September 2018

Corporate Credit: Next Default Cycle Will Look More Like 2000

Key Conclusions / Implications

- In credit cycle downturns, two critical considerations for returns are the shape of the default curve (magnitude and duration) and the intensity of losses suffered.
- We believe market participants are too focused on potential changes in / outlook for interest rates and are not focused enough on the effects the probable shape of the corporate default curve will have on credit portfolios.
- We believe the market is underwriting credit losses in the next downturn similarly to the last downturn, i.e., a sharp but short duration increase in defaults with above average recovery rates.
- In our view, the next downturn will include several industry-wide downgrades and credit concerns like 2000-2004. After an extended economic recovery with loose financing for corporates, coupled with secular changes to several business models, we would expect credit issues to emerge as growth slows and financing conditions tighten.
- Therefore, we expect lower peak default rates for several years, with lower than average recovery rates as structurally challenged companies with high debt loads face restructuring.
- In credit we find most attractive opportunities in sectors and structures with strong underlying credit characteristics and improving collateral values, with subordination to mitigate downside risks.

Looking Past the Late Cycle Economic Growth to the Next Slowdown and Credit Cycle

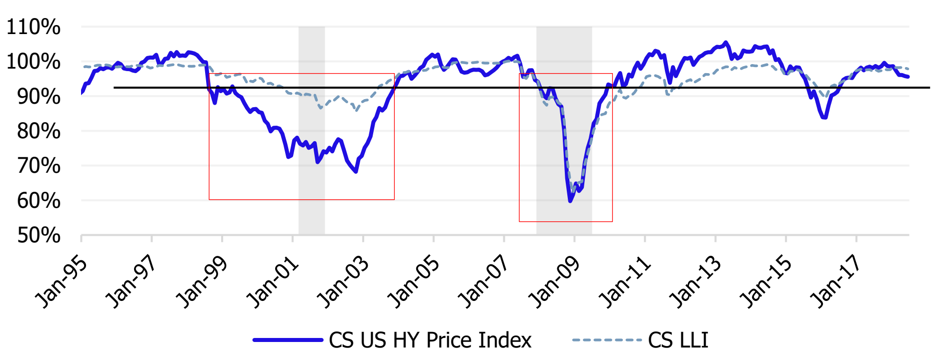
The U.S. economy has been stronger in 2018 than many expected, with improving labor markets and real GDP growth of ~3% YTD.[1] Consensus expectations are for growth to slow in 2019 and 2020 due to external factors and a tightening of monetary policy by the Federal Reserve.[2]

Regardless of the timing of when the current economic expansion ends, corporate defaults will increase as company / industry revenues are impacted by slower economic growth and idiosyncratic challenges servicing / refinancing debt.

As we think about the next downturn and what it means for credit, we do not expect a repeat of 2008-09's experience. 2008-'09 was not broadly a credit event but rather a liquidity and financial market crisis precipitated by an unsustainable amount of mortgage credit on bank and consumer balance sheets. While corporate credit was impacted, it was more from the impact of illiquidity in the market and less an issue with most borrower's ability to service debt.[3]

Instead, we look to 2000-2004 as the more likely playbook – an environment with lower for longer defaults and lower recovery rates driven by fundamental weakness in highly leveraged, structurally disrupted industries (especially telecoms and communications companies in 2000s), as well as the uncertain impact of higher proportions of covenant-lite loans which may lead to lower loan recovery rates in the next cycle relative to prior cycles.

Exhibit 1: We Expect the Next Credit Default Cycle Will be a Multi-Year Event Analogous to 2000-2004



Source: Credit Suisse High Yield and Leveraged Loan indices data through June 2018.

[1] U.S. Bureau of Economic Analysis, Real Gross Domestic Product

[2] Consensus forecasts for real GDP and Fed Funds from Bloomberg, retrieved on August 10, 2018.

[3] See Cornett, Marcia, Jamie McNutt, Philip Strahan, and Hassan Tehranian. 2011. "Liquidity Risk Management and Credit Supply in the Financial Crisis." Journal of Financial Economics 101(2), pp. 297–312. Also, Federal Reserve Bank of San Francisco, "Liquidity Risk and Credit in the Financial Crisis," May 14, 2012.

