthier yields as a result of much higher underlying Libor”\(^{29}\). Thus, the article suggests that investors are attracted to the market either by a decrease in secondary market prices, or an increase in the spreads paid on Libor. The journalist continues, “Libor’s low levels have the potential to keep the loan market in the doldrums,”\(^{30}\) describing a positive correlation between Libor and loan volume as low rates make underwriters will be unwilling to issue leveraged loans.

Our regression comparing the three-month Libor to leveraged loan volume shows a weak negative correlation of -0.399, with a statistically significant $p$-value of 0.002. In addition, for every 1% increase in the Libor rate, the US leveraged loan volume decreases by $35.077$ billion.

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\(^{30}\) Ibid.
These results reject the article’s hypothesis. This could be because, although low Libor rates may hurt the secondary market in the short-term, the lower financing costs attract companies and increase demand in the market.

**Investor Confidence (Exhibits 6 and 7)**

Since leveraged loans are made to below-investment grade companies, these assets carry a greater risk than loans made to investment grade companies. The Wall Street Journal published an article on October 12, 2012 linking high investor confidence to an increase in leveraged loan volume. The article explains, “leveraged loans are typically made to below-investment-grade companies, the same ones that earned high-yield bonds the sobriquet ‘junk bonds.’ And when investors get fearful, loans can get pounded: In 2008, they lost 30%.”

This journalist assumed a positive correlation between investor confidence and leveraged loan volume as a result of the asset’s inherent risk. Our findings, however, do not support this theory.

Our regression between the State Street Investor Confidence Index for North American Institutional Investors and leveraged loan volume yielded a negative correlation of $r = -0.265$. We believe this negative correlation is caused by the nature of payments on a leveraged loan, and the seniority of the asset class. Thus, for every one point increase in the index that measures North American investor confidence, the US leveraged loan volume decreases by $492$ million. Since these loans typically have floating rates, the higher standard deviation in uncertain interest rate environments attracts investors, as they see potential for higher returns. In addition, loans come higher in the bankruptcy pecking-order than other bonds, and creditors on loans are more likely to receive payment in the case of bankruptcy, which gives good reason to invest in this asset when investor confidence is low. However, the relatively low p-value serves as a caveat when considering the strength of this relationship.

**Unemployment Rate (See Exhibits 8 and 9)**

Our regression indicates that the United States’ unemployment rate has a strong negative correlation with the monthly leveraged loan volume.
Unemployment rates hold a relatively strong correlation to leveraged loan volume, at 0.594. As the model shows, for every percentage increase in the United States’ unemployment rate, the monthly leveraged loan volume decreases by $14.714 billion. This reflects the unemployment rate’s role as a general indicator for the US’ economy’s state; in a stable or thriving economy, the unemployment rate is low. A strong economy allows banks to increase the supply of leveraged loans to struggling companies, which increases monthly volume. The importance of this relationship is seen in the p-value, which is 0.000. Thus, as supported by our regression, a drop in the unemployment would increase the monthly US leveraged loan volume.

30 Year Fixed Mortgage Rates (See Exhibits 10 and 11)

The mortgage market, another type of loan market, is also often linked with leveraged loan volumes. Kent Greenfield, a law professor at Boston College, wrote, “In an LBO, the acquiring firm typically borrows a large percentage of the purchase price by pledging the assets of the acquired firm as collateral for the loan. Because the assets of the target company are used as collateral, LBOs have been most successfully used to acquire companies with stable cash flows and hard assets such as real estate”32. The idea that LBOs (leveraged buyouts) are more successful when companies have more real estate suggests a positive relationship between property values and LBOs. When mortgage rates rise, demand for real estate tends to decrease due to the higher cost associated with buying real estate. A declining demand for property decreases the value of real estate, leaving leveraged loans with weaker collateral. In our attempts to examine the possible relationship between mortgage rates and leveraged loan volume, we were unable to retrieve mortgage rates for corporate properties. Nonetheless, we ran a regression between the Bankrate.com US Home Mortgage 30 Year Fixed National Average and leveraged loan volume.

