FitchRatings

The 2023 Annual Manual

A Primer on the U.S. Leveraged Finance Market

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Executive Summary

This is the 12th edition of our U.S. leveraged finance primer. It reflects Fitch Ratings' coordinated effort across several U.S. rating groups and regions. It incorporates data and opinions from the Corporates, Financial Institutions, Structured Credit, and Fund and Asset Managers rating groups.

The Annual Manual seeks to quantify and summarize the major factors driving risk and opportunity for the various participants in the market, including corporate bond and loan underwriters and investors, CLO investors, corporate debt issuers, private equity sponsors and regulators.

This report describes the continuous evolution of the market. New players are entering and transaction characteristics are changing as the landscape adapts to the needs of different capital providers and regulatory requirements. For context, we provide a historical perspective on structures, volume and performance for different industries and instruments.

If you have suggestions for further content enhancements, please do not hesitate to contact us.

Joshua Clark
Director
+1 646 582-3421
joshua.clark@fitchratings.com

Lyuba Petrova
Head of U.S. Leveraged Finance
+1 646 582-4885
lyuba.petrova@fitchratings.com

U.S. Leveraged Finance

Megan Neuburger
Regional Group Head
U.S. and Canada Corporate Ratings
+1 212 908-0501
megan.neuburger@fitchratings.com

Lyle Margolis
Head of U.S. Private Credit
+1 646 582-3589
lyle.margolis@fitchratings.com

Eric Rosenthal
Senior Director
+1 212 908-0286
eric.rosenthal@fitchratings.com

Judah Gross
Senior Director
+1 212 908-0884
judah.gross@fitchratings.com

Kenneth Chan
Director
+1 646 582-3458
kenneth.chan@fitchratings.com

Rey Stander
Associate Director
+1 647 799-6191
rey.stander@fitchratings.com

Ernest Tam
Analyst
+1 647 933-0260
ernest.tam@fitchratings.com

U.S. Structured Credit

Maria Paula Moreno
Managing Director,
Head of Americas Structured Finance
+57 601 241-3257
mariapaula.moreno@fitchratings.com

Derek Miller
Managing Director, Head of U.S. Structured Credit
+1 312 368-2076
derek.miller@fitchratings.com

Alina Pak, CFA
Senior Director
+1 312 368-3184
alina.pak@fitchratings.com

Laurent Chane-Kon
Senior Director
+1 646 582-3752
laurent.chane-kon@fitchratings.com

Deborah Ogawa
Senior Director
+61 2 8256-0321
deborah.ogawa@fitchratings.com

Financial Institutions

Nathan Flanders
Global Head of Non-Bank Financial Institutions and Asset Managers
+1 212 908-0827
nathan.flanders@fitchratings.com

Meghan Neenan, CFA
North American Head of Non-Bank Financial Institutions
+1 212 908-9121
meghan.neenan@fitchratings.com

Chelsea Richardson
Senior Director
+1 212 612-7899
chelsea.richardson@fitchratings.com

Business and Relationship Management

Jill Zelter
Managing Director
+1 212 908-0774
jill.zelter@fitchratings.com

Winnie Fong, CFA
Managing Director
+1 212 908-9139
winnie.fong@fitchratings.com

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Introduction

The U.S. leveraged finance market experienced significant declines in issuance in 2022 after breaking new records in 2021. Issuance volumes across institutional syndicated leveraged loans (LL) were down nearly 67% yoy at $264 billion. The size of the U.S. institutional LL market stayed essentially flat at $1.67 trillion. High-yield (HY) issuance volume also deteriorated substantially to $91 billion from a record $447 billion in 2021. Low issuance volume in part fueled a contraction of the HY market's size by approximately 10% yoy to $1.33 trillion. Numerous interest rate hikes throughout 2022 to counter increasing inflation, continuing supply chain challenges and lockdowns in China, and the Russia-Ukraine war added uncertainty to the global economic outlook, fueling a pullback in the leveraged finance market overall.

Refinancing and repricing activity essentially halted in 2022. These types of transactions represented a significant portion of LL volume in 2021, but rising interest rates resulted in a less favorable environment for issuers to push out maturities or obtain lower spreads. Collateralized loan obligation (CLO) issuance activity in the U.S. fell by over 63% yoy in 2022, further depressing LL demand. M&A and LBO transactions also dried up as higher interest rates depressed appetite for new money issuance, and uncertainty about the terminal rate made it hard for buyers and sellers to agree on valuations. M&A volume (excluding LBOs) dropped 35% to $129 billion in 2022 from $199 billion in 2021, while LBO volume dropped nearly 42% yoy to $114 billion at the end of 2022 from its 2021 high of $196 billion.

Private credit markets continued the positive growth trend with a surge in 2022, reflecting a greater share of large deals being funded by direct lenders. Private credit fundraising increased by almost 300% in 2022 to $22.5 billion. Banks focused on clearing backlogs of hung deals during 2H22 and were unable to finance new transactions. Direct lenders filled the void, providing over $16 billion in capital in 2H22. Fitch Ratings believes direct lenders will continue gaining additional market share as the preferred financing partner for private equity (PE) sponsors given the shorter turnaround time, certainty of execution, increased confidentiality and lower underwriting fees. Borrowers turned to private lenders for an independent source of credit financing and private credit firms' flexibility for deploying credit funding, which is open to any size or type of transaction.

Fitch's deteriorating outlook for leveraged finance at the onset of 2023 considered concerns about the effects of recession, inflation uncertainty and tightening credit markets. Fitch anticipates HY and LL defaults will increase but remain below records, and interest rate and inflation uncertainty will continue to drive market technicals. Liability management has been a focus since the start of 2023, as stressed issuers leverage optionality in their documentation to source liquidity.

The U.S. institutional LL and HY default rates ended 2022 at 1.6% and 1.3%, respectively, up from 0.6% for LL and 0.5% for HY in 2021. Fitch forecasts both rates to rise in 2023, reflecting growing macroeconomic headwinds, including our expectation of a mid-2023 U.S. recession.

We anticipate a 2.5%–3.0% default rate for LL, in line with the historical 2.4% rate over 2007–2022. Fitch expects Broadcasting & Media, Health Care & Pharmaceuticals, Leisure & Entertainment and Telecommunications to drive 2023 LL default volume. We also predict there could be roughly 70 defaults, nearly three times 2022's 26, but still below 96 in both 2009 and 2020, equating to a 4% issuer default rate. We project the Leisure & Entertainment and Services & Miscellaneous rates will comprise the most defaults in 2023.

We forecast a 3.0%–3.5% HY default rate in 2023, in line with the 3.6% 2001–2022 historical average. Fitch expects Retail, Telecommunications and Broadcasting & Media to produce nearly half of HY default volume in 2023. Fitch anticipates roughly 30 defaults could occur in 2023, nearly double the 16 in 2022, but well below the 73 in 2020, translating to a 3% issuer default rate. We are expecting 3.0%–4.0% and 3.25%–4.25% rates for HY and LL, respectively, in 2024 due to intensifying macroeconomic headwinds.

Recovery expectations meanwhile deteriorated in 2022, with the percentage of first-lien debt instruments for Fitch-covered broadly syndicated loan issuers dropped to 47%, 6% below 2021. First-lien recovery estimates for MM issuers also deteriorated, with greater concentration in the 'RR3' category at 45%, reflecting a 4% increase compared with the year prior at the expense of ratings in the 'RR1' and 'RR2' categories.

The transition of the new issue market to the Secured Overnight Financing Rate (SOFR) benchmark from LIBOR occurred in 2022. However, due to the end of the LIBOR benchmark on June 30, 2023, existing loans priced in the LIBOR benchmark is an issue to watch. Most amendments implementing SOFR as a replacement benchmark were executed as part of a refinancing or repricing transaction, but due to the environment over the course of 2022, the pace and ability to execute loan amendments declined substantially, leaving the market lagging the pace of the transition process expected a year ago. However, SOFR amendments have picked up since the beginning of 2023. If remaining loans do not transition by the end of June, this could pressure companies as a large portion of these loans would automatically flip to pricing based on an alternative base rate (ABR), which is typically higher than SOFR and LIBOR. A flip to ABR could be problematic, particularly for those already approaching distress, as rising rates are already pressuring companies.

Leveraged Loan Basics

The U.S. Leveraged Loan Market

Defining the Market

A leveraged loan is a high-coupon loan to a company with a speculative-grade credit rating, either provided by a group of lenders and organized by traditional banks — a process referred to as syndication— or increasingly by a single or small group of nonbank direct lenders. There is no universally accepted definition of what counts as a leveraged loan, but all definitions consider loans from issuers rated 'BB+' or lower, or that are priced at issue equal to or above a certain threshold — often 175bps over the benchmark rate. As a practical matter, funds that invest in leveraged loans generally have strict rating-based requirements for the loans in their portfolios. Leveraged loans are often used to finance LBOs or other subsequent transactions by companies that have private equity sponsors, such as dividend recapitalizations and subsequent acquisition activity. They are also used to refinance existing debt or simply to fund general corporate expenditures.

The process of issuing a leveraged loan was historically arranged and administered by investment banks. However, the leveraged loan market has evolved and expanded significantly in the years since the Great Financial Crisis, and in particular since 2016. This was brought about by increased regulatory oversight for systemically important financial institutions, which led to an increase in the share of leveraged loans arranged by nontraditional lenders — such as Antares Capital LP, KKR Capital & Co. Inc. and Golub Capital BDC, Inc. — unencumbered by conservative underwriting requirements. The syndicated and direct lending markets traditionally targeted different segments of corporate issuers, but with banks arranging deals for larger corporate borrowers and direct lenders focusing on smaller issuers with fewer financing options, increased competition and significant fundraising in recent years resulted in a blurring of the lines between these two categories that is likely to continue.

For syndicated transactions, a borrower can negotiate to obtain financing on a committed or best-efforts basis. In a committed transaction, the lead bank lender will commit to underwrite an agreed-upon amount of financing, thus taking on the entire risk. It will subsequently spread the risk to other institutions via syndication. Regardless of appetite for credit in the market, the borrower is guaranteed to receive its target amount of financing, because the underwriter agreed to use its balance sheet to provide it. By contrast, in a best-efforts arrangement, the final amount of the loan is not guaranteed and is subject to the market's appetite for credit. Direct lending deals sidestep this dynamic as the original lender, or a small group of lenders, generally holds the entire loan to maturity. In such deals, each lender generally provides an equal amount of financing and receives a more or less equal share of the associated fees.

Within the capital structure of a company, a leveraged loan usually ranks at the top of the capital structure, right below trade claims. It is generally senior secured and guaranteed, but there can be exceptions. Pricing is floating, or set as a spread over a variable base rate, such as the Secured Overnight Financing Rate (SOFR), which emerged as the primary replacement rate after the LIBOR benchmark was discontinued for new issuances at the end of 2021. However, other alternative rates exist. The loan will often be structured with a pricing floor (typically 0.50%–1.00%) such that the base rate is the greater of the benchmark and the predetermined floor. Demand for loans plays a large role in determining the specific terms of each transaction, which are often heavily negotiated and customized to fit each issuer's needs and prevailing market conditions. It is generally true, with some exceptions, that issuers held the upper hand in recent years due to strong investor interest, and pushed for lower pricing with no floors and more flexibility in other areas of the credit agreement.

Defining the Loan Markets

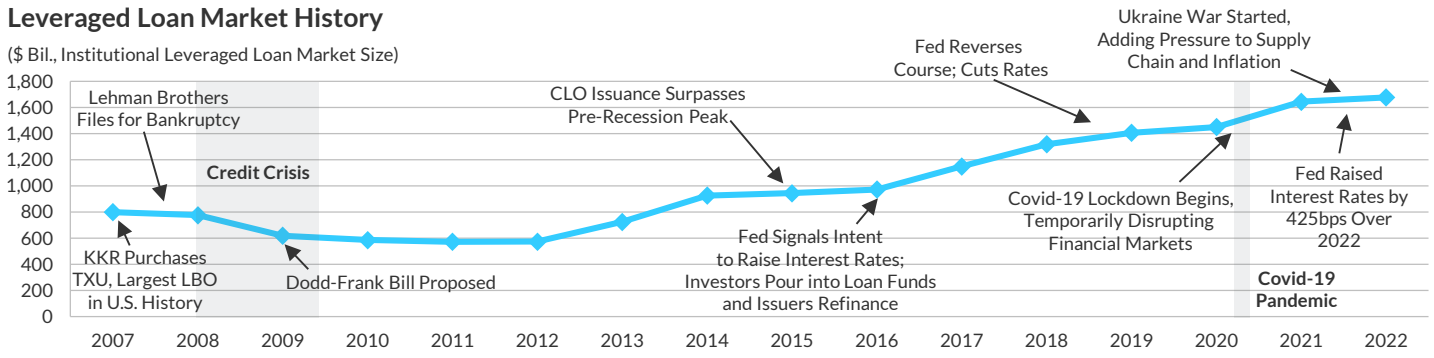
		Leveraged Loans		
	Investment Grade	**Broadly Syndicated/ Large Corporate**	**Middle Market**	**Direct Lending**
Sales Size	$7 billion +	> $500 million	< $500 million	Varies widely
EBITDA Size	$2 billion +	$100 million–$2 billion	< $100 million	Varies widely
Ratings	> BB+	< BBB–	< BB–	< B+, unrated
Typical Deal Size	> $1 billion	$500 million–$1 billion	Traditional: ≤ $100 million; Large: > $100 million–$500 million	Generally < $500 million
Structure	RCFs, TLs	RCFs, TLs	RCFs, TLs, unitranche	TLs, unitranche
Security	Unsecured	Secured	Secured	Secured
Average Tenor	1–5 years	5–7 years	4–7 years	3–7 years
Secondary Liquidity	Yes	Yes	Limited, but improving	Limited
Syndication Method	Broad	Broad	Club, syndication or single investor	Club, no syndication
Lenders	Banks	Banks	Banks, specialty finance	Specialty finance
Main Investors	Retail funds, insurance companies, pension funds	Banks, retail funds, CLOs	Specialty finance, CLOs, private debt funds	Specialty finance, private debt funds

RCF – Revolving credit facility. TL – Term loan. CLO – Collateralized loan obligation. Note: Figures based on Fitch estimates.
Source: Fitch Ratings

While there are overlapping definitions when talking about the loan market, Fitch divides the segment of institutional leveraged loans — those that are mostly held by investors, such as collateralized loan obligations (CLOs), leveraged loan mutual and exchange-traded funds (ETFs), asset managers and separately managed accounts — into broadly syndicated loans (BSLs) and large middle market (MM) loans (LMM). BSLs represent the largest segment of the loan market. These are loans made to large corporations and syndicated by banks to investors. Definitions vary, but Fitch defines BSL loans as those where the total deal size is greater than or equal to $500 million, or the issuer has annual sales exceeding $500 million. BSLs represented 92% of the visible institutional loan market as of YE 2021, remaining the same as the prior year. The middle market (MM) comprises loans where the total deal size is less than $500 million or the issuer has sales not exceeding $500 million. Some data providers define the middle market as companies with EBITDA under $100 million, and the market is often subdivided into lower, middle and large middle markets. The terminology has a legacy component — technically BSL describes who the lenders are, while middle market refers to the profile of the borrowers. This distinction was immaterial historically, but is noteworthy in today's overlapping market.

The BSL market can be further split into two distinct categories: pro rata loans (revolving credit facilities and Term Loan As) and institutional loans (Term Loan B/C/D and some second-lien loans). Relationship banks invest in pro rata loans, which are typically lower priced and have meaningful amortization throughout the tenor of the loan. Banks are incentivized to participate in the lower yielding pro rata portion by the need to maintain business relationships with clients and the potential for profitable banking business in other areas (e.g. IPO, advisory, Treasury services, etc.). In contrast, institutional investors are motivated by the incremental yield on the institutional tranches, generally referred to as Term Loan Bs (or higher, in the event the issuer carries multiple tranches). These loans typically bear a higher spread and amortize minimally during the tenor of the loan. The majority of the principal is due at maturity, but will often be refinanced ahead of time. Institutional loans in particular experienced record growth in the years following the financial crisis, with the total amount outstanding increasing over 75% since 2007.

Market History



KKR – Kohlberg Kravis Roberts. TXU – TXU Corporation. Note: Gray section represents a recessionary period as defined by the National Bureau of Economic Research.
Source: Fitch Ratings, Fitch U.S. Leveraged Loan Default Index, Refinitiv LPC

The syndicated loan market has existed since the 1970s, originally serving as a way for banks to diversify their lending operations and offload risk to a broader investor group. However, it really gained traction along with high-yield bonds during the LBO boom in the late 1980s.

There are several factors that contributed to the growth in the U.S. leveraged loan market in recent years. As interest rates reached historic lows in the years following the financial crisis, the search for yield attracted new investors into the high-yield bond and leveraged loan markets. Rising interest rates beginning in 2016 further increased demand for floating-rate debt. Despite record volatility in 1Q20 and a long rebound affected by the pandemic, social unrest and uncertain U.S. election outcome, the leveraged loan market ended in positive territory with a 3.1% yoy increase in its market size.

The leveraged loan market saw a strong rebound during 2021, with a 13.4% yoy increase, marking an all-time high. This was driven by a widespread recovery from the pandemic, coupled with ample government stimulus capital and an accessible debt capital market with a low interest rate environment throughout the year. In 2022, the leveraged loan market was affected by numerous interest rate hikes by the Fed to counter inflationary pressures. CLOs are the largest and most consistent buyers of institutional leveraged loans, which make up the assets of the structured vehicles. CLO investors are attracted to the asset class due to the higher yield on the senior tranches compared with Treasuries, paired with a track record of relatively good performance during the financial crisis and subsequent periods of stress.

CLO issuance activity in the U.S. fell significantly in 2022 after reached lofty issuance levels in 2021. Some U.S. volume was likely motivated by managers pricing ahead of LIBOR being retired for new deals.

The U.S. institutional leveraged loan market totaled over $1.67 trillion in amount outstanding and comprised just over 1,700 issuers at the end of 2022.

Institutional Leveraged Loan Market Profile

(Institutional Leveraged Loan Industry Composition)

						% of Total Loans by Category[a]				
Industry	Amount Outstanding ($ Bil.)	(%)	No. Issuers	(%)	BSL	LMM	First Lien	Second Lien	Sponsored	Cov-Lite
Automotive	49.3	3	52	3	95	5	97	3	82	84
Banking & Finance	78.9	5	81	5	91	9	97	3	80	77
Broadcasting & Media	61.8	4	62	4	93	7	93	7	59	88
Building & Materials	63.6	4	78	4	89	11	98	2	78	94
Cable	35.0	2	15	1	99	1	100	0	47	80
Chemicals	63.2	4	75	4	92	8	96	4	78	92
Consumer Products	51.0	3	62	4	90	10	95	5	83	91
Energy	42.9	3	65	4	87	13	98	2	81	36
Food, Beverage & Tobacco	39.4	2	57	3	85	15	97	3	82	91
Gaming, Lodging & Restaurants	59.7	4	59	3	90	10	98	2	59	90
Healthcare & Pharmaceutical	208.8	12	197	11	93	7	95	5	79	85
Industrial/Manufacturing	79.8	5	100	6	87	13	95	5	79	91
Insurance	62.0	4	28	2	99	1	96	4	95	91
Leisure & Entertainment	50.2	3	55	3	90	10	96	4	64	89
Metals & Mining	6.6	0	15	1	88	12	98	2	78	84
Paper & Containers	39.8	2	41	2	95	5	98	2	84	95
Real Estate	13.8	1	19	1	85	15	100	0	49	69
Retail	47.4	3	63	4	84	16	98	2	71	76
Services & Miscellaneous	194.7	12	239	14	89	11	95	5	88	88
Supermarkets & Drug Stores	3.5	0	8	0	62	38	95	5	77	62
Technology	244.0	15	217	12	94	6	93	7	84	91
Telecommunications	75.4	4	58	3	97	3	98	2	54	92
Transportation	72.5	4	65	4	92	8	97	3	66	64
Utilities, Power & Gas	34.4	2	47	3	87	13	100	0	64	55
Total	**1,677.9**	**100**	**1,758**	**100**	**92**	**8**	**96**	**4**	**77**	**85**

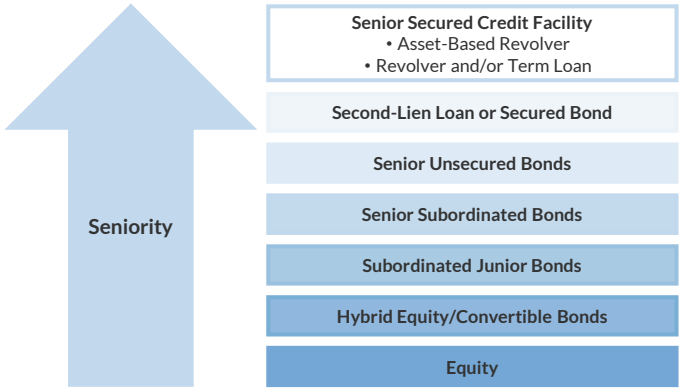
[a]Percentage of total loans calculations are based on actual dollar amount. BSL – Broadly syndicated loans. LMM – Large middle market. Note: Data as of YE 2022.
Source: Fitch U.S. Leveraged Loan Default Index, Refinitiv LPC, Bloomberg

Key Characteristics of Leveraged Loans

Seniority

Leveraged loans are generally senior secured and sit at the top of the borrower's capital structure. Senior secured and unsecured creditors would typically be first in line to receive payments from a debtor. Secured lenders will move to the front of the line in a bankruptcy situation, followed by senior unsecured creditors, senior subordinate bondholders, preferred noteholders and equityholders.