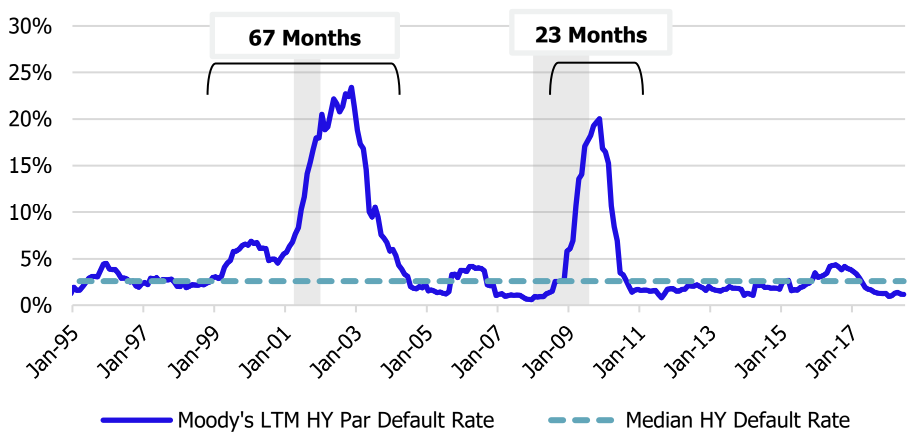
2008 Credit Cycle Was Severe but Short – 2000 A Better Proxy for Extended Default

To compare credit cycles, we look at three critical factors including the length of a default cycle, its magnitude, and severity of loss.

High Yield Unsecured Bonds[4]:

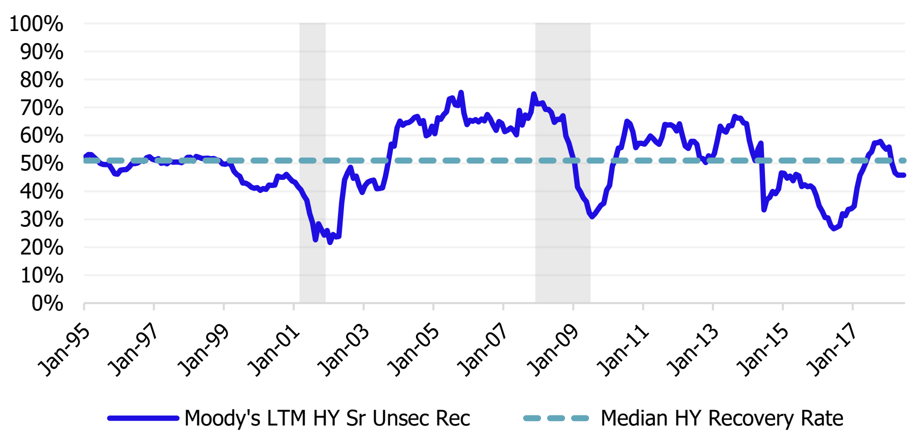
- According to Moody's, the 2008-09 default cycle was relatively short with less than 2 years where the high-yield default rate was above the long-term median of 2.6%. Over that period, default rates averaged 11.2% (max of 20.0%). High-yield senior unsecured recoveries averaged 46%.
- In the 2000-2004 default cycle, the high-yield default rate was above the long-term median for 67 months or ~5.5 years. Default rates averaged 10.2% in that period, with recovery rates of 43% on high-yield senior unsecured bonds.

Exhibit 2: Moody's Trailing 12 Month High Yield Default Rates (Grey Bars = Recessions)



Source: Moody's LTM high-yield par default rates and LTM high yield unsecured recovery rates, 1985-2018.

Exhibit 3: Moody's Trailing 12 Month High Yield Unsecured Recovery Rates (Grey Bars = Recessions)



Unsecured recovery rates averaged 35% in 2001-02, compared to 49% in 2008-09.

Source: Moody's LTM high-yield par default rates and LTM high yield unsecured recovery rates, 1985-2018.

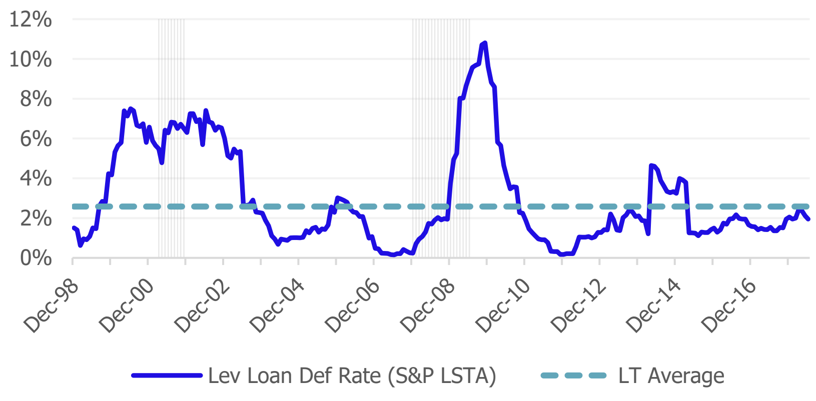
[4] Moody's LTM high-yield par default rates and LTM high yield unsecured recovery rates, 1985-2018.

Leveraged Bank Loans[5,6]

The leveraged loan market saw lower default activity in 2000-04 and 2008-09 than the high yield unsecured bond market. In both cycles, recovery rates were higher for loans than bonds, which is not surprising given loans are secured and therefore higher in the capital structure.