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Ultimately, our regression shows that for every 1% increase in the US thirty year fixed mortgage rate, the US leveraged loan volume decreases by $19.794 billion. This regression validates our hypothesis, yielding a correlation of $r = -0.599$ at a statistically-significant p-value of 0.000.

**Full Regression Equation (See Exhibit 13)**

Our full regression includes the five variables previously described. The model shows that 58.8% of the change in leveraged loan volumes can be explained by these variables. Some of the coefficients may have changed from what was described in detail above due to possible correlation between the input variables. For example, both the thirty year fixed mortgage rate and the 3-month Libor rate are measures of interest rates and, as a result, likely move together. However, the resulting US monthly leveraged loan volume based on this equation would be a fairly accurate prediction in a “normal” month without any extreme, interfering factors as can be observed in exhibit 12.

\[
\text{US Volume (in US$B)} = 6.5 - 0.468 \text{ North American Investor Confidence} - 13.6 \text{ US Unemployment Rate (Seasonal)} + 11.3 \text{ 30 Year Fixed Mortgage Rate} + 1.53 \text{ US Secondary Pricing} - 6.7 \text{ 3 Month LIBOR Rate}
\]

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Coef</th>
<th>SE Coef</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>6.55</td>
<td>91.54</td>
<td>0.07</td>
<td>0.943</td>
</tr>
<tr>
<td>North American Investor Confidence</td>
<td>-0.4682</td>
<td>0.2560</td>
<td>-1.83</td>
<td>0.073</td>
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<tr>
<td>US Unemployment Rate (Seasonal)</td>
<td>-13.557</td>
<td>3.591</td>
<td>-3.77</td>
<td>0.000</td>
</tr>
<tr>
<td>30 Year Fixed Mortgage Rate</td>
<td>11.263</td>
<td>6.947</td>
<td>1.62</td>
<td>0.111</td>
</tr>
<tr>
<td>US Secondary Pricing</td>
<td>1.5327</td>
<td>0.6496</td>
<td>2.36</td>
<td>0.022</td>
</tr>
<tr>
<td>3 Month LIBOR Rate</td>
<td>-6.75</td>
<td>20.45</td>
<td>-0.33</td>
<td>0.743</td>
</tr>
</tbody>
</table>

$S = 13.2318 \quad R-Sq = 62.5\% \quad R-Sq(adj) = 58.8\%$
Nonetheless, we continued our analysis and experimented with other regression models to improve the adjusted R-sq value.

**Final Regression Equation (See Exhibit 14 and 15)**

To determine the optimal equation for leveraged loan volume, we ran best subsets and stepwise regressions. These regressions compare the characteristics of multiple regressions with variations in the variables used. According to the results, the optimal equation would not include the 3-Month Libor rate. This new equation yielded the highest adjusted $R^2$ and the Mallows $C_p$ closest to the number of repressors. These measures demonstrate that although adding more variables may decrease the error, the added variables are actually over fitting the data and have a degree of colinearity. In this case, although the Libor rate is statistically significant on its own, it does not add value to the model. This result is most likely due to the fact that the Libor rate affects volume indirectly through the secondary market. Thus, the secondary market pricing variable explains the same variation. The final regression model is as follows:

**US Volume (in US$B) =**

\(-20.9 - 0.441 \text{ North American Investor Confidence} \)
\(-13.0 \text{ US Unemployment Rate (Seasonal)} \)
\(+11.3 \text{ 30 Year Fixed Mortgage Rate} \)
\(+1.72 \text{ US Secondary Pricing} \)