Leveraged Capital Structure — Seniority



Source: Fitch Ratings

Security

Leveraged loans are usually secured by collateral. The quality of the security package can vary from one deal to another. Collateral composed of the physical assets of the borrower and its operating subsidiaries is generally preferable to a stock pledge. In today's market, borrowers with fewer physical assets enjoy increased access to leveraged loan funding rather than alternate sources, such as high-yield bonds or equity. Software companies are a good example: deemed "asset-light," the ability of these issuers to issue loans means a greater diversity of funding and lower cost of capital. However, it raises concerns that the value of the collateral may be less of a safeguard for investors than in previous cycles.

Pricing

Leveraged loan coupon payments are almost always floating rate and a function of the base rate and the spread. A transaction will launch with guidance on pricing (i.e. a range for the spread over the base rate, rather than a predefined level). Based on investor response and market conditions, the spread will settle at the lower, middle or higher end of the guidance. In some cases, the arranging bank will need to alter the spread above the initial range to generate sufficient demand, or may lower it below the range in response to unanticipated interest.

The base rate is the floating component, and fluctuates with market conditions. LIBOR, SOFR or other base rate floors, which are especially relevant in low interest rate environments that endured following the financial crisis, are routinely set lower than the traditional 1%, and are removed completely in many deals. The slate of loans with low/no floors that came to market in 2016–2018, when interest rates were expected to be on the rise, had larger declines in yields when the interest rate policy moved the other way in 2019 and 2020.

The last component of pricing is the original issue discount (OID), by which lenders can purchase issuer debt at a discount to further increase effective yields (e.g. 99 cents on the dollar).

Loan Pricing Components

Component/Fee	Detail
Reference Rate	Overall pricing on a loan is based on a spread over a reference rate. The reference rate is typically reset daily and is based on the bank's prime lending rate. Common reference rates include the U.S. prime lending rate and SOFR, which is the financing rate replacement for LIBOR in the U.S. SOFR is a nearly risk-free reference rate, based on the U.S. Treasury repurchase agreement market. It represents the cost of borrowing cash overnight collateralized by U.S. Treasury securities, and is typically lower than LIBOR.
Spread	The rate added to the reference rate to determine the overall rate on the loan. The spread is based on the credit quality of the borrower and can change based on changes in the borrower's performance. For example, the lower the credit quality of a borrower, the higher the probability of default. Due to this higher probability, investors will demand higher spreads as compensation. During the transitioning from LIBOR to SOFR, market participants may include a credit spread adjustment (CSA) to compensate for the difference between the two rates.
Reference Rate Floor	A reference rate floor sets a minimum reference rate on which the loan pricing is based. For example, if the SOFR rate falls below the floor rate, pricing will be based upon the floor rate rather than the current market SOFR rate.
Original Issue Discount (OID)	A discount to par (100). The OID is offered in the primary market during the syndication process to enhance investors' yield on the loan.
Commitment Fee	Paid to lenders on the undrawn portion of the revolving credit facility. Also called a ticking fee.
Usage Fee	Paid to lenders on the drawn portion of the revolving credit facility if utilization falls below a certain minimum threshold.
Facility Fee	Fee paid on the entire commitment amount, regardless of usage.
Administrative Fee	Fee paid to the administrative agent for administrative tasks performed in conjunction with the loan, such as distribution of payments.

SOFR – Secured Overnight Financing Rate
Source: Fitch Ratings

Covenants

Covenants represent a set of restrictions that detail what the borrower can and cannot do during the life of the loan. There are three main types of covenants:

- Affirmative covenants state what a borrower must do to comply during the life of the loan (e.g. provide financial statements and maintain insurance).
- Negative covenants limit what the borrower can do during the life of the loan (e.g. limits on additional incurrence of debt or limits on dividend amounts).
- Financial (maintenance) covenants require the borrower to maintain certain financial performance measures during the life of the loan. These are typically measured quarterly (e.g. leverage ratio tests and coverage ratio tests).

Common Loan Covenants

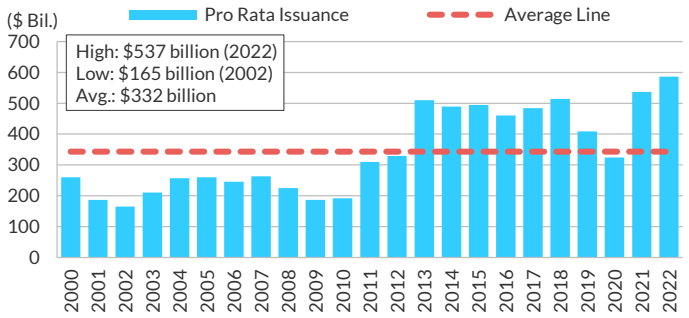
Negative Covenants	Affirmative Covenants	Financial Covenants
Incur Additional Debt or Issue More Senior Debt	GAAP Compliance and Audited Financial Statements	Maximum Senior Debt-to-EBITDA Ratio
Grant Liens or Pledge Assets	Maintain Condition of Assets	Maximum Total Debt-to-EBITDA Ratio
Sell or Dispose of Assets	Payment of Taxes	Maximum Capex Limit
Make Investments or Loans	Maintain Insurance	Maximum Debt to Capitalization
Make Acquisitions	Access to Information	Minimum Interest Coverage Ratio
Merge or Consolidate with Another Entity	Additional Collateral	Minimum Fixed-Charge Coverage Ratio
Make Dividends, Distributions, Equity Redemptions or Repurchases from Equityholders	—	Minimum Tangible Net Worth Ratio Minimum Current Ratio

Source: Fitch Ratings

Callability

Call protection for institutional leveraged loans has become widespread. It takes the form of soft call provisions and is intended to protect investors' income streams by including a prepayment premium. This was especially relevant in recent years, when strong investor demand for loans created opportunities for issuers to refinance existing loans at a lower rate. Typical soft call provisions are 101% for a length of time following the issuance — anywhere from six months to two years (i.e. an issuer would have to pay a 1% premium if the issuer decides to refinance within this period). However, some borrowers opt to pay the premium in exchange for the chance to get a better spread. In today's issuer-friendly market, borrowers are finding ways around callability by including stepdowns in the interest margin prior to the call date.

Pro Rata Leveraged Loan Issuance



Source: Refinitiv LPC

The Different Types of Leveraged Loans

Pro Rata Tranches

Pro rata tranches refer to the types of leveraged loans invested in by banks and other financing companies.

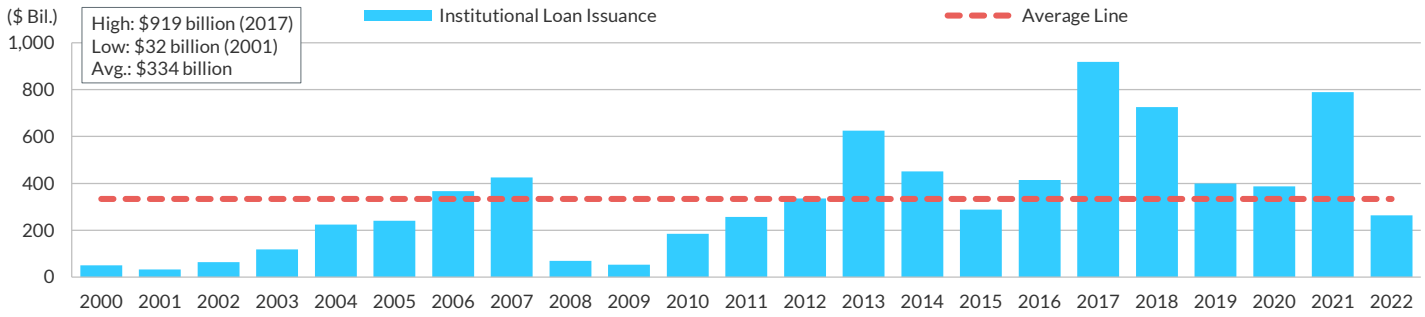
- A revolving credit facility is similar to a credit card, in that it allows a company to draw up to a pre-determined limit at any point during the agreement tenor, repay and then draw back down. The amount borrowed will carry a spread that is often lower than pricing on the institutional term loan, and the borrower also pays a small commitment fee on undrawn amounts. Furthermore, it is typical for revolving credit facilities to mature ahead of other corporate debt, including term loans. The facility may contain borrowing base restrictions or sublimits. The revolver can be multicurrency and allow for multiple borrowers.
- A Term Loan A (amortizing loan) is an installment loan that is typically fully drawn at close and has meaningful amortization throughout the tenor of the loan, with the remaining balance due at maturity. The required amortization percentage typically increases over time.
- The pro rata tranche is traditionally syndicated to and held by relationship banks.

Institutional Tranches

Institutional tranches refer to the types of leveraged loans invested in by institutional investors, such as CLO managers, loan mutual funds and ETFs, among others.

- A Term Loan B/C/D is similar to a Term Loan A in operational mechanics, but with minimal amortization through the life of the loan (e.g. 1% per annum), with the bulk of the balance due at maturity. The facility may contain a delayed-draw component or a separate delayed-draw term loan. Delayed-draw term loans are not drawn at close, and are used to fund an allowable event, such as an acquisition or large capital expenditure, only if the company meets certain conditions.
- A second-lien term loan is similar to a Term Loan B in structure and mechanics, except for priority, security and pricing. The priority in a bankruptcy is second to first-lien facilities, the security is generally a second lien on the company assets and the pricing is typically wider by 300bps-500bps. The maturity typically exceeds that of higher priority debt, most often extending one year later than the first-lien institutional tranche.

Institutional Leveraged Loan Issuance



Source: Refinitiv LPC

Facility Types Comparison

Description	Revolving Credit Facility	Term Loan A	Term Loan B	Second Lien
Security	Senior secured — generally a first lien on all assets and pledge of stock.	Senior secured — generally a first lien on all assets and pledge of stock.	Senior secured — generally a first lien on all assets and pledge of stock.	Senior, second to first-lien facilities, secured — generally a second lien on the first-lien assets and a first lien on other certain assets.
Structure[a]				
Typical Facility Size	$100 million–$500 million	$100 million–$750 million	$250 million–$1,500 million	$100 million–$500 million
Funded/Unfunded, Unfunded, Partially Funded or Fully Funded	Funded or unfunded	Funded	Funded	Funded
Tenor	Approximately 3–5 years	Approximately five years	Approximately 5–7 years	Approximately 6–8 years
Repayments	Amortizing	Amortizing (gradual)	Limited (bullet payment structure)	Limited (bullet payment structure)
Pricing[a]				
Spread/Margin	Floating	Floating	Floating	Floating
Typical Spread/Margin (bps)	175–325	200–350	250–550	600–900
Commitment Fee (bps)	25–50	—	—	—
Markets				
Market	Private	Private	Private	Private
Investors	Banks	Banks	Institutional investors	Institutional investors

[a]Fitch estimates as of Feb. 6, 2023.
Source: Fitch Ratings, Refinitiv LPC

Covenant-Lite Loans

What Is a Covenant-Lite Loan?

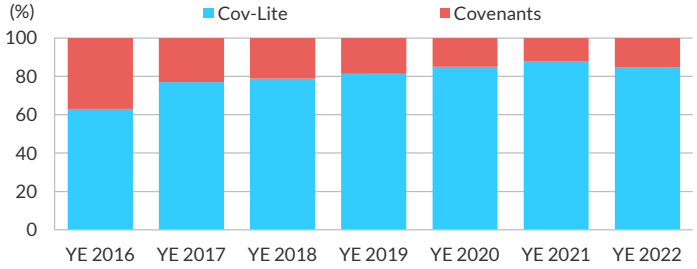
Covenant-lite generally refers to a loan with no financial maintenance covenants. Instead, covenant-lite loans only have high-yield bond-like incurrence covenants.

Variations of covenant-lite loans include covenant-loose and springing covenant-lite. A covenant-loose loan is a loan with one or more maintenance covenants, but where the covenant breach level is set so wide from closing leverage (or other financial metrics) it would permit deviations of up to 50% from the issuer's projections, versus a normal covenant cushion of approximately 15%–20%. A springing covenant-lite loan is a loan that contains a maintenance covenant on the revolver, which generally matures before the term loan, but no maintenance covenants on the term loan. The covenant applies or springs into effect on the term loan once the revolver is drawn or when drawings exceed a certain threshold.

What Is the Size of the Covenant-Lite Market?

The terms and conditions of leveraged loans are heavily negotiated and have generally been more favorable for issuers in today's market. Covenant-lite loans make up the majority of the leveraged loan market and have become the norm in the institutional leveraged market since 2013. These loans accounted for 86% of U.S. institutional leveraged loan issuance volume in 2022, and make up 85% of the outstanding BSL loan universe. This is a slight decline from 2021 peaks of 89% of issuance volume and 88% of the outstanding BSL loan universe. Financial maintenance covenants are just one of a number of terms in loan documents considered to be protection for lenders. However, many of these also loosened in this cycle.

Institutional BSL Leveraged Loan Market — Covenanted Versus Covenant-Lite Outstandings



BSL – Broadly syndicated loans. Note: Covenant-lite is defined as deals that do not have maintenance covenants.
Source: Fitch Ratings, Refinitiv LPC, Bloomberg

The widespread adoption of covenant-lite loans reflects the market's long-term structural evolution as the buyer base evolved from banks to institutional investors that can generally be incentivized to accept less conservative lending standards in exchange for a higher yield. The pace of the shift accelerated due to record low interest rates prior to 2022, stable corporate credit profiles, and meaningful growth in loan fund and CLO assets under management.

Maintenance covenants provide an early warning mechanism for lenders and a means to intervene in a deteriorating credit situation, possibly preserving value. In most cases, a technical violation of a maintenance covenant provides mechanisms for a group of lenders to negotiate a higher spread and extract a fee from the issuer, which is limited by the presumably struggling company's ability to pay the fee. These covenants also preserve certain rights that allow lenders to initiate changes they may want, or to call the loan for early payment in the most extreme cases.

The case for covenant-lite loans rests on the fact that covenants are often a time-consuming and expensive administrative hurdle for issuers. Most BSLs can frequently have dozens of different lenders in one single loan, making any type of amendment process cumbersome and time consuming. A covenant-lite loan affords the issuer greater financial flexibility and allows business managers to focus on running the business rather than managing around a financial covenant.

The transformation of the BSL market is supported by the growth of secondary loan trading through the standardization of transactions, documents and practices. These changes helped accelerate the convergence of terms between the leveraged loan and high-yield bond markets.

Middle market loans still usually have financial maintenance covenants. However, the trend toward covenant-lite is also apparent here. The lower middle market is less transparent, but lending in this space is much more heavily covenanted. This segment of the market more closely resembles the pre-2014 BSL market, and benefits from smaller lending groups that can more efficiently amend credit agreements if desired.

What Considerations Does Fitch Give to Covenant-Lite Issuers?

Fitch's criteria allows for analytical discretion in reflecting the effect of certain events on a rating if there is conviction that they are likely to occur, and the analyst is able to make reasonable assumptions for amounts and timing. This discretion applies equally to events that may be facilitated by weaker documentation, including the lack of financial maintenance covenants. Fitch's analysts and committees employ their judgment regarding the reasonableness of such assumptions based on the track record of the management team and owner. In the rating analysis, Fitch focuses on two categories of credit risk arising from documentation: deterioration of collateral protection and risks to the leverage profile. Qualitatively, Fitch considers the financial policies and discipline of an issuer, and links the proclivity for aggressive, shareholder-friendly actions with the flexibility to engage in such actions, as permitted in their debt documentation. Quantitatively, our forecasts will explicitly take a view on actual rather than targeted deleveraging, and analysts can model actions allowed by the looser lending terms.

We believe covenant-lite loans are generally reserved for issuers of higher credit quality, but quantifying this view remains a challenge given a large percentage of the market is privately sponsored. Fitch emphasizes credit analysis involves thorough evaluation of a range of factors. For example, credit metrics alone do not provide a holistic view of a company's credit quality. Leverage and coverage metrics remain relative measures and must be considered in context with other factors, such as business risk. Similarly, covenant-lite status alone does not equate to riskier lending practices. In a market where covenant-lite status has become the norm, Fitch notes in certain cases, fully covenanted issuers may actually represent the riskier borrowers. The presence of a financial maintenance covenant in this environment may be a red flag compensating for some other source of weakness in the credit profile.

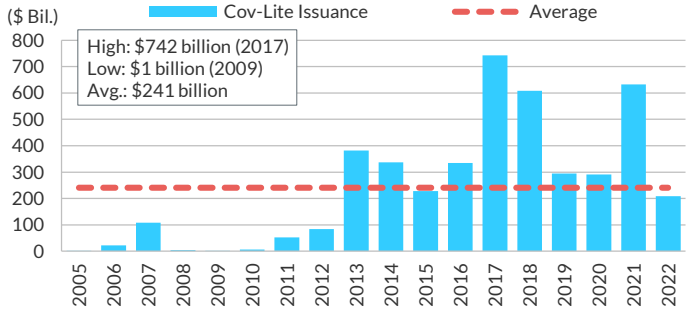
Are Recovery Prospects Different for Covenant-Lite Loans?

The averages, medians and ranges taken from these small, heterogeneous data sets can be misleading, as the circumstances around each company's bankruptcy are unique and their credit stories often involve issues unrelated to covenant status. The exact driver of bankruptcy is typically a mix of factors, and it is challenging to pinpoint the exact cause to be used for analysis in a dataset. However, according to Fitch, corporate issuers are most often forced into bankruptcy due to immediate liquidity constraints affecting their abilities to operate their businesses, and the presence of overlevered capital structures coupled with market cyclicality and flawed business models.

We do not perceive the presence or absence of financial maintenance covenants to be a key driver of recovery values because refinancing risk can arise for companies still within their covenant parameters, covenants are often waived in the event of distress, and companies and their bankers can set wide covenant thresholds at the outset. The events of 2020 provide some context here. As the coronavirus pandemic spread and issuers' credit and liquidity profiles dropped sharply, many lenders waived covenant breaches or amended credit agreements to allow for additional flexibility for issuers.

Covenant-Lite Data

Covenant-Lite Loan Issuance



Source: Refinitiv LPC

Second-Lien Loans

What Is Second-Lien Debt?

Second-lien debt generally places debtholders second in line for recovery, compared with first-lien creditors in the case of bankruptcy.

There is no consistent market definition of what constitutes a second-lien facility and nomenclature can be misleading. Sometimes the second lien is in a position that is not actually the second most-senior position, and sometimes the debt that has the second most-senior position is not called the second lien.