- In 2000-04, the loan market saw 4.6% defaults and 70% recoveries.
- In contrast, in 2008-09 the loan market saw just 2.5% default rates and recoveries in the ~50% range.

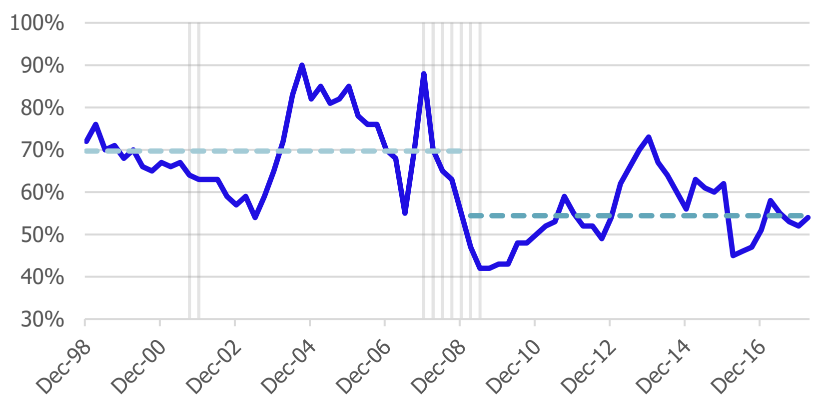
Exhibit 4: Leveraged Loan Default Rates (Grey Bars = Recessions)



Like HY bonds, the length of the default cycle in loans lasted far longer at a similar intensity across the 1998-2004 period

Source: S&P Global, LSTA loan data, through 2Q'18.

Exhibit 5: Leveraged Loan Recovery Rates (Grey Bars = Recessions)



We expect loan recovery ratios in the next downturn in the 50% range, consistent with the 2009-2018 average (54%) and below the 1998-2008 average (70%)

Source: Credit Suisse, Citigroup, and S&P LSTA through 1Q'18

[5] S&P Global, LSTA loan data and Credit Suisse, Citigroup, and S&P LSTA.

Looking forward, we expect leveraged loan performance to be more like 2000-04 than 2008-09, as deteriorating credit and covenant quality will likely lead to lower recovery rates.

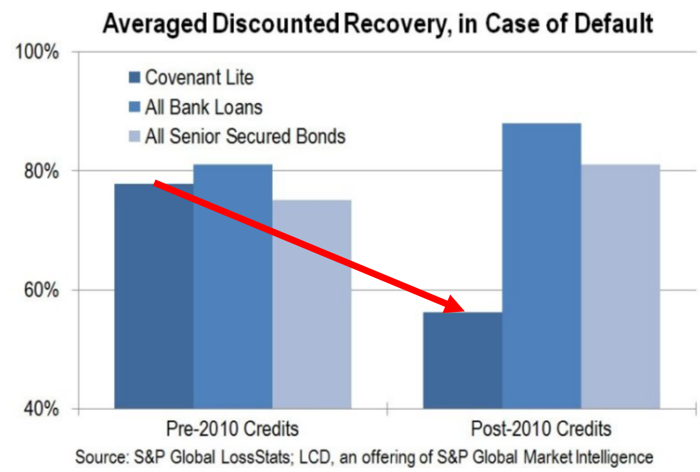
In a recent report, Moody's Investor Services argued that "the combination of aggressive financial policies, deteriorating debt cushions, and a greater number of less creditworthy firms accessing the institutional loan market is creating credit risks that foreshadow an extended and meaningful default cycle once the current economic expansion ends…[t]he result is more defaults than the last downturn as well as lower recoveries, undercutting a foundational premise for investing in loans."

Moody's lowered their recovery rate outlook for first-lien bank loans to ~60%, not the 77% average from 1988-2018. Further, they forecast second-lien recoveries of 14% compared to a 43% historical average.[7]

According to S&P Global's LeveragedLoan.com, "The lurking danger of cov-lite is not just the risk of poor recoveries. It is also the risk of "zombie" credits that do not default, but simply limp through a prolonged downturn."[8]

S&P adds that the average recovery rate on cov-lite loans issued before 2010 is 78%. "That figure drops to 56% for cov-lite loans originated in 2010 and after."[9]

Exhibit 6: Leveraged Loan Recovery Rates, Cov-Lite vs. All



Source: S&P Global, LCD

How we model the next credit cycle – A 'modified' 2000-04 scenario[10]

We expect the next credit cycle will share characteristics of both the shorter and more intense 2008-09 cycle, as well as the longer and more severe loss environment of 2000-04.

In our loss severity models, our base case for the next downturn includes:

- Default rates like 2001.
- Recovery rates like 2008-09.
- Price action of the securities like 2008, but more muted.
- Prepayments in-line with the 2000-04 and 2008-09 levels.