<table>
<thead>
<tr>
<th>Predictor</th>
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<th>SE Coef</th>
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<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-20.85</td>
<td>38.18</td>
<td>-0.55</td>
<td>0.587</td>
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<tr>
<td>North American Investor Confidence</td>
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<td>0.2406</td>
<td>-1.83</td>
<td>0.072</td>
</tr>
<tr>
<td>US Unemployment Rate (Seasonal)</td>
<td>-12.982</td>
<td>3.113</td>
<td>-4.17</td>
<td>0.000</td>
</tr>
<tr>
<td>30 Year Fixed Mortgage Rate</td>
<td>11.334</td>
<td>6.884</td>
<td>1.65</td>
<td>0.106</td>
</tr>
<tr>
<td>US Secondary Pricing</td>
<td>1.7165</td>
<td>0.3310</td>
<td>5.19</td>
<td>0.000</td>
</tr>
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</table>

\[ S = 13.1179 \quad R-Sq = 62.4\% \quad R-Sq(adj) = 59.5\% \]

**Analysis of Variance**

<table>
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<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>5</td>
<td>14850.6</td>
<td>2970.1</td>
<td>16.96</td>
<td>0.000</td>
</tr>
<tr>
<td>Residual Error</td>
<td>51</td>
<td>8929.1</td>
<td>175.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>23779.6</td>
<td></td>
<td></td>
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</tbody>
</table>
Although this is the best equation our variables can create, and it is statistically significant, the adjusted $R^2$ is 59.5%, which means that the equation does not fully explain the variation in leveraged loan volume. Nonetheless, the model still shows that the variables used aid in understanding some of the major factors that affect volume.

The p-values of individual variables show that the two variables that have the strongest relationships with leveraged loan volume are unemployment rate, and secondary pricing. The equation shows that, all else equal, a one percentage point increase in the unemployment rate could cause a decrease in leveraged loan volume by nearly $13 billion. This finding is extremely significant in demonstrating the far-reaching effects that a recession with mass layoffs can have on all markets. The model also shows that changes in secondary pricing heavily impact the leveraged loan volume. In our individual regressions, secondary pricing also had the strongest correlation of the five variables. Based on this analysis, in order to revitalize the leveraged loan market, regulators would want to focus on decreasing the unemployment rate, while buoying prices in the secondary market by strengthening demand for these loans. In addition, though mortgage rates did not have as high of a p-value, the model still indicates that the leveraged loan market would benefit from a rise in mortgage rates. The relationship between investor confidence and leveraged loan volume was also weaker than that of other variables. Nonetheless, the model illustrates how higher investor confidence would have a negative impact on the market, likely due to the reasons that were discussed in previous sections. While regulators wouldn’t look to purposely decrease investor confidence, understanding the effects this variable has on the leveraged loan market could explain the headwind against increasing volume while other conditions improve.
Observations Applied to Current Conditions

An Inherent Problem in the Market

Based on our findings, secondary market pricing holds the strongest correlation with leveraged loan volume. However, multiple sources fear that, if banks can sell off their exposure to these loans, underwriting standards will decrease. The Wall Street Journal reported earlier this year:

The return of big deals has some analysts worried that, in their search for yield, loan investors will back risky buyouts and forgo certain safeguards. Debt loads being piled onto new buyout targets remain low compared with those done in the middle of the last decade, but newer loans offer far fewer protections for investors. Half of the leveraged loans sold in January lacked standard protections, or covenants, compared with one-quarter in 2001, according to S&P.33

Another recent article stated, “Regulators are seeking to cut down on excessive risk taking as typical lender protections have been stripped from credit agreements at a record pace. Speculative-grade borrowers have raised $239.6 billion of covenant-light loans this year, more than double the amount in 2012”34. In addition, the journal also cited a New York Federal Reserve report that read, “The deterioration in loan underwriting has come hand-in-hand with an increased presence of retail investors in the leveraged loan market”35. All these articles share the concern that, while the leveraged loan market may show signs of recovery, the market lacks appropriate measures of protection for investors. The investment banks’ ability to exclude the loans from their own books increases the investors’ risk.