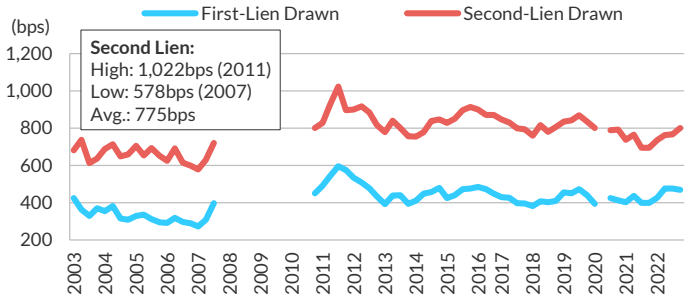
Some issuers can have a first-lien asset-based loan (ABL) facility — priority to working capital assets — and several other first-lien facilities ahead of second-lien debt. Similarly, term loans with a second lien on working capital and a first lien on real estate, equipment and intangible assets are sometimes referred to as second-lien debt, particularly among retailers and in the middle market, even though the term loan lenders have a first lien on hard assets and intangibles. Distressed issuers have issued 1.5-lien debt in exchanges that gets sandwiched between the first and second liens. The 1.5 lien pushes the second-lien issue down to a third-lien position. This sandwiching strategy was used by a number of energy and commodity sector issuers to extend maturities during recent market price troughs. For this reason, it is important to understand exactly what collateral backs the loan rather than relying solely on the second-lien label.

However, in the simplest of constructions, a second-lien loan or bond complements a larger first-lien financing. The second-lien tranche is often held by funds that specialize in riskier debt investments or is held by an affiliate of a private equity sponsor.

Why Issue Second-Lien Debt?

Second-lien issuers tend to be highly leveraged and often have weaker credit profiles. However, there are examples of issuers with high speculative-grade credit quality. Investors are attracted to second lien for the spread premium, which consistently averages in the 300bps–400bps range relative to first-lien debt, while still maintaining a claim on the collateral.

Second-Lien Loan Pricing — First Lien Versus Second



Note: No data for 1Q08–4Q10 and 2Q20.
Source: Refinitiv LPC

Second-lien debt can be attractive to both lenders and issuers. Issuers benefit from the additional source of financing that comes at a lower price compared with mezzanine and other subordinated debt, due to its secured nature. Lenders are similarly drawn to second-lien debt by its lucrative yields and protection provided by the collateral.

Second-lien loans are also often used to fund M&A and LBO transactions. These are often placed privately to single lenders to take advantage of growing size of direct lending platforms and the greater flexibility these lenders often exhibit in search of the higher yields second-lien debt offers. While CLOs own the majority of the institutional first-lien market, they only hold minimal amounts of second-lien debt — generally around 2% of portfolios.

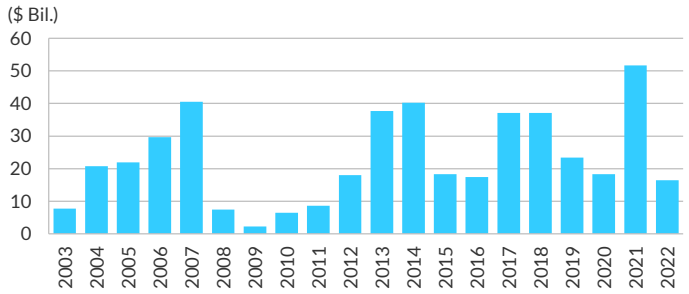
Funding of opportunistic debt exchanges and distressed debt exchanges (DDEs) of unsecured debt for second-lien debt is another common use. Companies can often push out the near-term maturities of unsecured debt by offering to swap the maturing unsecured note for new second-lien debt. Unsecured holders are incentivized to accept the exchange offer to avoid becoming subordinated to the new second-lien debt that will be slotted above them.

While second-lien issuance is a relatively common financing tool among distressed issuers and in highly leveraged LBO transactions, the presence or absence of second lien is itself not predictive of default.

Second-Lien Institutional Loan Volumes

U.S. second-lien term loan issuance volume dropped to $16.5 billion in 2022 from a record high of $51.6 billion in 2021. Interest rate increases designed to tamp down inflation due to economic and geopolitical uncertainty depressed the demand that flourished during the relatively low interest rate environment a year prior.

U.S. Second-Lien Institutional Term Loan Issuance Volume



Note: Includes privately placed volume beginning in 2014.
Source: Refinitiv LPC

Second-lien loans are typically used to fund opportunistic and rescue financing deals, or to boost the issuer's liquidity position. However, this asset class has also become popular among investors, as financial sponsors use second-lien tranches to maximize total leverage and value in an LBO transaction. As a first-lien debt tranche becomes increasingly stretched for traditional investors, second-lien loans become relevant as a subordinated form of financing to pull forward returns via dividend recapitalizations.

First-lien leverage is expected to continue rising due to demand from CLOs and other investors. However, the reach-for-yield dynamics that underpin the relatively high demand for second-lien debt are unlikely to dissipate as long as market conditions for investors continue to favor subordinated collateral quality over higher yields, relative to other loan tranches.

Bankruptcy exit financing and DDEs sometimes include a second-lien component, which can produce some issuance in periods of high default activity. However, the drop in total issuance during these periods is generally large, and would be expected to outweigh any incremental second-lien activity that may result.

For a more detailed information on the second-lien market, please see *Leveraged Finance Structure Series: Second-Lien Debt Analysis (Rising Leverage; Healthy U.S. Second-Lien Bond Volume)*.

Middle Market

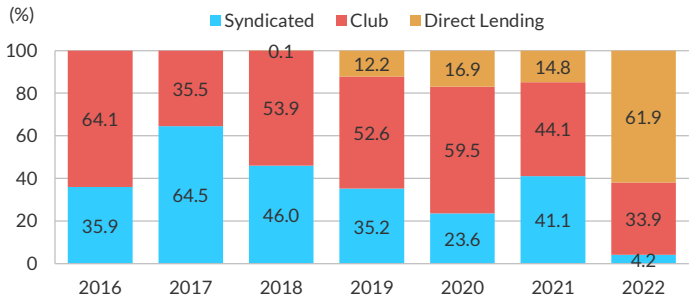
Defining the Middle Market

There is no widely accepted definition of the middle market (MM), but conceptually it consists of the segment of smaller borrowers in the leveraged loan market, whether measured by total debt, revenue or EBITDA. Many of these companies are private, and are often private equity portfolio companies. Fitch considers the MM to consist of companies for which the amount borrowed on its credit facilities or its total revenue do not exceed $500 million. This would correspond to EBITDA of approximately $100 million, assuming 5.0x closing leverage. However, other data providers can have slightly different definitions. Due to the opaque and private nature of the MM, true market size is difficult to gauge, with market participants relying on anecdotal information. Fitch estimates the traditional MM totals at least $350 billion, and has grown significantly in recent years due to strong demand.

MM lending can be broken down into categories: syndicated lending, which is similar to the larger deals; club lending, where a transaction is not widely distributed, in which a few nonbank lenders join together; and direct lending, where a single nonbank lender underwrites the full loan. According to data from LevFin Insights, a Fitch Solutions Company, direct lending accounted for 62% of total MM issuance at the end of 2022, while club deals represented approximately 34% and syndicated issuance made up approximately 4.0%. This significant increase in direct lending's share from 15% in the previous year highlights a clear shift from traditional bank financing, further evidenced by the sharp decline in syndicated lending's share from 41% in 2021. Several factors drove this displacement of syndicated bank loans to direct lenders in 2022. First, banks were unable to commit to new financings due to the extensive backlog of pending deals. Second, direct lenders were seen as an attractive alternative to traditional banks due to their quick execution, certainty of close and lower fees. Finally, private equity sponsors were eager to deploy capital as they had record levels of dry powder.

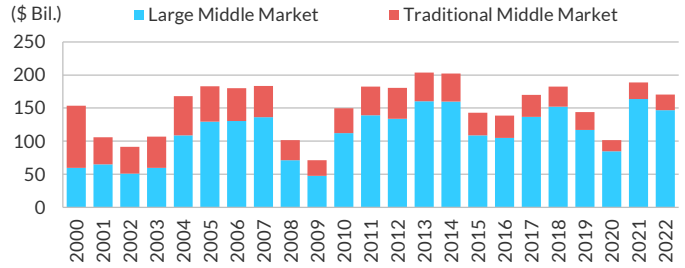
The top sectors in Fitch's MM rated portfolio mirror the larger institutional market — with Healthcare, Technology and Business Services being the three largest sectors — although with greater concentration.

Share of Middle Market Loan Issuance



Source: Levfin Insights

Middle-Market Loan Issuance



Note: Large Middle Market defined as deal sizes $100 million–$500 million.
Traditional Middle Market defined as deal sizes less than $100 million.
Source: Refinitiv LPC

Middle Market Lenders

There are numerous lenders in the MM. The number grew over the past few years due to attractive deal structures (financial covenants) and higher yields compared with those that can be attained in broadly syndicated deals. Lenders include but are not limited to CLO managers, business development companies (BDCs), alternative asset managers, credit opportunity funds and regional banks.

A small sample of the most active lenders in the MM is in the *Players in the Middle Market* table on the next page.

Players in the Middle Market

Antares	Blackstone
Bain	HPS
Barings	Ivy Hill
Blue Owl	KeyBank
BMO	Madison Capital
Carlyle	Maranon
Churchill Asset Management	Midcap
CIT	Monroe Capital
Deerpath	Natixis
Fifth Street	NXT Capital
FifthThird	PNC
First Eagle	Twin Brook
Golub	Varagon
Ares	

Source: Fitch Ratings

Sponsored Versus Nonsponsored Deals

Sponsored MM transactions refer to deals that have a PE sponsor backing a company's equity. Transactions with a sponsor often have more seasoned management teams compared with nonsponsored deals due to the PE company's ability to leverage personnel from their portfolio companies. Sponsors will typically work with lenders more quickly to resolve any potential issues a credit may have, more so than in nonsponsored deals. Furthermore, sponsored borrowers can have additional access to equity capital that nonsponsored borrowers do not.

Middle Market Characteristics

MM issuers typically have certain characteristics other than their smaller sizes that differentiate them from their BSL counterparts.

- MM companies typically have more robust reporting packages and protective covenants due to deal terms being customized between the lender and the borrower. Loan documentation in the MM loosened along with the rest of the market, but terms still generally remain stronger than BSL counterparts.
- Due to the buy-and-hold nature of MM investors, there are not usually different groups of institutions holding the loans at different prices with different agendas when a restructuring happens. This can lead to better outcomes as all lenders' interests are aligned.
- Private company loans in the MM typically have lower liquidity compared with BSL deals, which is ultimately reflected in the higher yield.
- Deals are primarily financed by nonbank institutions - BDCs and fund/asset managers — as opposed to banks. An estimated 72% of MM leveraged loans are now made by nonbank institutions, up from 28% in 1994.

Convergence with BSL

As MM strategies have grown and investors have become more comfortable with the risk/return profile, there has been an increasing tendency for traditional BSL investors to participate in the same deals as those that focus on the MM. For example, some BSL CLO managers have been investing in what would be classified as MM loans either to increase portfolio spread or to get better allocations during times of low loan issuance. However, they typically have a limit on the amount of MM loans they can hold.

Loose EBITDA addbacks in credit agreements, common in BSLs, have also become more common in the MM. Loose addbacks help inflate the EBITDA used to test compliance with covenants, which makes a company's leverage lower, reducing the effectiveness of financial maintenance covenants, and essentially increasing the capacity for the company to issue additional debt or remove collateral from existing lenders. Some of the more permissive addbacks commonly seen include addbacks for cost-cutting projections that have not yet materialized and other expected synergies. While these are generally capped at a certain percentage of EBITDA, the caps are often quite high, and in some cases nonexistent.

For more information refer to *What Investors Want to Know: Growth of Private Debt in the Middle Market (Demand for Private Debt Continues Despite Economic Uncertainty)*.

Unitranche Facilities

MM participants are using unitranche deal structures — hybrid loan structures that incorporate both senior and junior debt into a single loan tranche, which are often bifurcated pursuant to an agreement among lenders (AAL) into separate first-out and last-out components — with greater frequency. Unitranche structures provide increased simplicity, greater certainty over the all-in cost of the loan and lower administrative costs in servicing the loan. Furthermore, unitranche lenders fully underwrite the loan as a general matter, which eliminates syndication risk. As there is no need to syndicate to lenders prior to closing, execution of the loan may be quicker. Fitch expects unitranche issuance to continue to increase for these reasons.

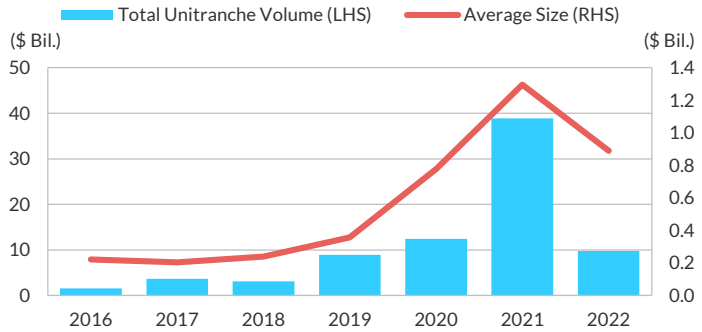
The structure above is what Fitch considers true unitranche. However, there is an alternate definition used by many market providers in which a unitranche loan is essentially a senior stretch loan — a first-lien leveraged loan typically provided by a single lender that would have traditionally been split into separate first- and second-lien loans from different lenders. These loans carry an interest rate that falls between a more standard first- and second-lien structure, but does not necessarily require an AAL.

There is limited precedent demonstrating how unitranche structures would perform in a distressed credit market. There is uncertainty surrounding the classification of unitranche lender claims against a debtor, post-petition interest and whether bankruptcy courts will exercise jurisdiction over the AAL when the borrower is not a party to the document. For the handful of bifurcated pieces of unitranche loans Fitch has rated, first-out pieces have been assigned an 'RR1', reflective of the first-out piece's priority position over the last-out portion, as provided for in the AAL's waterfall. There is typically limited residual value available to last-out lenders after first-out claims are satisfied.

Institutional demand for unitranche facilities experienced a strong surge in popularity — issuance in 2021 reached a record $38.9 billion, compared with only $1.6 billion in 2016. However, volumes moderated in 2022 to approximately $9.8 billion due to heightened risks in the credit markets. Large unitranche facilities took share away from BSL, significantly accelerating the growth trend in recent years. There were

over 26 unitranche transactions exceeding $1 billion from 2019 to 2022, with the majority of them utilized in LBOs and M&A transactions. The facilities are seen as an effective alternative to first- and second-lien structures, with sponsors prizing potential cost savings from the relative ease of execution. The average unitranche facility size in 2022 was $890 million — the largest issuance was a $2.5 billion facility used for an LBO.

Annual Unitranche Issuance



Source: LevFin Insights

For more information, refer to *Leveraged Finance Structure Series: Unitranche Versus Syndicated Loans (Unitranche Borrowers Eye Simple Execution Despite Variety of Risks)* and *Leveraged Finance Structure Series: Bifurcated Unitranche Loan Recoveries (Strong Recovery Prospects for First-Out Lenders)*.

Direct Lending

What Is Direct Lending?

Direct lending is a strategy where nonbank entities lend their capital directly to companies. Direct lenders typically earn higher interest rates on their portfolios than bank lenders and investor syndicates, given their riskier portfolio profiles. Direct lenders also earn an illiquidity premium due to lack of a tradeable market for the loan. Companies that issue private debt vary in size, but tend to be smaller — often $75 million or lower in EBITDA generated annually. However, borrowers have become more comfortable with private debt solutions in recent years, which is driving the average EBITDA up for private market participants.

The prominence of direct lending increased in light of heightened regulations placed on banks in the aftermath of the financial crisis. Several major regulations were introduced that affected banks' ability and willingness to lend, including Basel III, the Dodd-Frank Act and Leveraged Lending Guidance regulatory frameworks. This constricted banks' lending activity by requiring banks to allocate higher capital to loans and avoid lending to highly leveraged entities, and created a supply gap in the leveraged loan markets. This in turn created opportunities for unregulated institutions to expand and lend in the banks' stead. Despite the rollback in Leveraged Lending Guidance and the Dodd-Frank Act in 2018, there has not been a material shift in underwriting volumes back to regulated banks from other less-regulated entities, and this lending segment continues to grow.

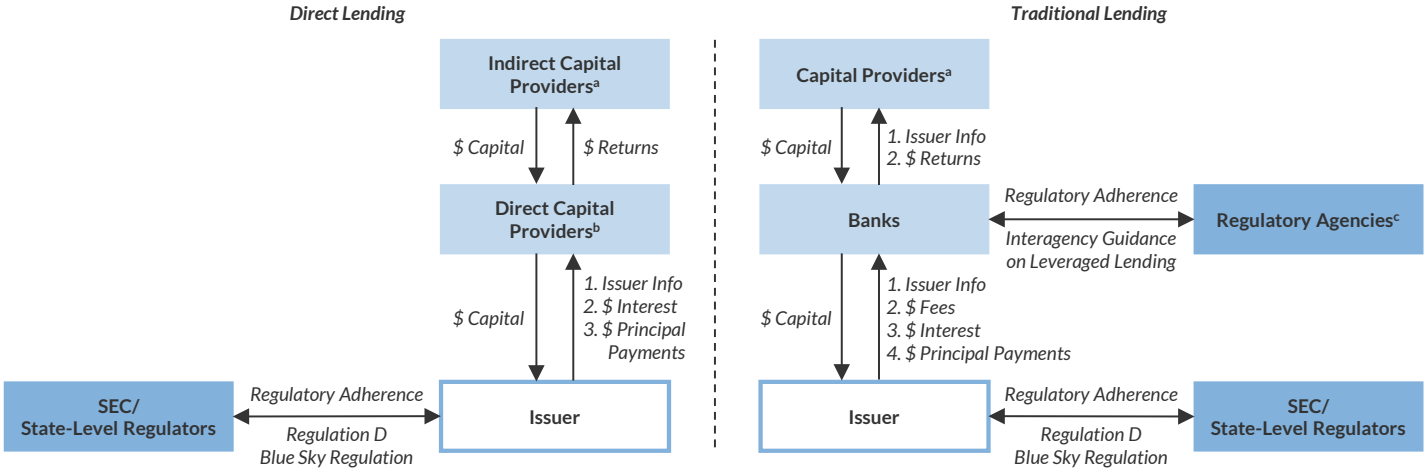
A Growing Asset Class

On the demand side, the premium offered on private debt has long fueled the interest in direct-lending platforms from investors that pursued higher yields during the protracted low interest rate environment from 2009 to 2022. According to Pitchbook, global private debt assets under management (AUM) continued growing during 2021 despite pandemic challenges, inflationary pressures and a highly competitive market for quality deals. The growth in AUM was mainly attributed to growing opportunities for LBOs, particularly in the MM segment, increasingly relying on private financings rather than the traditional high-yield bonds or bank-syndicated loans.

This supply of capital led to intensely competitive conditions in the lending market, which fueled spread compression, more covenant-lite lending, EBITDA adjustments, and weaker terms and conditions in general. Direct-lending funds continue to expand the scope of their lending opportunities as their size and presence increased significantly over the years. A form of financing once only tapped by smaller, sponsor-backed companies evolved into a market that can meet the financing needs of much larger companies. The scale at which direct lenders are now able to underwrite debt makes it a much more competitive option for borrowers, especially for European companies, as some European investment banks are shrinking balance sheets and curbing lending.