[7] Moody's Investor Services, "Moody's: Convergence of loan and high-yield bond markets sets stage for lower recoveries in next downturn," August 16, 2018.

[8] S&P Global LCD, LeveragedLoan.com, "Covenant-lite Leveraged Loans: After Default, Whither Recoveries?," July 23, 2018.

[9] S&P Global LCD, LeveragedLoan.com, "Covenant-lite Leveraged Loans: After Default, Whither Recoveries?," July 23, 2018.

[10] Projections, models and hypothetical performance information are estimates and there can be no assurance that the projections, models, targets, and objectives set forth above will be achieved or realized. Actual results may vary materially from the projections, models, targets, and objectives described above.

Fundamental Similarities Between 2000-2004 and Today

In both cycles, debt issuance grew significantly leading up to the default cycle, which coincided with deterioration in select industry fundamentals facing disruption to their business models.

HY Debt Growth[11]

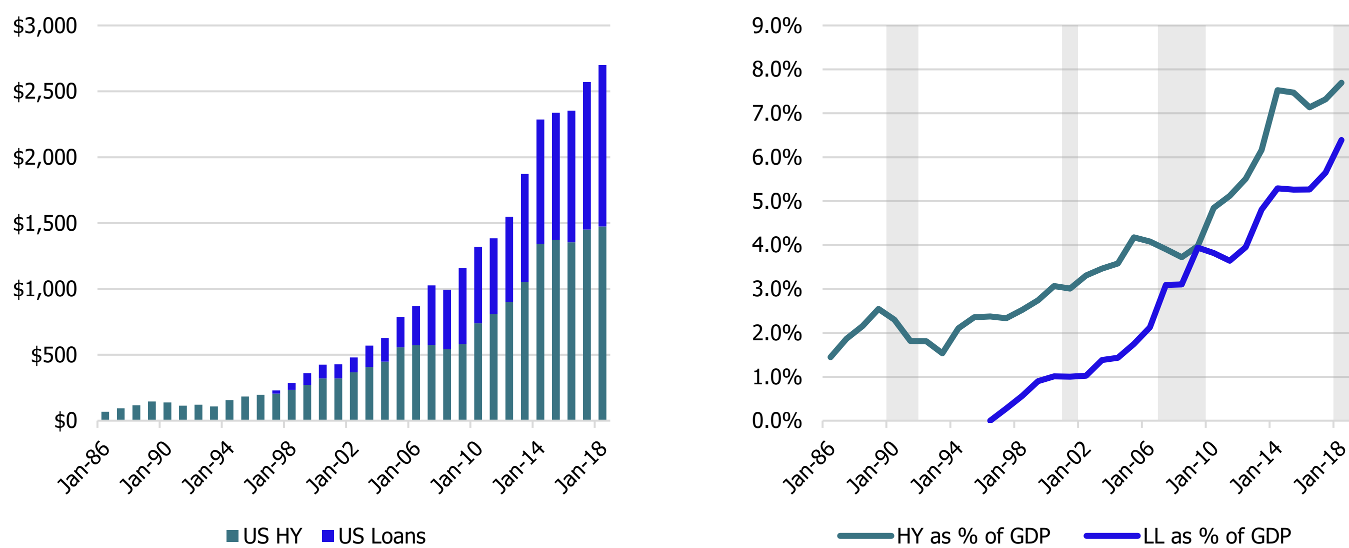
According to Deutsche Bank, both the high yield and leveraged loan markets have grown dramatically over the past two decades.

- The HY bond market is now $1.5tn, up $700bn (100%) since December 2010.
- The leveraged loan market is now $1.2tn, up $640bn (110%) since 2010.

In comparison, from December 2004 to December 2007 the HY market grew by 27% while the loan market grew by 153%, but the dollar amounts were much smaller with the HY market adding $125bn and Loan market adding $275bn over that period, respectively.

This speaks to one of the key macro differences in this cycle: namely the significant, QE driven increase in corporate leverage that helped drive investor appetite for higher yielding assets.

Exhibit 7: Growth in HY and LL in Absolute and Relative (to GDP) Terms



Source: Deutsche Bank Credit Chartbook, July 2018. GDP figures from St. Louis Fed FRED data system, retrieved August 15, 2018.

[11] Deutsche Bank Credit Chartbook, July 2018.

Industry Fundamentals

The other similarity in this cycle relative to the 2000-2004 cycle is the significant disruption to traditional industries from emerging technologies. In the early 2000s, the telecom and communications sector experienced significant disruption (WorldCom, Qwest, Global Crossing, etc.) burdened by high capex costs during the economic downturn. Other high-profile bankruptcies included Enron, Kmart, and Conseco.