One of the proposed regulations to address the issue of declining underwriting standards in the market are risk-retention rules. These rules would require CLO managers to hold a portion of the debt they package and sell.36 Advocates for this regulation argue that the collateral obligation would increase the accountability of CLO managers, and reduce moral hazard. As reported by Bloomberg, however, “Issuance of collateralized-loan obligations, the biggest buyers of leveraged loans, may decrease after the

implementation of new regulations, according to Wells Fargo & Co\textsuperscript{37}. Our model agrees that a disruption in the secondary market would negatively impact leveraged loan volume. This situation leaves regulators in a perilous situation; on one hand, they are responsible for protecting investors. On the other hand, they also receive pressure to structure the market in ways that would stimulate the economy. Economic stimulus requires investment by firms, which in turn relies on funding, oftentimes from leveraged loans. Thus, to encourage high levels of supply and demand in the leveraged loan market, financial regulators must protect investors in ways that would not threaten the strength and growth of the secondary market.

**Weakness of European Market Explained**

On October 22, 2013, the Wall Street Journal reported on the slow recovery in the European credit market. The article reads, “The supply for credit in Europe is cause for concern…[W]ithout free-flowing lending, growth looks doomed to be anemic…[E]ven established markets, such as the loan market for non-investment grade companies, face hurdles”\textsuperscript{38}. The article goes on to cite that, while the U.S. market has rebounded back to 2007 levels, Europe remains at the lows it saw in 2004.

The article also attempts to distinguish possible causes that left European market in a weaker state than that of the United States. The journalist regards the “lack of securitization” as a factor of this weakness, and cites the small CLO market in Europe as evidence. Our findings support this assumption. As we have demonstrated, restrictions in a secondary market would highly impact the volume of leveraged loans outstanding. Furthermore, the article mentions that the regulator’s desire to protect investors has; in fact, made it more difficult for investors (particularly in the retail market) to invest in leveraged loans. While regulators seek to protect investors, their attempts may be hurting the leveraged loan market. These regulations could be the cause for the European leveraged loan market’s anemic growth. Our analysis, therefore, shows that if the United States chooses to implement similar regulations, the government would put the leveraged loan market at risk.

\textsuperscript{37} Ibid.
However, according to a client note by Morgan Stanley obtained by Bloomberg, although the secondary market in Europe is weaker, the market follows safer underwriting standards. According to the note, banks only represent 13% of the U.S. investor base in leveraged loans. In Europe, banks compose 50% of the investor base. Furthermore, 51% of loans are considered “covenant-light” loans in the U.S., whereas, in Europe, less than 5% of loans are considered “covenant-light”.

European regulations that protect investors may pose as a benefit for the leveraged loan market, but it has also deterred companies from taking on loans. Data retrieved from Bloomberg shows that the “bulk of the European leveraged loans signed in 2013 have been used to refinance debt, rather than to fund buyouts or acquisitions”. According to their data, 71.8% of new loans in 2013 have been used as refinancing’s compared to only 23.2% of loans in 2007. The fact that volume has decreased and is limited to refinancing projects suggests that the European loan market’s structure is hindering mergers and acquisitions. According to our analysis, it is very possible that a stifled, regulated secondary market could be the cause of this problem.

**Conclusion**

Leveraged loans make up an important form of financing for companies whose credit rating makes their securities lower than investment grade. Based on our analysis, strength in this market relies on many factors, most influential of which is the pricing of leveraged loans in the secondary market. However, introducing regulations to protect investors in the United States could hurt the leveraged loan market. The regulations that were recently applied to the European leveraged loan market have negatively impacted loan volume, and the United States should consider these results when changing the standards of their own market.

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References


Appendix

Exhibit 1:

US vs. European Leveraged Loan Volume

Source: Capital IQ LCD
Exhibit 2:

Exhibit 3:

US Volume vs. Pricing

Exhibit 4:

Exhibit 5:

The trends of 6 Month LIBOR Rate and US Volume (in US$) for Date/Month. Color shows details about 6 Month LIBOR Rate and US Volume (in US$).
Exhibit 8:

Exhibit 9:

The trends of US Unemployment Rate (Seasonally Adjusted) and US Volume (in US$) for data month. Color shows details about US Unemployment Rate (Seasonally Adjusted) and US Volume (in US$).
Exhibit 10:

Exhibit 11:

US Volume vs. Mortgage Rate

The trends of 30 Year Fixed Mortgage Rate and US Volume (in US$) for Date Month. Color shows details about 30 Year Fixed Mortgage Rate and US Volume (in US$).
Exhibit 12:

![Predicted vs. Actual Volumes Graph]

Exhibit 13:

Final Regression Relationship:

\[ \text{Monthly US Leveraged Loan Volume} = 1.533(\text{US Secondary Pricing}) - 0.468(\text{Investor Confidence}) - 13.557(\text{Unemployment Rate}) + 11.263(\text{Thirty Year Fixed Mortgage Rate}) - 6.746(\text{Three-Month LIBOR Rate}) + 6.546 \]

Correlation: \( r^2 = 0.625 \), \( r = 0.790 \)

Exhibit 14:

<table>
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<tr>
<th>Variable</th>
<th>Correlation</th>
<th>P-Value</th>
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<tbody>
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<td>Secondary Pricing</td>
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<tr>
<td>3-Month Libor</td>
<td>-0.399</td>
<td>0.002</td>
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<tr>
<td>Investor Confidence</td>
<td>-0.265</td>
<td>0.046</td>
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<tr>
<td>Unemployment Rate</td>
<td>-0.594</td>
<td>0.000</td>
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<tr>
<td>30-Year Fixed Mortgage Rate</td>
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</table>
**Exhibit 15:**
Stepwise Regression: US Volume (i versus North Americ, US Unemploym, ...)

Alpha-to-Enter: 0.15  Alpha-to-Remove: 0.15

Response is US Volume (in US$B) on 4 predictors, with N = 57

<table>
<thead>
<tr>
<th>Step</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<td>P-Value</td>
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<td>3 Month LIBOR Rate</td>
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<td>P-Value</td>
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<td>0.000</td>
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<tr>
<td>US Unemployment Rate (Seasonall)</td>
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<tr>
<td>T-Value</td>
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<tr>
<td>North American Investor Confidence</td>
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<td>T-Value</td>
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<td>P-Value</td>
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<td></td>
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</tbody>
</table>

| S | 16.7 | 15.9 | 14.1 | 14.0 | 13.7 |
| R-Sq | 35.86 | 42.63 | 55.85 | 55.27 | 57.96 |
| R-Sq(adj) | 34.69 | 40.51 | 53.35 | 53.62 | 55.58 |
| Mallows Cp | 27.1 | 20.6 | 6.1 | 4.8 | 3.5 |

**Exhibit 16:**

![Predictor Importance Chart](image)
**Glossary**

**American Recovery and Reinvestment Act (2009):** provides banks a desperately needed sum of capital that granted banks the ability to distribute more resources as leveraged loans to besieged corporations across the country.

**Cash for Clunkers Program (2009):** A bill that provides vouchers of up to $4,500 for buyers who trade in their cars for more fuel-efficient vehicles\(^4\).  

**CLO:** A type of collateralized debt obligation that pool leveraged-loans and slice them into securities of varying risk and return.

**Covenant Lite:** Covenant lite refers to the reduction in restrictions needed to prove a company’s credit worthiness when applying for a loan.

**Cram-Down:** A “cram-down” occurs when a loan re-pricing is completed via amendment, as opposed to syndication.

**Job Creation Through Entrepreneurship Act (2009):** Grants resources for small businesses and entrepreneurial start-ups to create jobs and drive economic growth\(^4\).

**LIBOR:** the rate at which banks borrow unsecured funds from other banks in the London’s wholesale money market.

**S&P LSTA U.S. Leveraged Loan 100 Index:** is a market value-weighted index designed to mirror the U.S. syndicated leveraged loan secondary market (methodology).

**Securities and Exchange Commission:** Oversees various markets to promote fair dealing, disclosure of important information, and to prevent fraud\(^3\).

**The Sharpe Ratio:** Provides a comparable measure for risk-adjusted performance by subtracting the risk-free rate (often the 10-year U.S. Treasury bond) from the rate of the return of a portfolio, and dividing the resulting figure by the standard deviation of the portfolio.

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