Direct Lending as an Alternative to Traditional Bank Lending

(Speed and Flexibility in Deploying Committed Capital Furthers Appeal of Direct Lending)



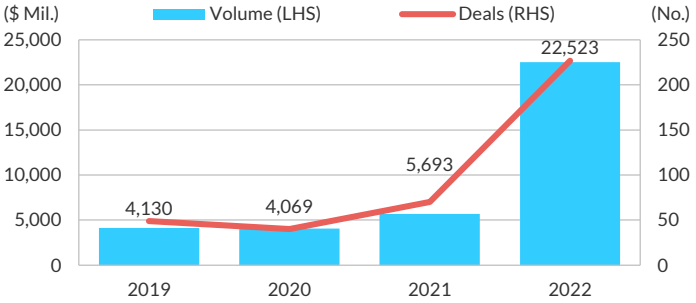
[a]Those providing capital through the banks (i.e. lending participants). [b]Those providing capital to issuers (e.g. general partners, such as private equity firms, hedge funds, banks, etc.). [c]The Office of the Comptroller of the Currency, Board of Governors of the Federal Reserve System and Federal Deposit Insurance Corp.
Source: Fitch Ratings

Why Is Direct Lending Attractive to Companies and Investors?

Companies targeted by direct lenders tend to be smaller, and usually have loans that are not publicly rated and have limited access to the public markets. However, the range of companies issuing private debt broadened in recent years as bank regulation shrunk the availability of traditional forms of financing for many borrowers. Direct lenders are often prepared to fund riskier deals and on more flexible terms than banks will accept. As such, these borrowers are willing to pay the higher yields that make direct lending attractive to investors.

An additional advantage, highlighted during the global coronavirus pandemic, is the ability for these lenders to quickly renegotiate terms or extend additional liquidity to borrowers in periods of market stress. In syndicated lending deals, amendments to the credit agreement usually require at least a majority consent; an issue that is side-stepped when only one lender is involved. Direct-lending funds have grown into viable lending alternatives, even for larger borrowers with access to public financing, because in volatile markets, borrowers can benefit from the greater speed, flexibility and execution certainty provided by direct-lending platforms. Some companies may even prefer paying the premiums for private debt in return for keeping their financial information confidential.

Annual Middle Market Direct Lending Issuance



Source: LevFin Insights

According to LevFin Insights, a Fitch Solutions Service, the annual direct lending issuance for the MM segment surged by almost 300% in 2022 to $22.5 billion. Direct lenders took a greater share of the financing for larger PE deals during 2H22 as banks were focused on clearing their backlog and were unable to finance new transactions. Direct lenders stepped in, providing over $16 million in capital in 2H22. Fitch believes direct lenders will continue to take share from banks as a viable alternative given the shorter turnaround time, certainty of execution, greater confidentiality and lower underwriting fees.

Business Development Companies

BDCs are an important source of funding within the private debt market. They are permanent capital vehicles that provide debt financing to the MM. They generally extend credit to smaller companies, with annual EBITDA typically less than $100 million, and offer managerial assistance to issuers. The structure was created by Congress in 1980 with the intention of providing a way for small private companies to access public funding.

BDCs are regulated under the Investment Company Act of 1940, and many elect to be treated as regulated investment companies for tax purposes under Subchapter M of the Internal Revenue Code, which requires the annual distribution of 90% of investment company taxable income to shareholders to avoid corporate taxes. Many of these are publicly traded funds that invest primarily in private company debt. However, perpetually nontraded vehicles have grown meaningfully in size over the past two years. The popularity of these vehicles expanded along with the increased prominence of PE funds.

Notable BDCs include Ares Capital Corporation, Blackstone Private Credit Fund, FS KKR Capital Corp., Golub Capital BDC and Owl Rock Capital Corporation.

The U.S Private Equity Market

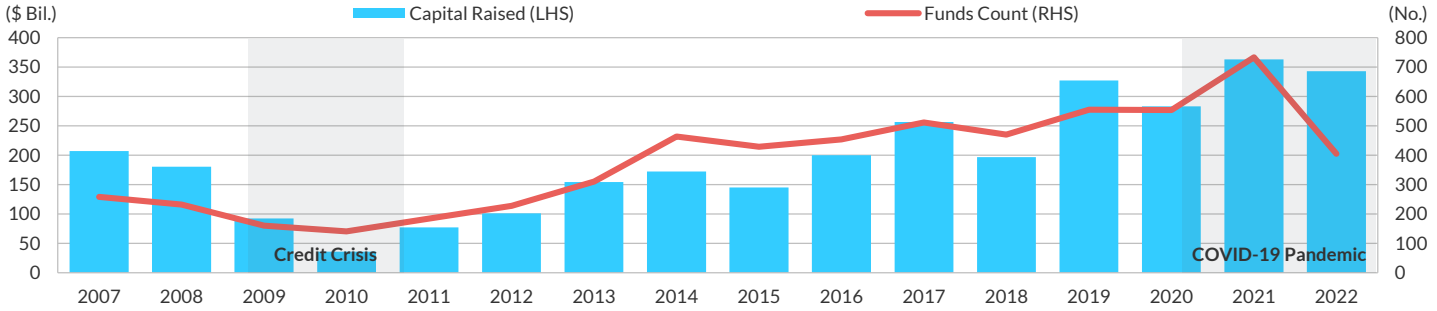
In contrast to private debt, private equity (PE) refers to funds that make equity investments to private companies, or in some cases,

purchase public equity with private capital. These transactions are generally negotiated away from public markets, and will usually involve raising additional debt financing at the target companies, a strategy referred to as an LBO. In addition, the financial performance of portfolio companies is not required to be disclosed publicly. PE managers take an active role in providing managerial experience and deal flow to portfolio companies in the hopes of generating superior financial performance that will improve valuations over the lifespan of the investment.

The U.S. PE market is driven by private capital provided by funds, fund-of-funds, insurance companies and high-net-worth individuals. Pension funds, family offices, endowments and sovereign wealth funds are some of the largest groups of investors in PE because they can commit large sums of money for long holding periods. PE funds are formed as limited partnerships. The historical intent behind choosing this structure was to avoid duplicate taxation, such as individual investor taxation and taxation on a vehicle before investors are paid out (e.g. corporate tax). Investors therefore participate in this structure as limited partners whose liability is limited to the amount of their individual investment. The fund manager is the general partner.

Fundraising volumes declined in 2022 from a peak in 2021 as overall market activity contracted due to inflationary pressures and increases in interested rates. Annual fundraising volumes decreased 5.5% yoy in 2022, with an aggregate amount of $343.1 billion of capital raised. The number of active private funds decreased by 44.7% compared with the prior year.

Annual Fundraising Volumes



Source: Fitch Ratings; PitchBook, Inc. https://pitchbook.com/news/reports/2022-annual-us-pe-breakdown

Common Private Equity Fund Investors

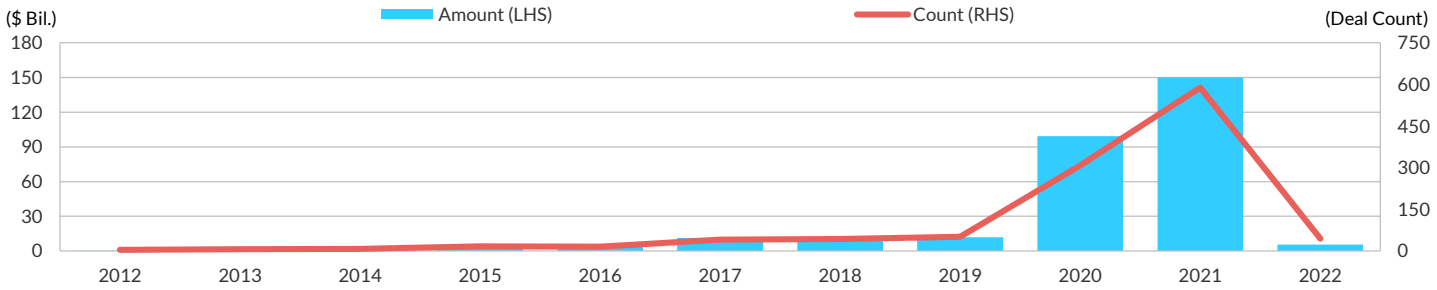
• Endowments/Foundations	• High Net-Worth Individuals	• Pension Funds
• Family Offices	• Insurance Companies	• Sovereign Wealth Funds

Source: Fitch Ratings

Investment strategies can vary over time, but PE funds generally earn a return on their investments through some combination of operational changes, structural changes, EBITDA growth, leverage and multiple expansion. Exit options from the investment include selling to another PE firm, selling interest to another corporate entity operating in the same or a similar industry (trade sale) or taking the company public through an IPO or a special-purpose acquisition company (SPAC), sometimes referred to as a blank-check company.

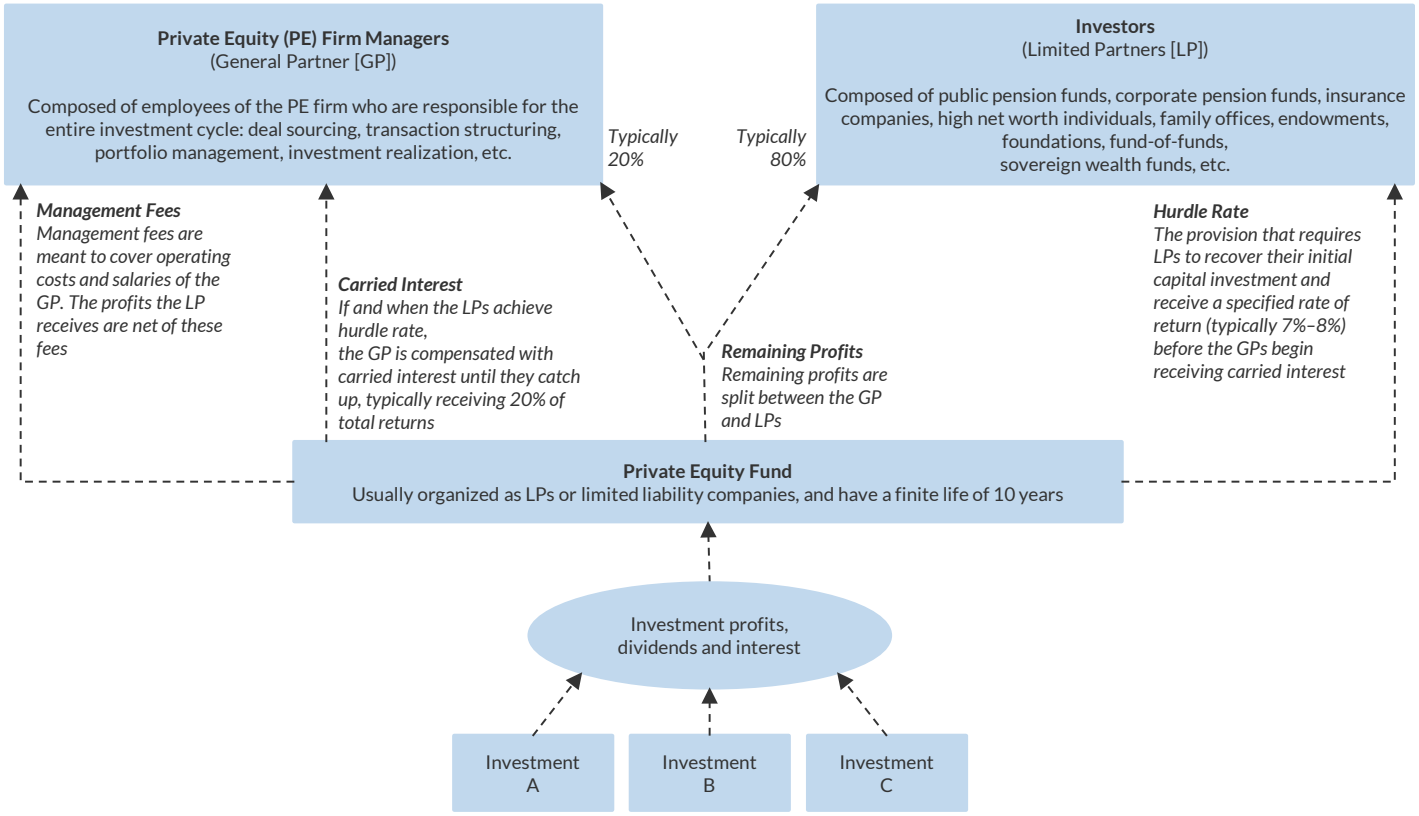
These publicly listed shell corporations have the sole purpose of acquiring a privately held business, based on a specific mandate or investment criteria. SPACs significantly increased their market participation as an alternative exit strategy to going through the traditional IPO process in 2020–2021, primarily driven by constant demand and popularity with private investors. However, SPAC volume plummeted in 2022. The dollar value of the total volume issued decreased 96.3% yoy at YE 2022, in line with years prior to 2020.

SPAC Volume Issuance by Amount and Deal Count



SPAC – Special-purpose acquisition company
Source: FactSet

Private Equity Fund Structure



Source: Fitch Ratings

PE investments span the spectrum of companies needing equity capital to fund various stages of development, and many firms specialize by sector, target size or other cross segments.

Example Strategies of Private Equity Funds

Categories	Definition	Purpose	Targets	Method of Financing
LBO Fund	Funds that invest in more mature companies with positive cash flows. Typically employed when a sponsor wants to acquire a company.	Three main reasons: take a public company private; spin off a portion of an existing business by selling it; transfer private property.	Profitable, established companies. Small: $0 million–$250 million; Medium: $250 million–$500 million; Large: $500 million–$1,000 million; Mega: > $1,000 million.	Combination of debt and equity, where debt has traditionally exceeded 50% of the total financing. The bonds issued are typically speculative grade.
Venture Capital Funds	Funds that provide equity capital to businesses in early stages of development. A typical company has limited or no access to public financial or bank loans.	Gives entrepreneurs the substantial capital needed for new products and ideas that typically cannot be financed through debt.	New businesses with large up-front capital requirements: electronics, software, computers, telecom, biotech and medical devices.	Equity; hybrid securities that include a contractual return; preferred equity.
Distressed-for-Control Funds	Funds that invest in financially or operationally distressed companies.	Investors hope to have control of company's equity following emergence from restructuring.	Companies experience financial or operational distress, default or are under bankruptcy.	Distressed debt securities that tend to trade at substantial discounts to their par value; equity.

Source: Fitch Ratings

How Does Fitch Analyze PE Companies?

Fitch's Private Equity Firm Credit Rating Considerations

Component	Comment
Legal Structure	
Key Factors	
Firm Structure	General partner interests should be subordinated to that of limited partners and debtholders.
Fund Document Terms	
Key Man Events	Viewed negatively if allow for liquidation of fund versus end of investment period. Less risk if tied to group of individuals.
Fee Base	Management fees based on committed or invested capital are more predictable. Fees based on net asset value are subject to greater volatility.
Lock-Ups	Inability to redeem capital allows for stable fee stream.
Fee and Hurdle Rates	The need for fee discounts or higher than peer hurdle rates would be viewed negatively.
Ancillary Fees	A share of monitoring and transaction fees provides a revenue boost, but tends to be more volatile than management fees.
Fund Raising	
Fund Maturities	Presence of follow-on funds allows for laddering of fund maturities and more fee stability. Permanent or perpetual capital vehicles are viewed favorably, as they enhance fee stability.
Limited Partners	Loyal investor base can ease fund raising. Limited partner diversity by type and geography viewed positively.
Quality of Underlying Funds	
Key Factors	
Industry	Review industry concentrations and understand potential cyclicality of investments.
Overall Fund Strategy	Broad mandate versus sector fund.
Geographic Distribution	Consider outsized exposure to underperforming economies.
Product Concentration	Diversity of fund mandates can reduce performance correlations.
Cash	Consider sufficiency of fund cash for follow-on investments, as necessary.
Liquid Investments	Liquidity of holdings should improve as fund nears maturity.
Fund Performance	Analyze fund returns versus internal benchmarks and hurdle rates. Strong track record supports raise of follow-on funds and generation of stable fees.
Leverage	
Key Leverage Ratios	
Fund Leverage	Subscription facilities are used to manage capital calls from LPs. Facilities used to inflate returns, which could be indicative of borrowings that remain outstanding for more than 90 days, are viewed more negatively.
Debt/Fee-Related EBITDA	Leverage measured based on fee-related cash flows. For firms with high balance sheet usage, leverage is also assessed based on debt to tangible equity.
FEBITDA/Interest Expense	Debt service measured based on fee-related cash flows.
Incentive Income	Ability to generate incentive income not factored into operating cash flow, but provides cushion for debt service.
Balance Sheet Investments/Debt	Balance sheet co-investments in funds are illiquid, but can be viewed as collateral for outstanding debt.
Funding Flexibility	Unsecured funding profile viewed favorably.
Liquidity and Risk Management	
Key Liquidity Factors	
Contingent Liquidity	Should be sufficient to fund operations, debt maturities, clawbacks and co-investments. Consider willingness/ability to provide liquidity to funds, if necessary.
Clawback Risk	Firm should reserve for employee portion of potential clawbacks if accrued incentive compensation paid.
Redemption Risk	If redemption allowed, fund investments should be sufficiently liquid.
Cash and Cash Equivalents/ Debt	Cash and liquid investments on the GP's balance sheet that are sufficient to repay all outstanding debt is viewed favorably.
Risk Management	
Fund Valuation	Valuation of investments needs to incorporate market data, and back-testing should occur. Involvement of independent valuation firms viewed positively.

Fitch's Private Equity Firm Credit Rating Considerations

Component	Comment
Alignment of Interests	GPs and employees should co-invest in fund vehicles.
Conflicts of Interest	Policies should be in place to manage potential investment conflicts between funds.

LP – Limited partner. GP – General partner. FEBITDA – Fee-related earnings before interest, taxes, depreciation and amortization
Source: Fitch Ratings

Structure of an LBO

In an LBO, a sponsor — a PE firm — buys a controlling interest in a company, funding the purchase with a combination of debt and equity. The debt portion is often more than 50% of the funding package, making companies with predictive, steady cash flows the best-suited targets for an LBO. Sponsors earn their returns through value creation driven by operational, structural and strategic changes to the company.

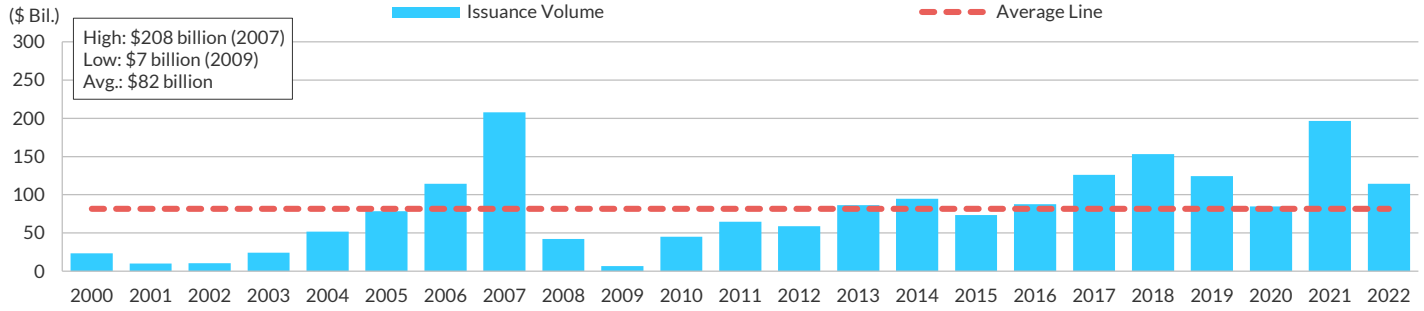
Example of a LBO Structure: 2018 Buyout of Refinitiv by The Blackstone Group L.P., Canada Pension Plan Investment Board and GIC Private Ltd.