Looking forward, we believe that several large industries face significant threats to their business from changing consumer habits and the impact of e-commerce. For example, we see risks in:

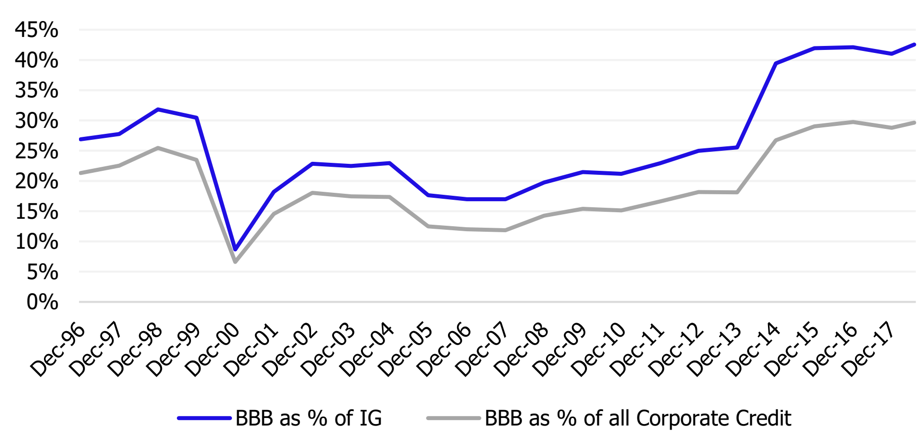
- Cable companies (younger generations cutting the cord leads to defensive M&A)
- Tobacco companies (e-cigarettes)
- Brewers (fewer people drink beer, especially mass-produced brands)
- Brick-and-mortar retailers who fail to adopt an omnichannel strategy (also impacts malls and shopping centers)
- Consumer staples companies unable to push price due to e-commerce competition
- Freight transportation (impact of driverless cars and trucks, potential disintermediation by Amazon on freight market)
- 5G communications – will the telecom companies spend on infrastructure while they are also spending on content?

Increasing debt loads will impact more than the current watch list

In total, the BBB universe is approximately $2.6tn, up from $700bn in 2010. Proportionately, BBB rated companies are now 43% of the IG market compared to 21% in December 2010 according to Deutsche Bank.[12]

We expect that when downgrades begin, they will capture many issuers in a given sector, including those with solid balance sheets today, but ones that will struggle with long-term revenue loss against what now is a highly leveraged balance sheets.

Exhibit 8: BBB bonds as a % of IG and Corporate Credit Market



Source: Deutsche Bank Credit Chartbook, July 2018.

[12] Deutsche Bank Credit Chartbook, July 2018.

Current Watch List

According to Deutsche Bank, there are currently $249bn of BBB rated bonds on S&Ps negative credit watch (compared to $42bn of BB rated bonds on positive watch).[13]

These issuers are concentrated in energy, media, utilities, autos, and telecom, all industries experiencing structural headwinds from changing consumer patterns and technological disruption.

Exhibit 9: BBB-Rated Issuers with Negative Watch or Outlook by S&P

Largest Industry Exposure to BBB Issuers on S&P's Credit Watch

Industry	All BBBs	BBB1	BBB2	BBB3
Energy	**$38,060**	$9,100	$6,474	$22,486
Media	**$37,936**		$14,557	$23,379
Utilities	**$36,533**	$25,430	$9,803	$1,300
Automotive	**$33,940**		$33,940	
Telecommunications	**$32,506**	$28,909		$3,597
Financials	**$31,509**	$19,289	$2,995	$9,225
Technology	**$11,983**		$4,024	$7,959
Food	**$8,432**		$6,400	$2,032
Retail	**$5,662**	$3,766		$1,896
Packaging	**$3,899**		$3,899	
Real Estate	**$3,250**		$2,350	$900
Transportation	**$2,250**		$2,250	
Capital Goods	**$1,800**			$1,800
Chemicals	**$800**	$800		
Total	**$248,560**	**$87,294**	**$86,692**	**$74,574**

Largest BBB Issuers on S&P's Credit Watch

Company	Industry	Rating	FaceUSD
Ford	Automotive	BBB2	$33,940
Vodafone	Telecommunications	BBB1	$18,309
PG&E	Utilities	BBB1	$16,705
AIG	Financials	BBB1	$16,514
Discovery	Media	BBB3	$14,497
Williams Partners	Energy	BBB3	$13,600
Deutsche Telekom	Telecommunications	BBB1	$10,600
CBS	Media	BBB2	$9,307
Viacom	Media	BBB3	$8,532
Dominion Energy	Utilities	BBB2	$8,310
Synchrony Financial	Financials	BBB3	$7,850
Cambell's Soup	Food	BBB2	$6,050
Cenovus Energy	Energy	BBB3	$5,947
Xerox	Technology	BBB3	$4,859
Sempra Energy	Energy	BBB1	$4,550
TRICN	Media	BBB2	$4,000
Sempra Energy	Utilities	BBB1	$4,000
Motorola	Telecommunications	BBB3	$3,597
Spectra Energy Partners	Energy	BBB2	$3,450
Williams Partners	Energy	BBB2	$3,024

Source: Deutsche Bank Credit Chartbook, July 2018.

[13] Deutsche Bank Credit Chartbook, July 2018.

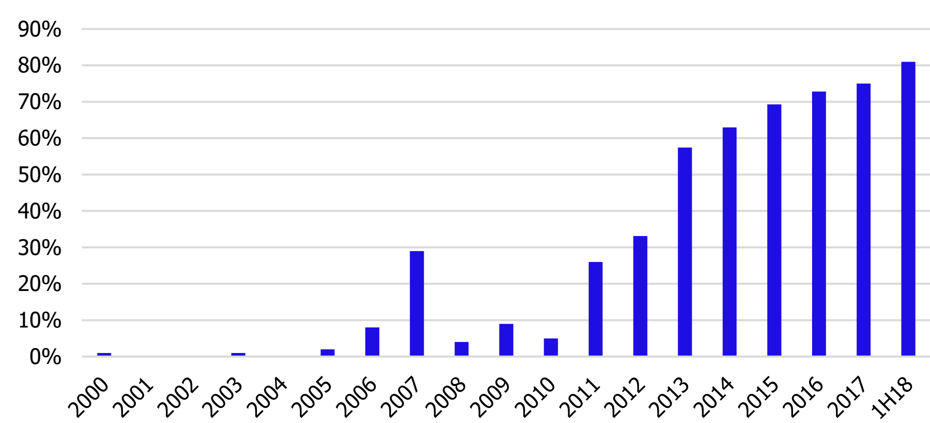
Differences Between 1998-2004 and Today

Fewer Covenants

One key difference in this cycle is the increasing lack of covenants in the loan market, which we expect will lead to a more prolonged default curve than in past cycles where there were more 'triggers' to lead to a default. A lack of covenants gives term loan lenders fewer options for addressing businesses with deteriorating fundamentals / balance sheets early on. Generally, there are still covenants with the revolving line of credit lender, but those lenders may have different priorities than the term loan lenders.

Credit quality has deteriorated with increasing levels of cov-lite loans. In fact, since 2013 almost 80% of issued loans have been cov-light according to S&P Global research.[14]

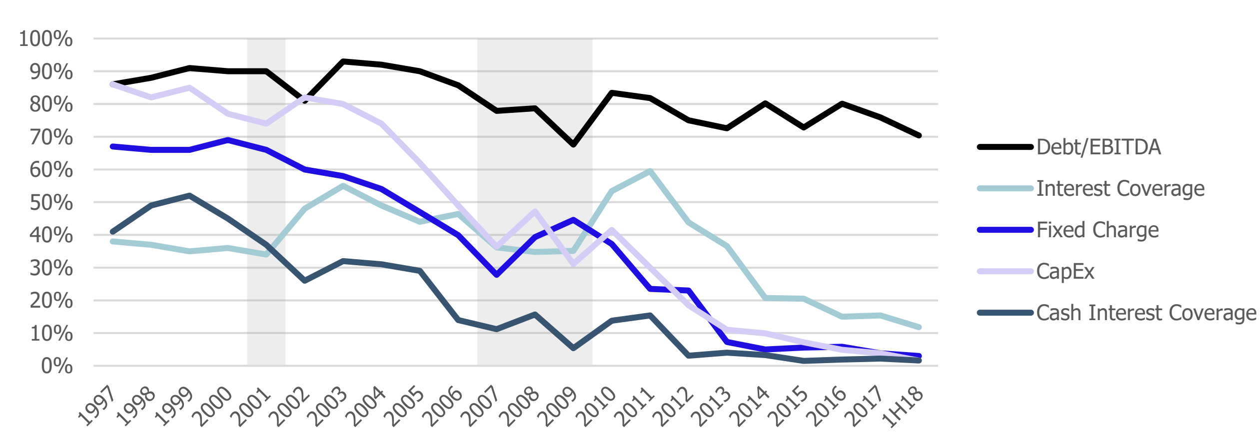
Exhibit 10: Cov-Lite as % of Loan Issuance



Source: S&P Global, LCD data through 2Q'18.