Source of Funds	Amount ($ Mil.)	Tenor	Pricing	Seniority	EBITDA (x)[a]	% of Capital Structure	Fitch Rating[b]
Revolving Credit Facility	750[c]	Five years	L + 300bps	Sr. Secured	—	—	BB+/RR2
Term Loan B (EUR and USD tranches)	6,500 EUR2,351.55	Seven years	L + 375bps E + 400bps	Sr. Secured	5.1	32 14	BB+/RR2
Senior Secured Notes (EUR and USD tranches)	1,250 EUR860	Eight years	6.250% 4.500%	Sr. Secured	1.3	6 5	BB+/RR2
Senior Unsecured Notes (EUR and USD tranches)	1,580 EUR365	Eight years	8.250% 6.875%	Sr. Unsecured	1.1	8 2	B+/RR6
Equity[d]	6,500	—	—	—	3.6	32	—
Total Secured Debt Multiple (x)	6.4						
Total Debt Multiple (x)	7.5						
Total Transaction Multiple (x)	11.1						

[a]LTM June 30, 2018 EBITDA of $1.8 billion. [b]Initial ratings. [c]Undrawn at close of the transaction. [d]Equity includes $1.0 billion in perpetual preferred PIK equity, $3.025 billion in sponsor equity and $2.475 billion in rolled equity. Fitch assigned 100% equity credit to the $1.0 billion PIK preferred stock as it is outside the rated entity (held at the King Cayman Holdings Ltd. HoldCo) and is structurally subordinated to the rated debt and there are no security or cash interest payment requirements.
L – LIBOR. E – EURIBOR. RR – Recovery Rating. PIK – Payment in kind
Source: Fitch Ratings, company filings

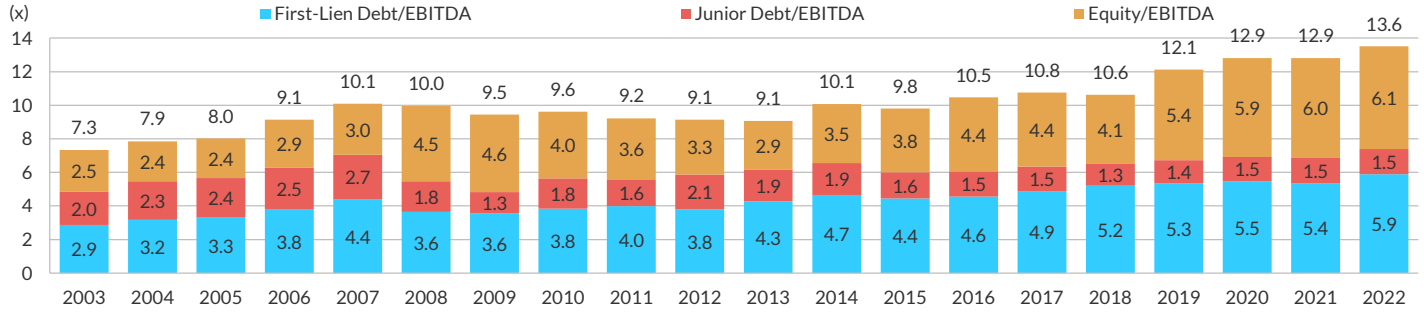
Additional PE Data

Annual LBO Loan Issuance



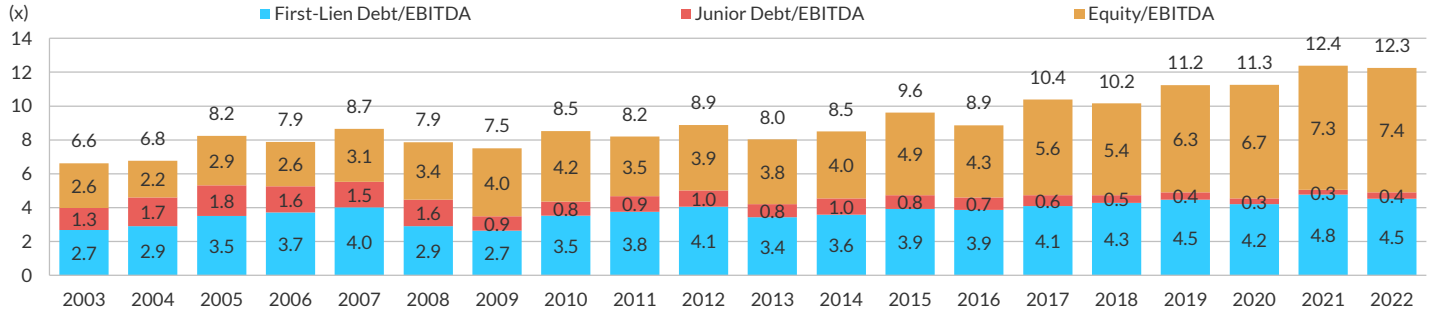
Source: Refinitiv LPC

Median Broadly Syndicated LBO Debt and Equity Multiples



Source: Refinitiv LPC

Median Middle-Market LBO Debt and Equity Multiples



Source: Refinitiv LPC

Defaults

What Happens in an Event of Default?

Default Types

A default represents a failure to fulfill an obligation set forth by a credit agreement, bond indenture or other legal contract. Fitch considers three sources of default in its rating methodology:

- Bankruptcy filings, administration, receivership, liquidation, or other winding up or cessation of the business of an issuer/obligor;
- A failure to make payment of principal and/or interest under the contractual terms of the rated obligation;
- A distressed exchange (DDE) of an obligation, where creditors were offered securities with diminished structural or economic terms compared with the existing obligation to avoid a probable payment default.

Default Remedies

A default does not automatically force an issuer into a bankruptcy filing. Bankruptcy is an option, but in many instances, a default is accompanied by a grace period that typically affords an issuer anywhere from five to 30 days — depending on the type of default and covenant structure — to remedy the situation before the debtholder can force the issuer into bankruptcy. Alternatives to bankruptcy can include a debt restructuring or an amendment to the debt agreement.

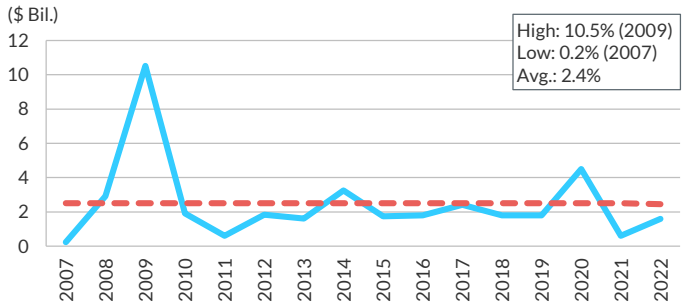
Debt restructuring is more prevalent for high-yield bond issuers whose lenders may be willing to exchange junior notes at a discount to par for a more senior class that offers a higher recovery in the case the company ends up filing for bankruptcy. However, leveraged loans typically sit at the top of the capital structure, so there is little incentive to exchange debt. Lenders may instead be willing to agree to an amendment granting additional fees, wider pricing or tighter covenants.

What Are the Historical Default Rates for Leveraged Loans?

2007–2022

The U.S. institutional leveraged loan default rate par-weighted average stands at 2.4% for 2007–2022, with a nonrecessionary rate of 1.7%, compared with a recessionary rate of 6.4%. Leveraged loan defaults have generally been low in the years since the financial crisis, but increased notably in 2020 due to the coronavirus pandemic. Leveraged loan default activity is concentrated in 2009, when the rate peaked at 10.5%, equating to $77.5 billion of volume.

U.S. Institutional Leveraged Loan Default Rate



Source: Fitch U.S. Leveraged Loan Default Index, Refinitiv LPC, Bloomberg

Default volume tends to be heavily concentrated by sector in any given year, and is often driven by a small number of large issuers. While Utilities, Power & Gas and Chemicals represent a large portion of the total historical defaulted volume, the majority came from the single bankruptcy filings of Energy Future Holdings Corp. in 2014 ($19 billion) and Lyondell Chemical Co. in 2009 ($16 billion). Defaults from the Energy and Metals & Mining sectors accounted for over 30% of total volume between 2015 and 2017, stemming from a steep decline in commodity prices in 2H14.

The Retail default rate spiked to 16.7% at YE 2020, as a number of issuers — including Neiman Marcus Group, Inc.; JC Penney Corp. Inc.; J.Crew Group, Inc.; and Ascena Retail Group, Inc. — filed for bankruptcy. The Leisure & Entertainment sector default rate ended 2020 at 9.9% due to the sharp decline in travel and in-person entertainment spending. The 2022 sector rate finished at 7.9% because one large issuer, Cineworld Group plc, filed for bankruptcy.

Historically, most defaults involve companies in cyclical sectors that experienced severe downturns in their cash flows during the 2008–2009 financial crisis, the more recent commodities downturn and the pandemic-led recession of 2020. An overleveraged capital structure, often issued in the credit boom of 2006–2007 to fund a buyout or acquisition, compounded the challenges caused by a weak operating environment in many cases. Many of these companies were then unable to reach consensus with creditors on amend-and-extend transactions or below-par debt exchanges due to deteriorated EBITDA and the credit crunch that followed the financial crisis.

More permanent secular declines can also lead to bankruptcy filings. This was the case for companies in the broadcasting and media industries, including yellow pages, newspapers and commercial printers. Other defaults were made by highly leveraged companies confronted with individual liquidity or business challenges that could not be dealt with out of court. Drivers included flawed business models, production problems, accounting issues, higher raw material costs, lack of funding market access, and steep declines in demand for key products due to cyclical downturns or competition.

Defaults in 2022 were fairly evenly distributed between sponsored and nonsponsored issuers at $12.0 billion and $14.6 billion, respectively. The former rate finished much lower at 1.0% compared with nonsponsored at 3.6%, as the sponsored universe now comprises 77% of the institutional loan market. The BSL and LMM segments finished with similar default rates at 1.6% and 1.4%, respectively. Cineworld Group plc, Diamond Sports Group LLC, Revlon Consumer Products Co., Envision Healthcare, Endo International plc and Lumileds Holdings Ltd. accounted for 60% of 2022 default volume and propelled the BSL default rate. Fitch expects the LMM default rate to be much higher in 2023, potentially reaching 5.0% due to a greater vulnerability to rising interest rates.

What Options Are Available to Issuers Under U.S. Bankruptcy Law?

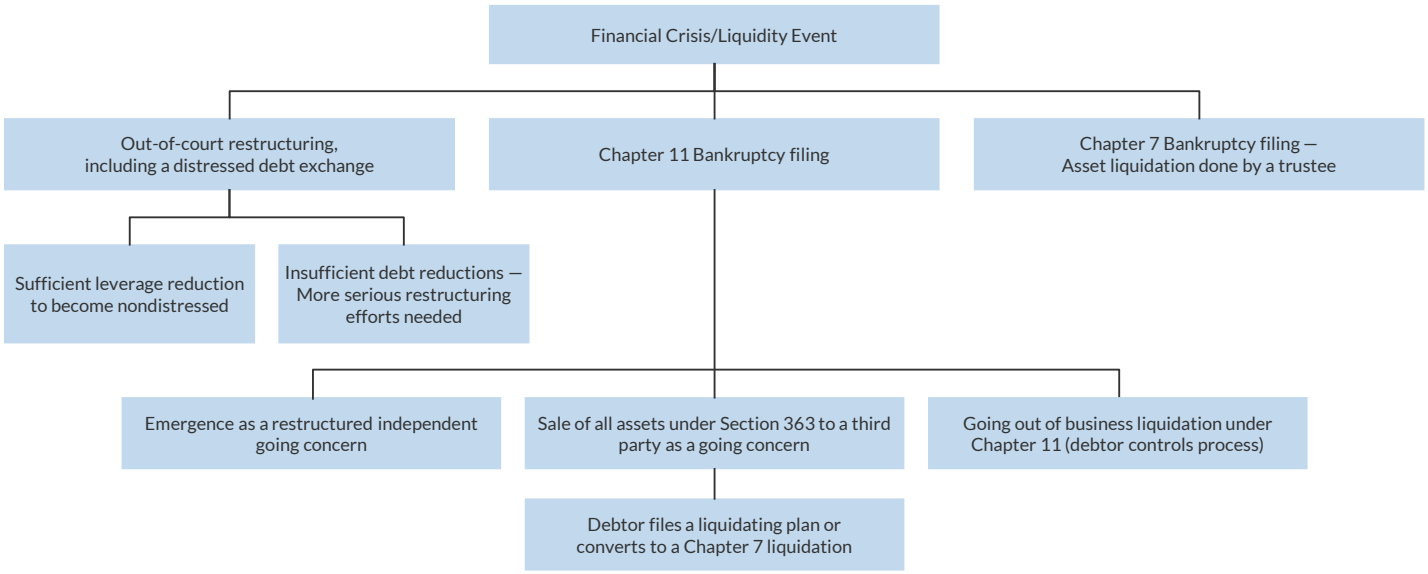
Bankruptcy Types

As a distressed company approaches default, and attempts at restructuring existing debt and other forms of out-of-court workouts fail, bankruptcy emerges as an option. U.S. corporations can seek bankruptcy protection under Chapter 7 or Chapter 11 of the U.S. Bankruptcy Code.

- Chapter 7 applies when the company is seeking a winding up or dissolution of its business. As soon as a Chapter 7 petition is filed, the legal title of the estate is automatically transferred to a Chapter 7 trustee appointed on day one of the filing.
- Under a Chapter 11 filing, the company continues to make decisions on behalf of the estate as a debtor-in-possession (DIP). Chapter 11 bankruptcies can be confirmed either via a plan of reorganization or a plan of liquidation if the latter maximizes recoveries for all creditors.

A significant majority of U.S. bankruptcies result in the reorganization and emergence of an issuer as a going concern (GC) — either as an independent GC that shed some or all of its prepetition debt, or as a new entity created to buy the assets and business of a debtor under a bankruptcy sale. Chapter 7 liquidations are filed by issuers, but Fitch's U.S. corporate case study database indicates petitioning for Chapter 7 liquidation is rare outside the Retail sector.

United States Flow Chart

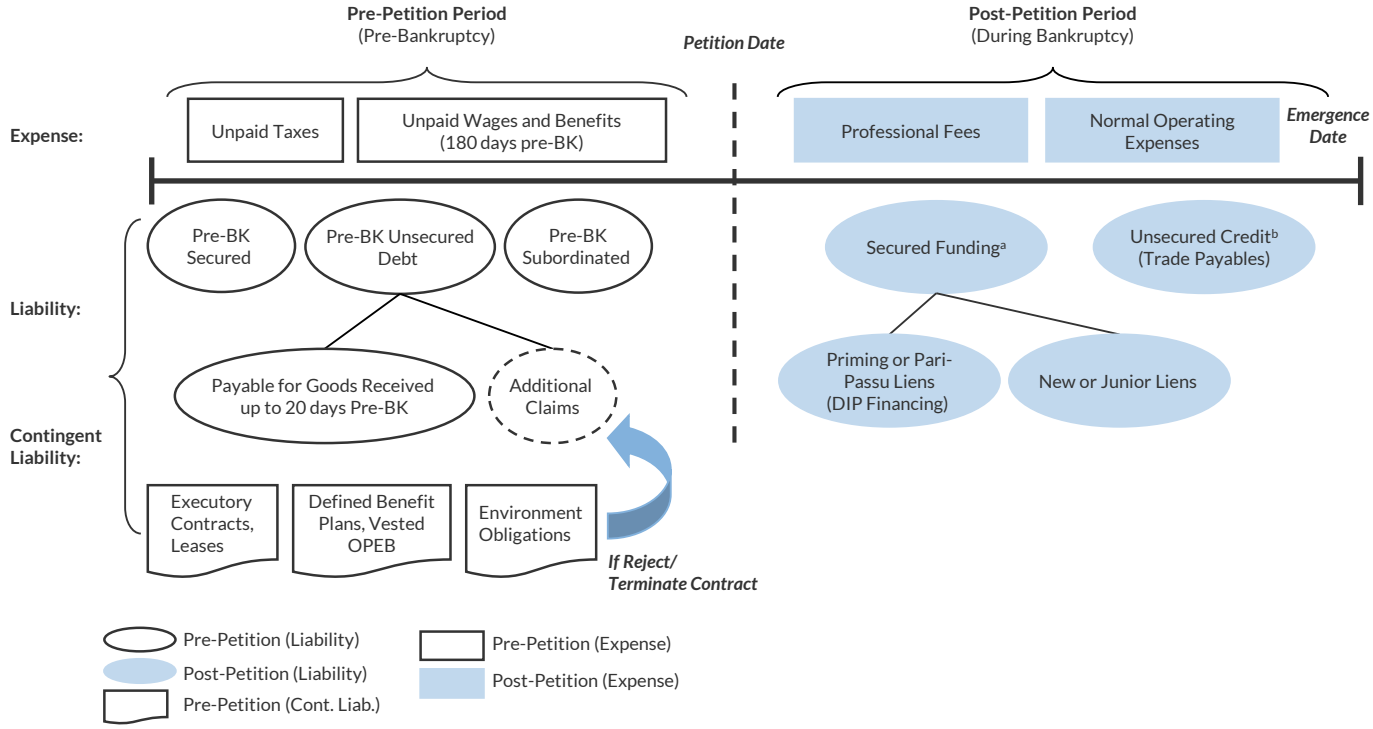


Source: Fitch Ratings

Claim Types

A summary overview of the different types of claims that generally arise during a bankruptcy process is presented in the chart below.

U.S. Bankruptcy Code — Pre- and Post-Petition Claims



[a]Refers to secured funding provided to the company as DIP by lenders subject to court approval. This debt may be secured by unencumbered assets or by a junior lien on already encumbered assets under section 364(c). If the company is still unable to obtain credit, only then will the court permit "DIP Financings" that are secured by a senior (priming) or equal (pari passu) lien on already encumbered assets under section 364(d). Such DIP financings that supersede existing liens require that existing/pre-petition secured creditor be adequately protected. [b]Refers to post-filing unsecured funding (trade payables) provided to the company by vendors and is entitled to treatment as an administrative expense (§ 364[a] and § 364[b]). If the company is unable to obtain funding based on administrative claim status, the court may approve it as a superpriority unsecured claim with priority over other administrative expense claims (§ 364[c]). BK – Bankruptcy. OPEB – Other post-employment benefits. DIP – Debtor-in-possession
Source: Fitch Ratings

Distressed Debt Exchanges

A DDE is a type of default that is tantamount to an out-of-court restructuring, in which an issuer exchanges some of its existing debt for new debt, generally with a longer dated maturity. Fitch considers a debt exchange to be a DDE if there is a material reduction in terms compared with the original contractual terms, and the exchange is conducted to avoid bankruptcy, similar insolvency or intervention proceedings, or a traditional payment default.

A material reduction in terms could involve a reduction in principal or interest, an extension of maturity or a change from coupons paid in cash to pay-in-kind (PIK). Fitch also considers whether investors face a genuine choice between the new terms and the original contractual terms, or if failure of a large part of the creditor group to accept the tender offer would call into doubt the issuer's ability to fulfil the original contractual terms.

DDEs result in a material reduction in terms for the affected creditors, but often creditors are willing to accept the terms of a DDE. A DDE can sidestep the need for bankruptcy, which can be a lengthy and value-stripping process. Many creditors will accept a DDE as they may fare worse in a bankruptcy. DDE negotiations are also typically limited to a specific set of creditors, which can make a transaction easier to execute.

DDEs are more common with high-yield bonds, as loan amendments are common and thus typically not presumed to be DDEs. However, this presumption can be overcome if there's an amendment coupled with a concurrent bond exchange considered to be a DDE, exchanges of debt for equity or the introduction of PIK interest. The exercise of an existing option to PIK, rather than in introduction of a new PIK option, would not be emblematic of a loan DDE.

DDEs accounted for 45% and 50% of the 2022 defaults in volume and count, respectively. Over the past few years, the loan market has become more receptive to DDE activity that enables companies to stave off bankruptcy.

Recovery

What Is Recovery?

When it comes to corporate credit analysis, recovery refers to the amount of value a creditor can expect to recover from an investment in an event of default. Value can be in the form of cash, new debt or stock in an entity that emerges from bankruptcy.

Debtor-in-Possession

The U.S. Chapter 11 framework is DIP, which essentially means the debtor's management can stay in place and operate its business in an ordinary manner while it operates under bankruptcy protection from creditors and takes steps to reorganize under the supervision of bankruptcy courts.

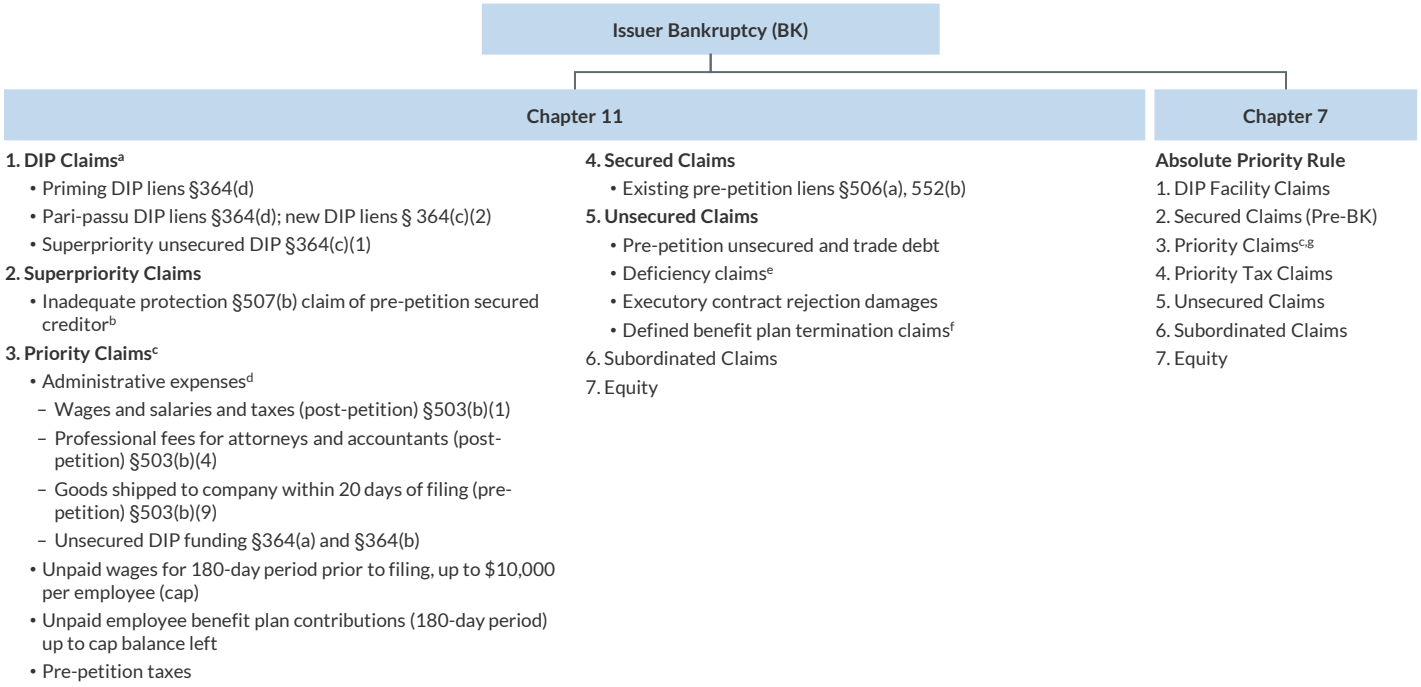
These protections include the application of an automatic stay immediately upon filing, which restricts creditors from beginning or continuing actions to collect on most claims, and allows access to new funding, typically in the form of superpriority DIP financing. Chapter 11 therefore gives a company breathing room to operate its business with the same management — or a chief restructuring officer to be appointed if management has departed or been released by the ownership — while it negotiates a restructuring that generates the highest possible recoveries for all stakeholders via rehabilitation.

Chapter 11 allows a debtor to propose a plan of reorganization, which may resolve the case as a GC plan or a liquidation, before it can emerge from bankruptcy. The plan is voted on by eligible creditors and is subject to court approval. If the plan proposed by the debtor is rejected and/or the debtor's exclusive time period for proposing a plan has lapsed, creditors and/or other interested parties may propose an alternative or competing plan. In the event of competing plans, creditors will again be entitled to vote on the competing plans, with the court approving the plan if it is considered to be fair and equitable, and representative of the best and highest recovery for creditors.

Absolute Priority

Under Chapter 11 bankruptcy code, the absolute priority rule establishes the order in which creditors get paid. Enterprise valuation (EV) is key for recovery performance, and more senior debtholders get paid before junior debtholders and equityholders. The exceptions are unsecured administrative and priority claims, which must be paid in full before secured claims for a Chapter 11 plan of reorganization (or plan of liquidation) to be confirmed. The *U.S. Bankruptcy Code — Priority Rules* chart on the following page outlines the priority schedule for different types of claims.

U.S. Bankruptcy Code — Priority Rules



[a]The fact that a DIP lender holds a post-petition superpriority or secured claim under section 364(c) or 365(d) does not automatically entitle it to be deemed an administrative expense for purposes of section 1129(a)(9), which stipulates that administrative expense claims be paid in full in cash by the effective date for the plan to be confirmed. Therefore, the chart assumes that the court provides relief in the order, approving the DIP financing for the administrative expense priority even for secured DIP financings. [b]If a pre-petition secured creditor's collateral is not adequately protected following a priming/pari DIP etc., then the difference is to be treated as a superpriority unsecured claim under section 507(b). This is not the same as a deficiency claim. [c]As per priorities laid out in section 507 of the code. Since priority claims are nonetheless unsecured in nature, under the absolute priority rule that applies strictly under a Chapter 7 liquidation, unsecured priority claims rank lower than secured claims. However, for Chapter 11 scenarios, administrative expense/priority claims must be satisfied in full in cash by the effective date for the plan to be confirmed as per section 1129(a)(9) of the Bankruptcy code. The plan refers to either a plan of reorganization or a Chapter 11 liquidating plan. [d]Administrative expenses refer to the actual, necessary costs and expenses of preserving the estate, which are allowed under Code Section 507(a)(2) and specified in 503(b). The code requires that all administrative claims be paid on the effective date of the plan, unless a particular claimant agrees to a different treatment. Holders of superpriority administrative expenses under § 507(b) are paid before other administrative expenses. [e]Secured claims that are undercollateralized result in deficiency claims §506 (representing that portion of the claim for which there is insufficient collateral). Deficiency claims are treated pari passu with unsecured claims. [f]If defined benefit pension plans are terminated during bankruptcy, the resulting unfunded pension liability claim is treated as a unsecured claim but is structurally senior relative to the general unsecured creditor claims. [g]If a Chapter 11 is converted to a Chapter 7, the administrative expenses of a Chapter 7 (including trustee fees) take priority over the Chapter 11 administrative expenses.
DIP – Debtor-in-possession
Source: Fitch Ratings

Enterprise Valuation

The fundamental estimate of reorganization EV is critical to the bankruptcy reorganization process and determines recovery rates. The fundamental EV, or negotiated settlement value, determines the amount of value, if any, to be distributed to each class of creditors. Fundamental EV estimates are typically completed by third-party advisors on both a GC reorganization basis and a liquidation-alternative basis for the disclosure statements used in the bankruptcy plans. The most common GC valuation methods applied by third-party financial advisors are discounted cash flow approaches, comparable company peer analyses and precedent transaction analyses.

Valuations are more often based on higher EBITDA projections for the company post emergence than historical EBITDA prior to the bankruptcy filing. Higher cash flows post emergence can be due to expectations of cyclical recoveries or cash flow benefits from shedding legacy liabilities — including union liabilities, lawsuits, rejection of unprofitable leases or achieving other improvements in cost structure — during the reorganization process.

However, lower EBITDA after emergence can also be projected by companies that expect to remain mired in deep cyclical downturns or face the secular decline of their products or services, even after reorganization. Lower EBITDA forecasts can also be a function of shrinking the company during the bankruptcy process through asset sales or company split-ups. Courts deal with valuation on a case-by-case basis, and it is often a negotiated value determined through a settlement among the various classes of claimants.

Creditor Negotiations

Senior and junior creditors often have opposing views on valuation. Impaired senior creditors — whose claims are not fully repaid in cash or through reinstatement (including principal and interest), and who wish to get most of a reorganizing company's new equity instead — have an incentive to support a lower EV. This enables the senior creditors to prevent junior creditors or old common shareholders from getting any or a greater share of the new equity. Conversely, junior creditors and old common shareholders have a motive to value

the reorganizing company at a higher EV to assume a controlling or material ownership interest in the newly reorganized company.

Even within the same class or seniority, creditors can have different motivations regarding valuation and case resolution. For example, a distressed investor that purchased an unsecured debt issue at a deep discount and wants to make a quick profit may not act like a regular trade creditor that wants to retain the customer for future business.

Because Chapter 11 entitles junior investors to insist on an appraisal of the debtor, the outcome of which is uncertain and can rapidly change, impaired senior lenders often agree to make distributions to junior creditors to lock in a "yes" vote on acceptance of a reorganization plan. Fitch refers to these types of negotiated payments as concession payments. Concession payments highlight the complexity of the bankruptcy valuation negotiation process, where disparate creditor motivations may result in deviations from the rule of absolute priority.

What Is DIP Financing?

A DIP facility is a form of financing arranged by a company while under the Chapter 11 bankruptcy process. DIP financing provides a bankrupt company with the funds necessary to operate its business while it is developing and implementing its reorganization plan. DIP financing has superpriority and is expected to recover before pre-petition creditors on the liability waterfall.

In some cases, a pre-petition facility can convert all or a portion of outstanding loans into a DIP facility. This is referred to as a roll-up DIP. This gives the debtor new liquidity during bankruptcy and enables the pre-petition creditor to elevate its prepetition claim to administrative priority status or be repaid in cash by the new lender that provides the DIP.

Fitch assigns ratings on these loans only during the bankruptcy period and they are not linked to the bankrupt company's Issuer Default Rating (IDR) of 'D', nor to any future rating for the reorganized company that may be issued on or after the bankruptcy exit date. The rating is driven by several key factors: the collateral value behind the DIP loan; structural attributes; post-petition liquidity, cash flow and GC prospects; and scope of the restructuring. Given the inherent uncertainty of bankruptcy reorganization processes, Fitch does not expect to rate DIP instruments higher than 'BBB+'.

For more information on how Fitch rates DIP instruments, please refer to *DIP (Debtor-in-Possession) Rating Criteria*.

DIP Loan Summary

Characteristic	Description
Description	Financing arranged by a company while under the Chapter 11 bankruptcy process.
Purpose	Provides a bankrupt company with funds necessary to operate its business while it is developing and implementing its plan of reorganization.
Priority	Typical superpriority, above other pre-petition creditors on the liability waterfall.
Security	Unencumbered assets and/or a priming lien on encumbered assets by providing adequate protection of the interest of the existing lender holding a lien on such assets.
Facility Types	Revolvers and term loans.
Funding Status	Can be drawn and undrawn.
Tenor	Less than one year to multiyear.
Arrangers	Commercial banks and specialized finance companies.
Investors	Pre-petition lenders. Nontraditional DIP lenders including institutional lenders, CLOs/CDOs and hedge funds.
Liquidity	Limited to none.

DIP – Debtor in possession. CLO – Collateralized loan obligation. CDO – Collateralized debt obligation
Source: Fitch Ratings

How Does Fitch Estimate Recovery?

Recovery Ratings

For issuers with IDRs at 'B+' and below, Fitch performs a bespoke recovery analysis. Fitch completes a company valuation in a hypothetical distressed scenario under both a GC and liquidation approach. The GC scenario means the company emerges from bankruptcy and continues to stay in business under independent or new ownership, and the liquidation approach means ceasing all operations, such as a retailer going out of business and having an inventory liquidation sale. The higher of the two resulting values is then allocated to creditors according to their relative seniority. This is consistent with the best interest test applied in Chapter 11 plans.

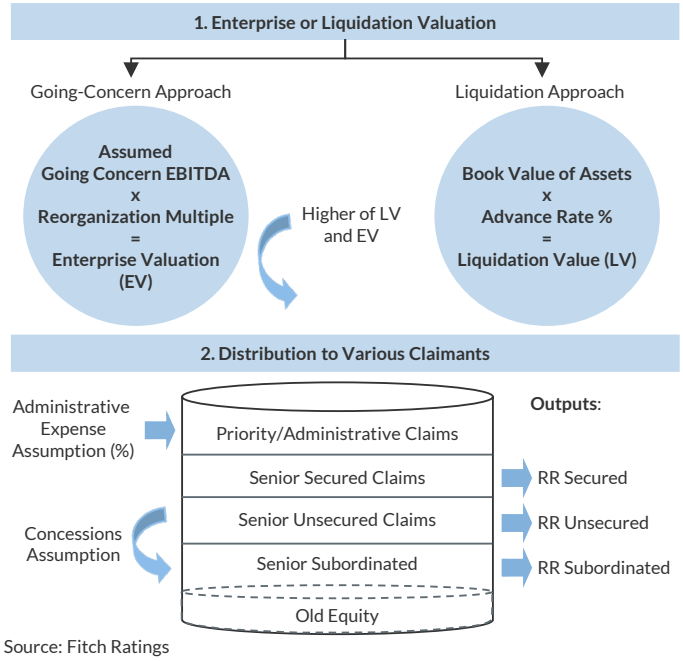
Fitch's valuation typically assumes resolution as a GC a majority of the time. The percentage varies each year but remains consistently above 90%. The median valuation multiple assumption averages are broadly consistent with the cross-sector median exit multiples from Fitch's bankruptcy case study dataset.

Fitch also makes assumptions that a portion of the total value will be allocated to administrative expenses and claims, such as lawyer and consultant fees, and DIP loan claims — this is usually 10% of value. Fitch will also sometimes make an assumption that a certain percentage — usually 5% — of the remaining value will be allocated from a more senior creditor to a more junior creditor. This is a result

of consensual settlements assumed to happen during the bankruptcy process to incent the junior creditors to vote to accept the proposed plan of reorganization and allow the company to emerge from bankruptcy more quickly.

A schematic of the process is shown in the *Fundamental Drivers of Recovery Ratings (RR)* chart below.

Fundamental Drivers of Recovery Ratings (RR)



Source: Fitch Ratings

Each debt issue in the capital structure is assigned a Recovery Rating (RR) based on its expected recovery rate range — distributions as a percentage of the claim amount. Fitch's six-category RR scale is shown in the Recovery Ratings (RR) Scale table below.

Recovery Ratings (RR) Scale

RR	Description	WGRC (%)	Notching from the IDR
RR1	Outstanding	91–100	+3 (First-lien debt only)
RR2	Superior	71–90	+2 (Second-lien and unsecured are capped at 'RR2')[a]
RR3	Good	51–70	+1
RR4	Average	31–50	+0
RR5	Below Average	11–30	–1
RR6	Poor	0–10	–2 to –3[b]

[a]Unless the issuer is a structurally senior subsidiary issuer in a multilevel corporate group structure. [b]As many junior debt instruments may be rated 'RR6', varied notching enables differentiation in subordination of the debt within this category.
WGRC – Waterfall-generated recovery computation. IDR – Issuer Default Rating
Source: Fitch Ratings

For more information on Fitch's RR methodology, please refer to the *Appendix* section.

Bankruptcy Case Studies

Fitch's RRs provide an unbiased and somewhat conservative recovery estimate. Fitch's RRs are categorized based on estimates of ultimate recovery rates. Fitch gathers real world data on bankruptcy cases and analyzes outcomes to guide the inputs we incorporate into our recovery analyses. We have published a series of bankruptcy case study reports since 2012 and continue to expand on this effort. The median corporate reorganization multiple across sectors was 6.0x for over 300 companies for which bankruptcy exit multiples could be estimated, as of early 2023.

For the bankruptcy case resolutions Fitch analyzed in its U.S. case study series, only 11% were resolved as a liquidation in the court process, either under Chapter 11 or Chapter 7. The moderately higher share of GC scenarios forecast in Fitch's RR analyses is partially attributable to the industry mix of the sample compared with the bankruptcy case study dataset. Assets often change ownership in bankruptcy court, but most businesses continue to produce revenues and cash flows under the new owners in reorganization. The Retail sector is an exception, with full chain liquidations a frequent outcome due to noncompetitive business models or undifferentiated lines.

It is consequently appropriate to estimate a company's value on both a GC and liquidation basis, and use the higher value to estimate recoveries for the different creditor classes.

How Do Leveraged Loans Perform in Fitch's Recovery Analyses?

Recovery Distributions

Fitch assigns RRs based on ultimate recovery expectations. In the recurring *Corporate Recovery Rating Trends* report series, Fitch deconstructs its recovery analyses and explores the effects of different capital structures and leverage on RRs for the first-lien debt instruments on its portfolio of U.S. speculative-grade issuers. The *BSL First-Lien Recovery Rating Distribution* chart on the following page shows the trend since 2017 for BSL issuers.

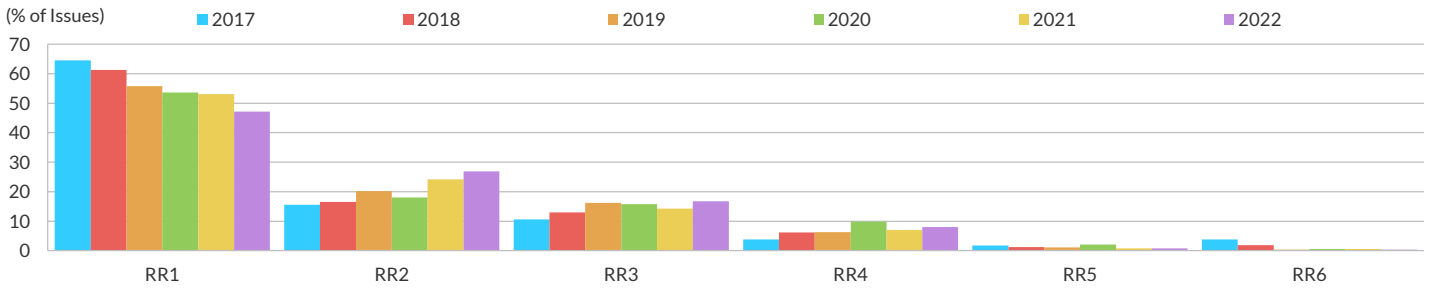
The RRs on first-lien secured debt issues are concentrated at the 'RR1' end of the recovery scale, corresponding to 91%–100% ultimate recovery rate expectations. However, the percentage of instruments rated at 'RR2' and 'RR3' rose in recent years as companies increasingly relied on first-lien heavy structures. While the sample is not exclusive to leveraged loans, the vast majority of our sample is composed of first-lien secured leveraged loans.

Capital Structure Influences

In Fitch studies, first-lien RR expectations trended lower as the proportion of first-lien debt to total debt increased. The drop has more recently been accelerated due to a large increase in private ratings in our portfolio, which tend to be smaller sponsored transactions that naturally have higher leverage at closing. Most first-lien issues with low leverage through the first lien achieve the highest RR, but expected recoveries drop into the "good" and "average" categories as leverage increases.

First-lien debt issue recoveries are somewhat more insulated from decreases in EV due to the protection of having a more senior position in the distribution waterfall. Exceptions include cases when all debt in the capital structure is equally secured with a first lien, there is more than one type of first-lien issue (each with a different collateral package) or the issuer is grossly overleveraged, so recoveries are sensitive to declines in EV.

BSL First-Lien Recovery Rating Distribution



BSL –Broadly syndicated loans. RR – Recovery Rating
Source: Fitch Ratings

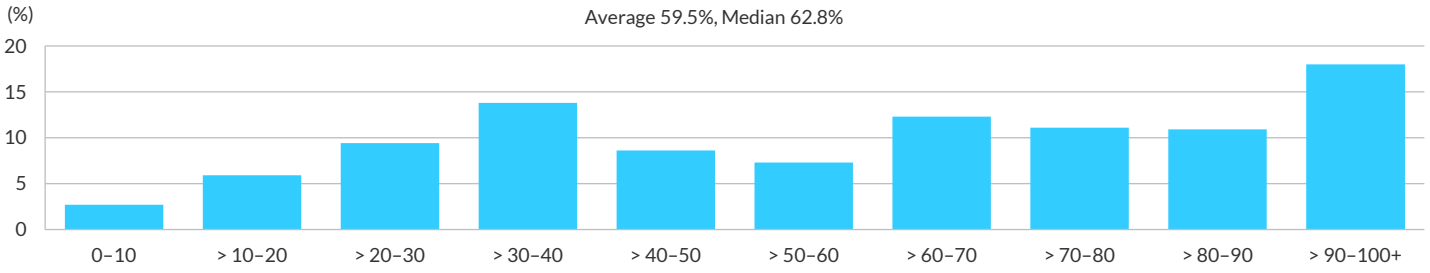
For more information on Fitch's expected recovery rates, please refer to Fitch's *U.S. Leveraged Finance: Corporate Recovery Rating Trends (First-Lien BSL and MM Recovery Prospects Remain Solid)* special report.