For those loans that do have covenants, there are generally fewer covenants utilized. As Exhibit 11 illustrates, these loans retain a Debt to EBITDA covenant, but other restrictions are included in an increasingly smaller number of loans.[15]

Exhibit 11: Covenants in Loans Which Retain Covenants



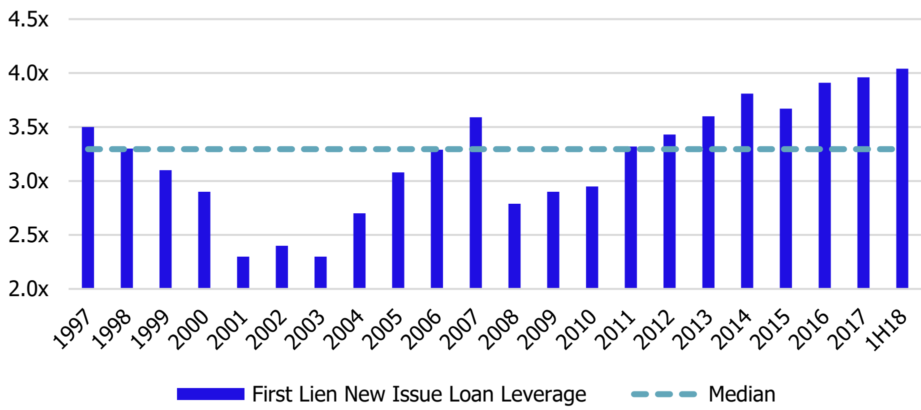
Source: S&P Global, LCD data through 2Q'18.

[14] S&P Global, LCD data through 2Q'18, "Volume: New-Issue US Covenant-Lite Loans"
[15] S&P Global, LCD data through 2Q'18, "Covenant/Security: Incidence of Key Covenants in First-Lien Lev. Loans"

Higher Leverage

First lien loan leverage has increased to ~4x, compared to a long-run median of 3.3x. Leverage has been in the 4x range for the past three years, which coincided with a dramatic increase in loan issuance.[16]

Exhibit 12: New First-Lien Loan Issuance Leverage

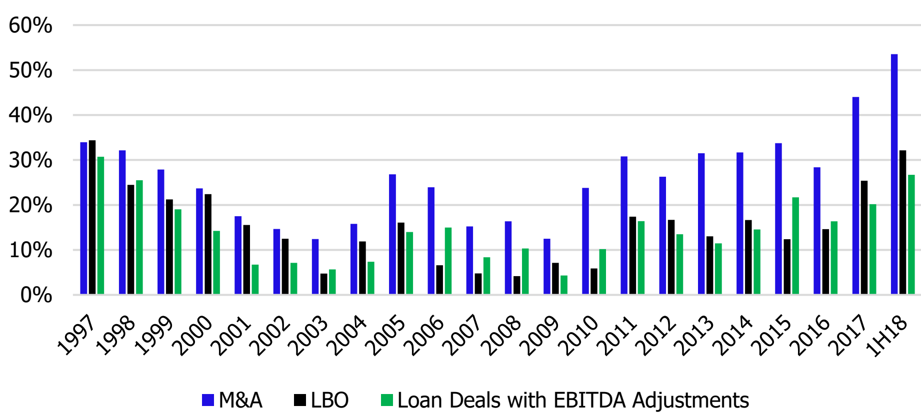


Source: S&P Global, LCD data through 2Q'18. Morgan Stanley Research, US Credit Strategy: US Credit Strategy Chartbook. As of June 2018.

Increasing EBITDA Adjustments in Underwriting

Further, more deals include pro-forma EBITDA adjustments to show lower go forward leverage. These adjustments, not surprisingly, occur more in M&A and LBO transactions where synergies are expected to drive higher cash flow. However, we recall that pro-forma EBITDA adjustments were a popular feature in 2006-07 CMBS loans which left some loans over leveraged when benefits did not materialize.[17]

Exhibit 13: % of Loans with EBITDA Adjustments



Source: S & P Global, LCD data through 2Q'18.

[16] S&P Global, LCD data through 2Q'18, "Credit Stats: Average Debt Multiples of Highly Leveraged Loans."
[17] S&P Global, LCD data through 2Q'18," Credit Stats: Transactions with EBITDA Adjustments."