Market-Based Recovery Estimates

The topic of recovery has substantial nuance, and there are multiple ways to measure recovery on defaulted corporate debt. Each approach has pros and cons, but all are linked and reflect some assessment of firm value. The 30-day post-default price is a widely available and often-used proxy for recovery rates of holders that prefer to sell a defaulted asset early in a bankruptcy rather than hold it through the entire process.

First-Lien Institutional Leveraged Loan 30-Day Post-Default Prices

(2007–2022 Historical Distribution)

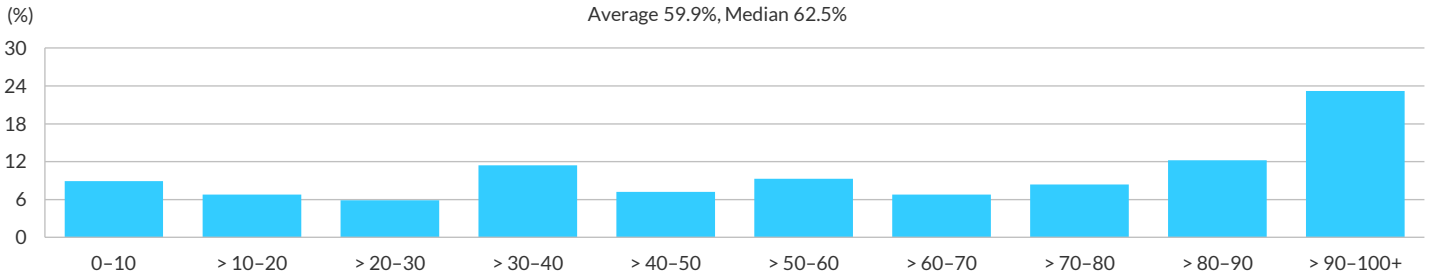


Note: Data as of December 2022.
Source: Fitch U.S. Leveraged Loan Default Index, Refinitiv LPC

Another widely available and often-used proxy for recovery rates is the emergence price. We define emergence as the time shortly after a plan of reorganization has been confirmed by a bankruptcy court — and approved by requisite creditors — but before pre-petition debt is canceled and replaced with new debt and equity. Fitch research shows post-default loan prices can be less predictive of ultimate recovery, making emergence prices another useful reference point.

First-Lien Institutional Leveraged Loan Emergence Prices

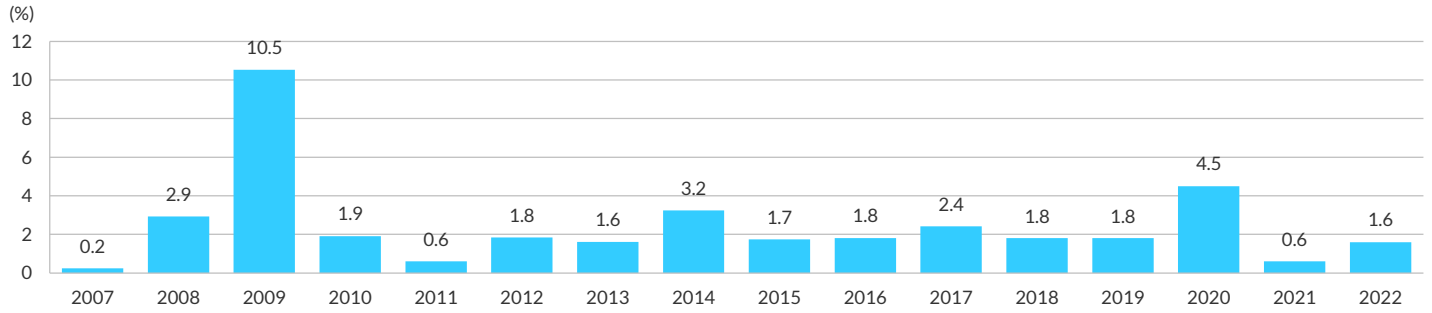
(2007–2022 Historical Distribution)



Note: Data as of December 2022.
Source: Fitch U.S. Leveraged Loan Default Index, Refinitiv LPC

Recovery and Default Data

U.S. Institutional Leveraged Loan Default Rate



Source: Fitch U.S. Leveraged Loan Default Index, Refinitiv LPC, Bloomberg

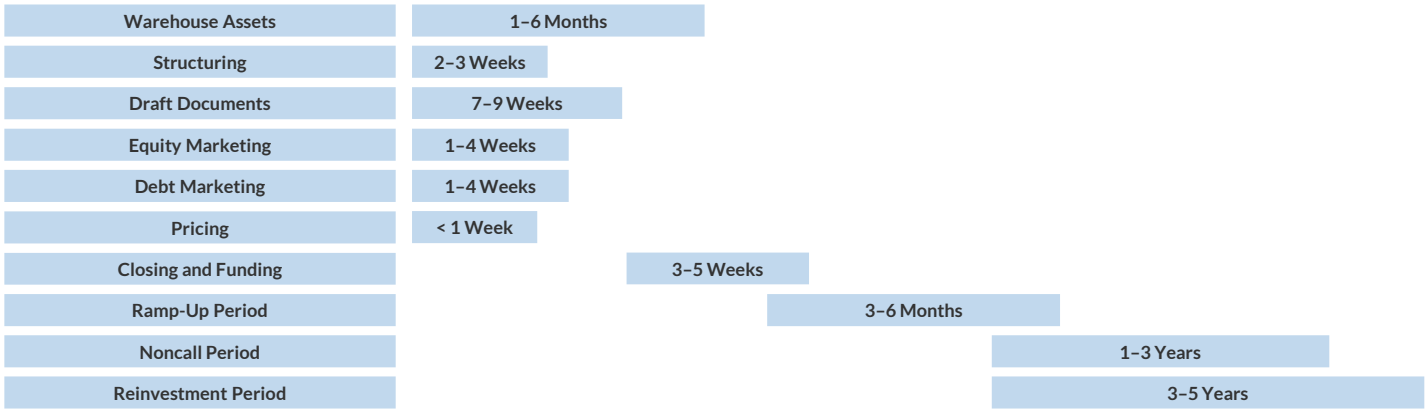
CLOs

What Is a CLO?

Collateralized loan obligations (CLOs) are term financing vehicles set up to manage, usually actively, portfolios of senior, secured leveraged loans.

- The CLO issuer sells notes, which are used to acquire an initial portfolio and pay transaction fees.
- Interest proceeds are passed on to CLO note investors after paying senior CLO management fees and administrative expenses, such as trustee fees.
- A collateral management agreement defines the terms and services to be provided by the CLO manager.
- A CLO indenture defines the concentration limitations and collateral quality tests that govern the CLO portfolio trading activities.
- Senior CLO notes are protected by overcollateralization (OC) and interest coverage (IC) performance tests. When CLOs fail these tests, interest and principal payments are generally diverted to pay down the senior most outstanding tranches until test levels return to compliance.

CLO Life Stages



CLO – Collateralized loan obligation
Source: Fitch Ratings

CLO Types

There are two main types of CLOs:

- Arbitrage CLOs are created in an attempt to capture the excess spread between the higher yielding corporate loans (portfolio assets) and lower yielding structured product liabilities (CLO-issued notes). The equity tranche receives all the residual cash flows. Arbitrage CLOs are the vast majority of structures outstanding.
- Balance sheet CLOs are used by issuers as a financing vehicle to obtain additional capital, which is secured by the assets on its balance sheet. The issuer typically retains the equity in the transaction and the special purpose vehicle is consolidated in the balance sheet. This is common for MM CLOs.

CLO Types and Characteristics

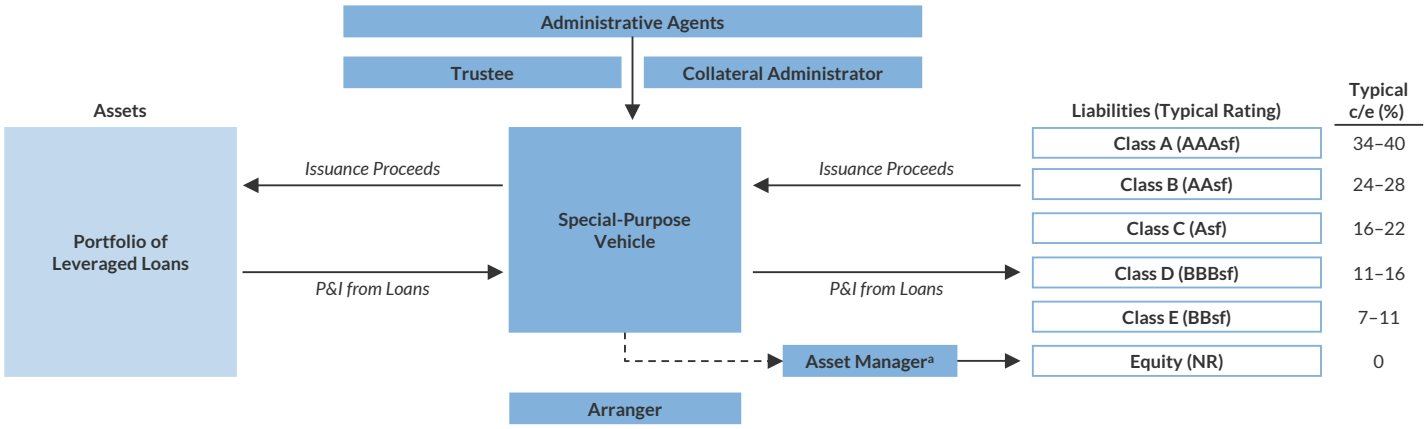
	Arbitrage CLO	Balance Sheet CLO
Market Share	90%–95%	5%–10%
Portfolio Selector	Portfolio manager	• Specialty finance companies • Banks
Debt Issuer	Bankruptcy-remote SPV	Bankruptcy-remote SPV
Purpose	• Structured exposure to leveraged loan market • Management fees	• Reduction of regulatory capital • Reduces credit risk • Financing alternative
Collateral Type	Primarily broadly syndicated leveraged loans	Middle market or broadly syndicated loans
Collateral Security	Primarily senior secured loans	Primarily senior secured loans
Collateral Origination/ Sourcing	• Loans purchased into SPV from primary and secondary market • Issuer not involved in asset origination	• Issuer involved in asset origination • Loans on balance sheet are transferred into SPV
Issuer Capital Structure	Primarily floating-rate notes with varying levels of priority and a (typically) unrated equity tranche	Primarily floating-rate notes with varying levels of priority and a (typically) unrated equity tranche
Forms of Credit Enhancement	• Generally 35%–40% subordination below senior class • OC of rated notes • Spread arbitrage • OC and IC tests that, if failing, divert proceeds to redeem senior notes	• Generally, 35%–50% subordination below senior class • OC of rated notes • Spread arbitrage • OC and IC tests that, if failing, divert proceeds to redeem senior notes
Average Life of Liabilities	5–10 years for senior notes, 7–10 years for subordinated notes and equity	5–10 years for senior notes, 7–10 years for subordinated notes and equity
Portfolio Management Style	• Usually managed; three- to five-year reinvestment periods • Reinvestment subject to satisfaction or maintenance/improvement of portfolio covenants • Unscheduled proceeds could be reinvested, subject to certain conditions after the reinvestment period	• Usually managed; one- to five-year reinvestment periods • Reinvestment subject to satisfaction or maintenance/improvement of portfolio covenants • No reinvestment allowed post reinvestment period
Use of Leverage	Yes, 7.0x–12.0x (debt/equity)	Yes, 1.0x–10.0x (debt/equity)

CLO – Collateralized loan obligation. SPV – Special-purpose vehicle. OC – Overcollateralization. IC – Interest coverage
Source: Fitch Ratings

Mechanics of an Arbitrage CLO

An arbitrage CLO is created in an attempt to capture the excess spread between higher yielding assets (i.e. a portfolio of leveraged loans) and lower yielding liabilities (i.e. multiple tranches with various ratings).

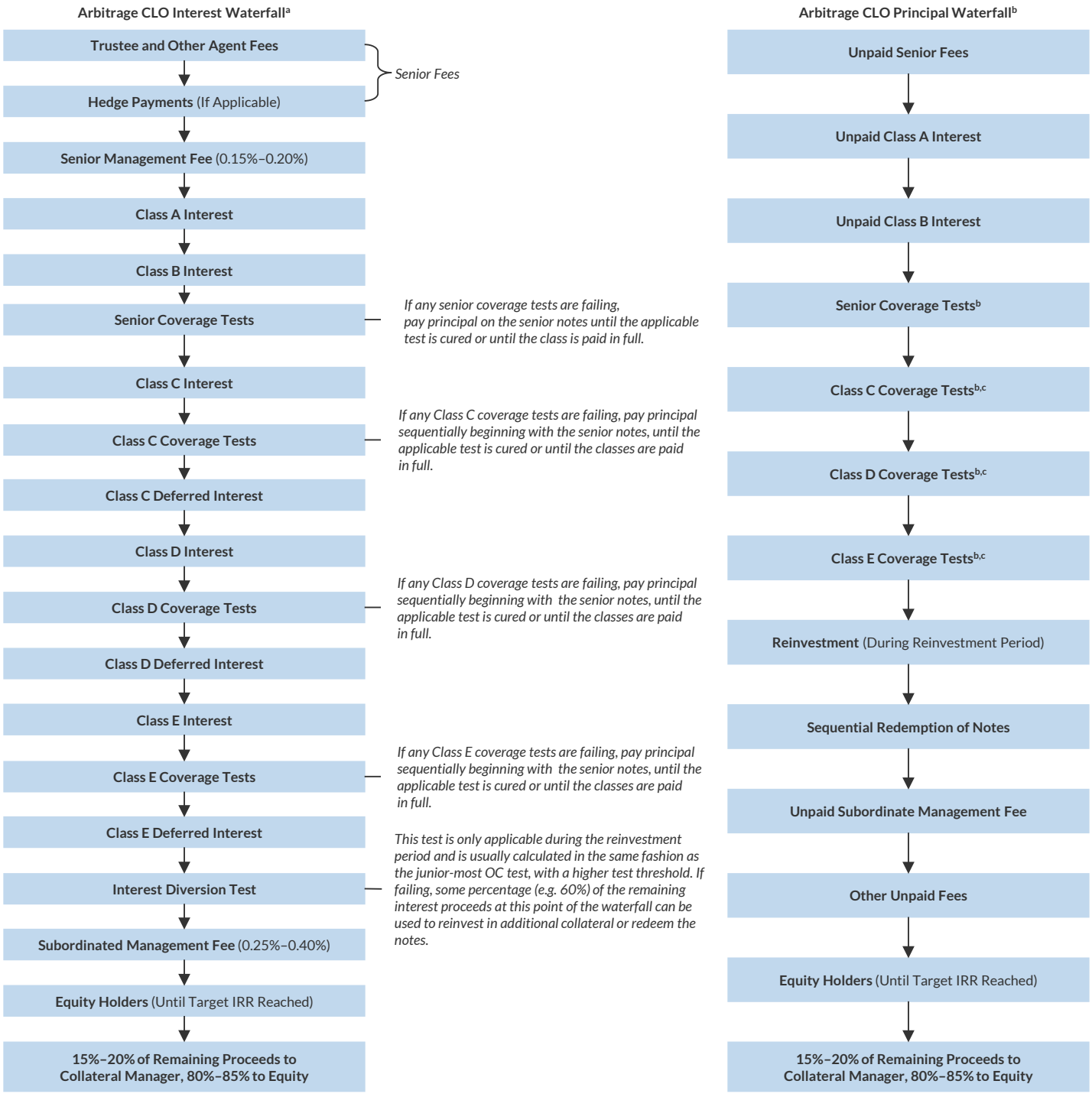
Arbitrage CLO Transaction



[a]Asset manager typically contributes a portion of equity. CLO – Collateralized loan obligation. P&I – Principal and interest. C/e – Credit enhancement (based on subordination). NR – Not rated
Source: Fitch Ratings

Cash flows received from the underlying CLO collateral must follow a defined sequence of use known as a waterfall. We present a typical arbitrage CLO waterfall for interest and principal payments on the next page.

Arbitrage CLO Interest/Principal Waterfall



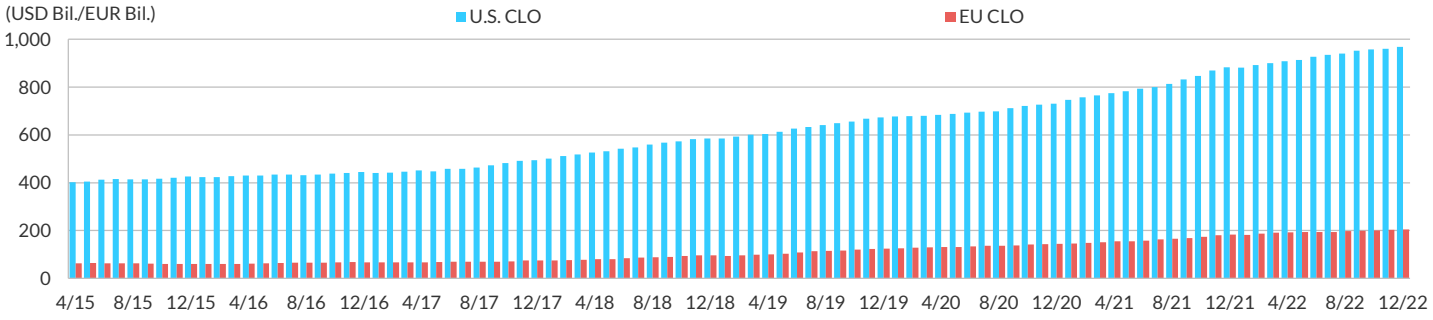
[a]Transaction waterfalls can and do vary from deal to deal. These waterfalls are displayed for indicative purposes only. [b]Interest and deferred interest on deferrable tranches can also be paid in between coverage tests, or after all coverage tests are met, subject to certain conditions such as being the controlling class. [c]Nonsenior coverage tests will usually include provisions for the payment of unpaid mezzanine/subordinate tranche interest amounts, in addition to payment of principal. CLO – Collateralized loan obligation. Note: Coverage tests — overcollateralization (OC) and interest coverage (IC) tests.
Source: Fitch Ratings

Market Participants

CLO Managers

According to Refinitiv LPC, U.S. CLOs reported $968 billion of AUM at the end of 2022, and an additional EUR205 billion for European CLOs. Globally, CLO assets grew 9% in 2022, and stand at over $1 trillion, compared with less than $300 billion in 2013. The majority of these are CLOs that hold primarily BSL loans. CLO issuance in the U.S. remains concentrated in the largest managers, many of which are global firms. All the top 20 most active managers by CLO volume issued CLOs in the U.S. in 2022. Fifteen platforms issued CLOs in Europe, per LevFin Insights.

CLO Assets Under Management



Source: Refinitiv LPC

A large proportion of CLO managers oversee loans outside CLOs, as shown in Fitch's annual *CLO Manager Handbook*, highlighting that many issuers are not solely dependent on CLO management fees. Managers reported a breakdown of loan AUM in the following categories: CLOs, managed accounts, managed funds and other products.

Approximately half of the managers in the handbook with AUM in the U.S. (41%) are considered to have CLOs as their primary product based on leveraged loan contribution being more than 75% of their total U.S. AUM. At the end of 2021, just 20% of U.S. managers profiled had five or fewer outstanding CLOs, while 55% of these U.S. managers were overseeing 10 CLOs or more.

For more details, see: *CLO Asset Manager Handbook (May 2022)* and *CLO Asset Manager Handbook (May 2022) – Datasheet*.

Investors

Investors in the most senior CLO notes, rated 'AAAsf', include banks, insurance companies and other participants with a need for low-risk assets to carry on the balance sheet. Investors in the lower-rated and equity tranches consist more heavily of traditional asset managers, hedge funds and alternative investors. CLO portfolios are diversified to reduce risk, with no single issuer typically allowed to contribute more than 2.5% of the portfolio or any industry more than 15% overall.