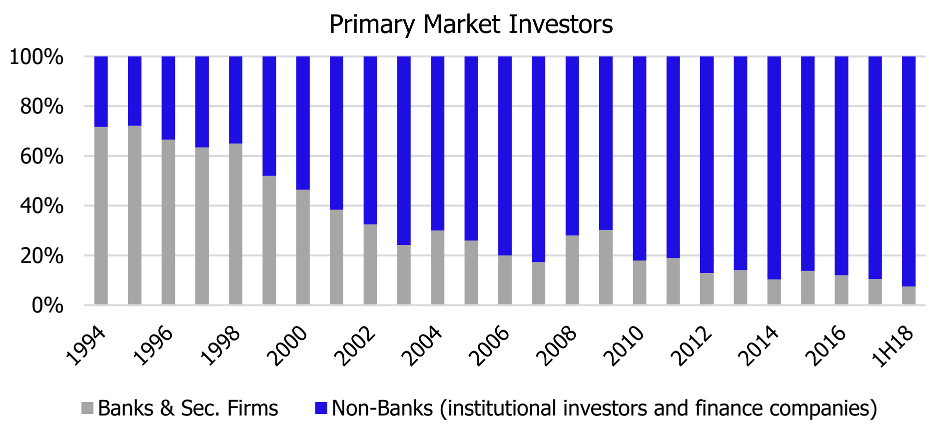
Leveraged Loan Ownership

One way in which the loan market evolved was the broader syndication of loans away from bank hands to institutional investors.

- From 1994-2000, 62% of leveraged loans were bought by banks.[18]
- From 2000-2010, that percentage fell to 28%.
- Since 2010, banks have purchased only 13% of annual loan originations.

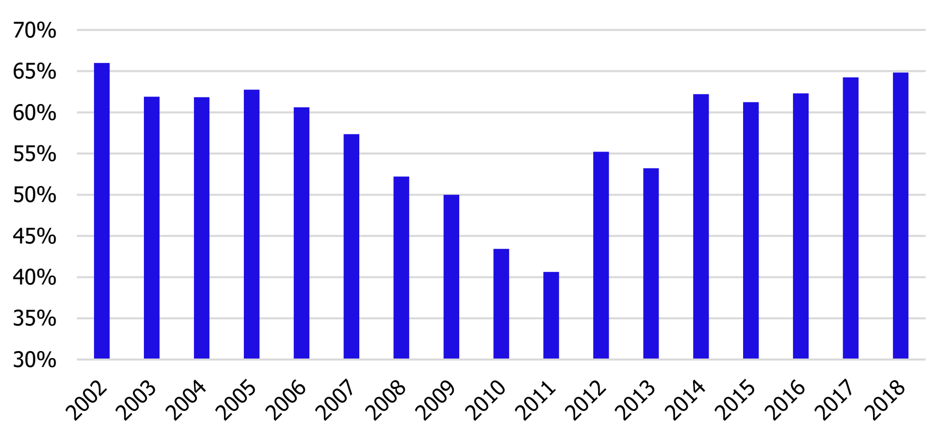
CLOs have become the primary buyer of loan originations. According to S&P LCD, CLOs have acquired over 60% of loan volume in 2014-2017, with 64.8% of loans originated in 1H'18 acquired by CLOs.[19]

Exhibit 14: Banks Buy Far Fewer Loans Today Than in 2000-04



Source: S&P Global, LCD data through 2Q'18.

Exhibit 15: CLO Purchases as % of Loan Issuance



Source: S&P Global, LCD data through 2Q'18.

[18] S&P Global, LCD data through 2Q'18," Primary Investor Market: Banks vs Non-Banks."
[19] S&P Global, LCD data through 2Q'18," Primary Investor Market: Institutional Market by Type – 1H18."

Investment Implications

In our view, the credit markets are late cycle, and, therefore, capital preservation is a primary consideration. We believe that investors are better positioned higher in quality and in structures with significant collateral / subordination support.

In our view, there are four key principles for credit investing in the current environment:

- First, retain a long-term underweight exposure to industries facing market disruptions, inefficiencies, and structural and regulatory changes. Invest in sectors and industries that will either benefit from or are largely unaffected by disruption.
- Second, focus on the collateral. Seek investment opportunities where collateral values are improving or stable and backed by strong fundamental support for those assets.
- Third, focus on opportunities to extend credit to borrowers where regulation or legislation has diminished credit availability from traditional sources of capital. Post-crisis opportunities include non-QM mortgages, transitional real estate financing, consumer unsecured loans, PACE energy efficiency financing, and others.
- Fourth, focus on capital preservation through targeted entry points, structural credit enhancements, and an actively managed risk mitigation strategy.

We believe investors should consider the following investment strategies which couple strong fundamental trends and collateral support

- U.S. housing and mortgage credit, as both benefit from a structural mismatch in supply and demand of U.S. housing, supporting rent and asset value appreciation.
- Hard asset-based investments in industries with positive fundamental trends (aircraft, infrastructure).
- Select, well-underwritten bank loans which seek to minimize exposure to structurally-challenged industries which are likely to see lower recovery rates in the next downturn.
- Bespoke CLO structures, seeking to take advantage of the shape of the next default cycle.
- Portfolios with structured credit debt tranches and a measured amount of equity that benefit from structural subordination and other credit enhancements to withstand the shape of a future default cycle.
- Customized strategies with positive carry designed to express a bearish view on the credit markets.
- Source long-duration funding that can be drawn during a crisis to “cover” the trade by locking in positive net interest margin.

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