CLO Investor Base

Senior Notes	Mezzanine Notes	Equity
• Insurance Companies • Foreign Banks (European and Asian) • Pension Funds • U.S. Banks	• Hedge Funds • Asset Managers • Insurance Companies	• Private Equity • Credit Opportunity Funds • Asset Managers

CLO – Collateralized loan obligation
Source: Fitch Ratings

CLO Holdings

CLO portfolios are diversified to reduce risk, with generally no single issuer making up more than 1% of a typical Fitch-rated reinvesting CLO. CLOs hold loans from issuers across many industries, with the greatest concentration in Technology Software, Business Services General, Banking & Finance, and Healthcare Providers — mirroring rankings of industries within the broader U.S. leveraged loan market.

The average exposure to weaker 'CCC' rated loans, at the highest risk of default, is typically relatively low in CLO portfolios, varying between 4% and 7% during most periods. However, there can be sharp increases in this exposure in periods of market stress, such as in 2020. OC cushions and other structural protections protect the senior tranches in the event there is an increase in defaults and the 'AAAsf' rated tranches.

Arbitrage CLO Structural Protections

Coverage Tests	Purpose	
Overcollateralization (OC) Tests	The OC tests protect noteholders in the event of credit quality deterioration and/or par value erosion in the portfolio. OC refers to the excess of the par amount of portfolio collateral available to secure one or more note classes over the par amount of those note classes. If the deal fails an OC test, cash flows are diverted from equity or more junior classes of notes to pay down the liabilities in order of seniority until the senior notes are paid in full, or until the test is back in compliance.	
Interest Coverage (IC) Tests	The IC tests protect noteholders in the event of a reduction in the cash flows produced by the portfolio collateral. The IC test is the ratio of the interest income received (or anticipated) on the assets between payment dates to interest payments due on the liabilities. If the deal fails an IC test, cash flows are diverted from equity or more junior classes of notes to pay down the liabilities in order of seniority until the senior notes are paid in full, or until the test is back in compliance.	
Collateral Quality Tests		
Weighted-Average Life (WAL)	The weighted average time until all the loans in the portfolio mature. Designed to prevent the total risk horizon of the portfolio from exceeding a covenanted level. The WAL is necessary in determining base default rates since default rates increase over time.	
Weighted-Average Spread (WAS)	The WAS over LIBOR or SOFR of the loan portfolio. This test ensures a minimum level of cash flow from the underlying portfolio that should be sufficient to pay interest on the liabilities, which are typically paid a spread over LIBOR or SOFR.	
Weighted-Average Recovery Rate	The weighted-average recovery rate of the loan portfolio. This test measures what the expected recoveries may be upon default of the entire portfolio.	
Weighted-Average Rating Factor (WARF)	The WARF is a measure of the average credit rating of the portfolio. It is an indicator of the portfolio's average credit risk.	
Typical Investment Criteria (Minimum/Maximum Allowances)[a]		
% First Lien/Sr. Secured	% Covenant-Lite Loans	% Bonds
% Rated CCC+ or Below	% Fixed-Rate Securities	% Debtor in Possession Loans
% Non U.S. Issuer/Non-USD	% Same Industry Category	% Revolving Credit Facilities
% Single Issuer/Obligor	% Long-Dated Assets	% Delayed-Draw Term Loans
% PIK-able Securities	% Second Lien/Unsecured	% Current Pay Obligations

[a]Not an exhaustive list. SOFR – Secured Overnight Financing Rate. PIK – Payment in kind
Source: Fitch Ratings

Fitch CLO Rating Process

Fitch considers qualitative and quantitative factors when rating CLO tranches, with key drivers in order of importance consisting of:

- **Asset Credit Quality:** Asset quality is based on corporate IDR and term.
- **Asset Security:** Asset security is determined by the seniority of the corporate obligation and includes the jurisdiction of the issuer.
- **Portfolio Composition:** Portfolio performance in terms of portfolio default rates depends on the level of diversity by industry and obligor, and geographic concentrations, which determine the expected volatility in portfolio default rates.
- **Portfolio Management:** Portfolio management and trading may result in an evolving portfolio credit profile, extension risk and other portfolio changes not represented by the closing portfolio.
- **Cash Flow Analysis:** CLO structural features and hedging strategies, and the timing of defaults and recoveries, are important considerations in cash flow modeling and have a meaningful impact on performance.

For more details, see *CLOs and Corporate CDOs Rating Criteria*.

Collateral Quality Tests in Fitch Matrices

- CLOs can choose to include a Fitch Test Matrix enabling dynamic portfolio management by incorporating a combination of limits for specified collateral quality parameters, most commonly maximum Fitch-weighted average rating factor (WARF), minimum Fitch-weighted average recovery rating (WARR) and minimum weighted average spread (WAS) tests. Weighted average life (WAL) test or others could be used.
- The collateral manager typically selects the initial Fitch Test Matrix covenants on or after the effective date and can change a selected point at any time thereafter, as long as each applicable test remains passing, or if failing, the degree of compliance with any such failing test would be maintained or improved at the new matrix point.
- The tests in the matrix are interrelated and require CLO manager balancing. The introduction of additional risk, for example by selecting a higher WARF on the Fitch Test Matrix indicating weaker credit quality, would be mitigated with an offsetting enhancement such as higher WAS or WARR.
- Fitch Test Matrices for a sample of Fitch-rated CLOs that closed in 4Q22, as of the end of January 2023, indicates that on average, the WARR could decrease by 1.8pp, the WARF could weaken (increase) by 1.5pp and the WAS could contract by 20bps before reaching trading limitations.

Fitch Matrix Points for a Sample of Deals that Closed in 4Q22

(% WAL in Years)

CLO Name	Manager	WARR (Trust)	WARR (Covenant)	WARR Cushion	WARF (Trust)	WARF Covenant	WARF Cushion	WAS (Trust)	WAS Covenant	WAS Cushion	WAL (Trust)	WAL Covenant	WAL Cushion
Marble Point XXV	MP Mgt	75.8	74.3	1.6	24.4	25.0	0.6	3.8	3.5	0.3	4.8	7.0	2.2
MidOcean Credit CLO XI	MidOcean	74.6	72.9	1.7	23.4	25.0	1.6	3.7	3.5	0.2	5.0	7.0	2.0
1988 CLO 1	1988 AM	77.1	76.8	0.3	20.5	21.0	0.5	3.5	3.3	0.2	4.9	8.5	3.6
AGL CLO 22	AGL	74.5	71.4	3.1	24.5	26.0	1.6	4.0	3.7	0.3	4.9	9.0	4.1
Empower CLO 2022-1	Empower	77.5	74.7	2.8	22.7	25.0	2.3	3.8	3.4	0.4	4.9	8.0	3.1
Octagon 60, Ltd.	Octagon	75.4	72.0	3.4	23.3	25.0	1.7	3.7	3.4	0.3	5.1	9.0	4.0
Rad CLO 17	Irradiant	76.5	75.2	1.3	24.5	27.0	2.5	3.5	3.4	0.1	4.8	9.0	4.2
Barings CLO Ltd. 2022-III	Barings	75.3	75.2	0.1	24.6	25.5	0.4	3.5	3.4	0.1	4.6	9.0	4.4
Average	—	**75.8**	**74.1**	**1.8**	**23.5**	**24.9**	**1.5**	**3.7**	**3.4**	**0.2**	**4.9**	**8.3**	**3.4**
Maxim um	—	**77.5**	**76.8**	**3.4**	**24.6**	**27.0**	**2.5**	**4.0**	**3.7**	**0.4**	**5.1**	**9.0**	**4.4**
Minimum	—	**74.5**	**71.4**	**0.1**	**20.5**	**21.0**	**0.5**	**3.5**	**3.3**	**0.1**	**4.6**	**7.0**	**2.0**

WAL – Weighted average life. WARR – Weighted average recovery rating. WARF – Weighted average rating factor. WAS – Weighted average spread. Trust – Trustee calculated
Source: Fitch Ratings

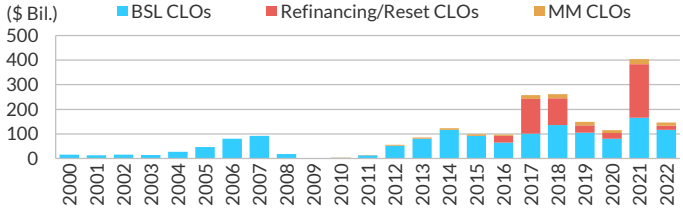
Failing a matrix point will generally result in limitations placed on the collateral manager's trading ability, but will not necessarily result in downgrading of the CLO notes.

CLO Trends

CLOs have grown significantly as an asset class since the Great Recession, which has grown along with the U.S. speculative-grade corporate loan market. CLOs historically own at least 50% of the U.S. leveraged loan market, which climbed to approximately 65% at YE 2022 with greater demand for CLO debt and supported by a diversification of the investor base. The top-rated tranches of CLO structures held up well to periods of stress, including the global financial crisis in 2008 and the pandemic in 2020 and 2021.

New CLO issuance in 2022, including reissue, fell compared with 2021 when issuance surged to a record level, mirroring a similar movement in overall capital markets activity.

U.S. CLO Issuance



CLO – Collateralized loan obligation. BSL – Broadly syndicated loans.
MM – Middle market. Note: BSL CLOs include new and reissue transactions. BSL, MM and Reset CLOs are counted at pricing date, while Refinancings are by closing date. The few refinancings/resets prior to 2016 are not captured.
Source: Fitch Ratings, The Royal Bank of Scotland, public information

Topical areas that developed in recent years include an ability to invest in bonds following changes in 2020 to the Volcker rule, and the prevalence of rescue financing language, making clear CLOs can defensively make new-money investments to distressed issuers to protect recovery prospects in existing outstanding loans. More recently, the CLO market shifted to SOFR-linked leveraged loans and CLO note financing following the discontinuation of LIBOR. As of early 2022, exposure in Fitch-monitored CLOs to issuers with loans linked to SOFR is increasing but remains low, which is the same for the number of outstanding CLOs with notes referring to SOFR as a reference interest rate. At the end of 2022, 17% of CLOs under Fitch's surveillance had notes issued in SOFR, while the average exposure in reinvesting CLOs that Fitch monitors to issuers with SOFR-based loans was 36% of par notional.

High-Yield Bond Basics

What Is the U.S. High-Yield Bond Market?

Defining the Markets

The high-yield bond market generally consists of bonds made to companies with IDRs of 'BB+' or lower. High-yield bonds can be secured or unsecured, and typically rank lower in terms of priority than loans. Bonds are issued to corporations and syndicated by banks to investors. Bonds are originated in several different forms, with cash pay and zero coupon being the most common types of bonds.

High-Yield Bond Types

Type	Description
Cash Pay	Pays a fixed-coupon rate of interest, usually paid in cash, until maturity or an earlier stated redemption date.
Step Coupon	Offers one interest (coupon) rate in the early years of the bond's life, followed by a second, higher interest rate at a specified date (the step-up date).

High-Yield Bond Types

Type	Description
Payment in Kind (PIK)	Allows the issuer the option of paying the bondholder interest in cash now or accumulate interest and add it to the principal balance of the bond. At maturity, the issuer must pay both the principal and accumulated interest amounts to the holder of the bond.
Zero Coupon	Sold at a deep discount from its face value and pays no current interest to the bondholders. Instead, the interest is compounded and paid with the principal at maturity.
Convertible	May be converted into shares of another security or cash under stated terms. The security is often the issuing company's common stock.

Source: Fitch Ratings

The characteristics of high-yield bonds are often dictated by the issuing company's credit profile. High-yield companies typically have weaker operating profiles or higher leverage, resulting in a weaker credit profile. Due to these inherent risks, coupled with a lower priority in the capital structure, investors typically demand higher yields than those demanded for loans. Additionally, bonds have less early repayment flexibility compared with loans due to higher call premiums and no-call provisions for a longer period.

High-Yield Bond Characteristics

Type	Description
Coupon	The interest rate stated on a bond when issued. There are generally three types of coupon structures. • Cash Pay: The coupon is paid in cash, typically semiannually, and can be fixed or floating. • Floating Rate: Floating-rate notes (FRNs) typically pay quarterly interest that varies according to the movement of the underlying benchmark (i.e. three-, six- or nine-month T-bill rate or SOFR). • Payment-in-Kind (PIK): Allows the issuer the option of paying the bondholder interest in cash now or accumulate interest and add it to the principal balance of the bond.
Maturity	The date on which the principal amount of a bond becomes due, is repaid to the investor and interest payments stop.
Call Protection	A protective provision for investors that prohibits the issuer from repaying the security in full for a stated number of years. Call protection exists to protect bondholders from the risk that interest rates will fall before the call date. Investors' yields can be negatively affected when a bond is called prior to maturity.
Call Premiums	The premium paid by the issuer over par for the right to redeem the bond before the bond's maturity date.
Structure	A high-yield bond can be unsecured or secured on a first- or second-lien basis. Further, it can be senior, senior subordinated, subordinated or junior subordinated in rank.
Make-Whole	A lump-sum payment to the holder of the bond that is equal to the net present value of coupons they would have received had the bond not been called.
Put Provisions	Allows a bondholder to sell a bond back to the issuer at a price, generally par, on certain stipulated dates prior to maturity. Helps mitigate the risk of increasing interest during the stated put period.
Equity Clawbacks	A clawback provision in a bond gives the issuer an option to redeem a preset fraction of the bond within a preset period at a predetermined price, as long as the funds used for the debt redemption come from an equity offering.
Warrants	A provision that allows the holder of the bond the option to buy a defined number of warrants to purchase equity in the company at a later date.

SOFR – Secured Overnight Financing Rate
Source: Fitch Ratings

High-Yield Bond Versus Leveraged Loan Comparison

Characteristics	High-Yield Bonds	Leveraged Loans
Priority	Senior or Subordinated	Senior
Security	Unsecured/Secured	Secured
Rating	≤ BB+	≤ BB+
Average Deal Size (Average Range)	Approximately $600 million ($100 million–$5.0 billion)	Approximately $400 million ($100 million–$5.0 billion)
Coupon	Fixed	Floating
Average Yield	Approximately 5%–7%	Approximately 3%–6%
Call Protection	Yes	Some soft calls
Covenants	Yes — Incurrence	Yes — Generally maintenance
Tenor	Often 10+ years	Generally 7–10 years
Amortization	No	Yes

High-Yield Bond Versus Leveraged Loan Comparison

Characteristics	High-Yield Bonds	Leveraged Loans
Secondary Liquidity	Yes	Improving, but weaker than high-yield bonds
Investors	Institutional Investors	Banks/Institutional Investors
2022 Default Rate (%)	1.3	1.6
Historical Average Default Rate	3.6[a]	2.4[b]

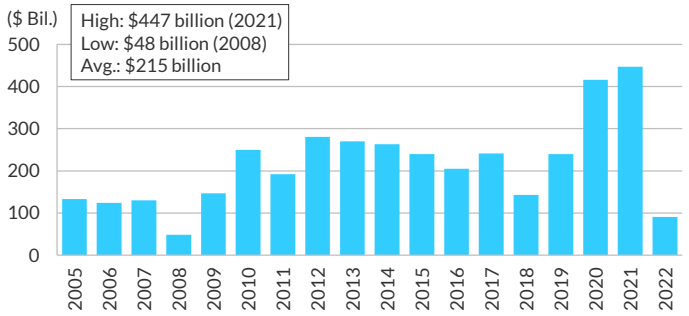
[a]From 2001 to 2022. [b]From 2007 to 2022.
Source: Fitch Ratings

Market History

Several factors contributed to growth in the U.S. high-yield bond market over the past decade. Investor demand in particular played a major role. As interest rates reached historic lows in the years following the financial crisis, the search for yield attracted new investors into the high-yield bond and leveraged loan markets. Insurance companies, mutual funds and pension funds were among the most active investors of high-yield bonds.

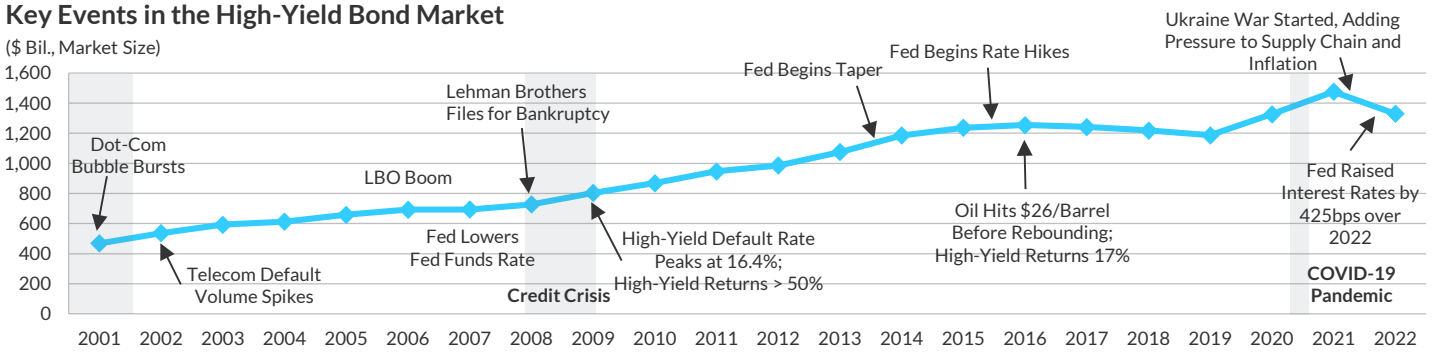
The U.S. high-yield bond market has grown significantly since the credit crisis in 2008 and 2009, peaking at $1.5 trillion at September 2021, or double the size prior to the global financial crisis. A shift in financing preference to high-yield bonds from leveraged loans driven by lower interest rates and support from the Fed during the onset of the pandemic propelled growth. The market has declined 11% since September 2021 and is now at $1.3 trillion. The lack of new issuance, with 2022 tallying the least amount of volume since 2008, coupled with several large issuers moving to investment grade from high yield resulted in the market's decline. The high-yield space remains weighted toward a few sectors, notably Energy (13%), Banking & Finance (10%), Healthcare/Pharmaceuticals (7%) and Technology (6%).

Annual High-Yield Bond Issuance



Source: Fitch Ratings, Bloomberg

Key Events in the High-Yield Bond Market



Note: Grey sections represent a recessionary period, as defined by the National Bureau of Economic Research. Year denotes beginning of year.
Source: Fitch Ratings, Bloomberg

Second-Lien Bonds

What Are Second-Lien Bonds?

Second-lien bonds are secured bonds that constitute a bifurcated deal structure in which the first-lien bondholders stand before second-lien bondholders for payments on asset claims. Due to their lower position in the capital structure, second-lien bonds are perceived to be riskier, and are consequently more expensive and have higher yields for investors than first-lien bonds. Second-lien bonds make up a relatively small portion of total high-yield issuance.

PIK Bonds

What Are PIK Bonds?

Payment-in-kind (PIK) is a relatively expensive source of debt funding that allows issuers to pay interest in the form of additional securities rather than cash. Paying in kind can be optional — known as a toggle option — mandatory, or a combination of the two. Contingent cash-pay requirements were frequently included in recent PIK transactions. This means the issuer must make payments in cash when financial thresholds are met. When not met, the issuer may or must pay in kind, depending on the deal-specific terms. Thresholds vary from restricted payment basket availability under the company's bank facility to maximum leverage or minimum liquidity levels. Maximum limits on the total number of payments

that could be made in kind were relatively common in recent PIK issue indentures.

PIK issuance tends to fluctuate with the credit cycle and generally accounts for a small minority of deals, generally for low-rated issuers that have few alternatives. PIK issuance all but disappeared in 2015, as conditions tightened amid the commodity downturn, but has been trending upward since. However, current levels remain far behind 2007 ($16 billion) and 2008 ($14 billion) PIK volumes that represented 11% and 27%, respectively, of total U.S. high-yield issuance.

PIK options allow flexibility for the issuer in the event of cash flows temporarily deteriorating and liquidity becoming a concern. PIK debt has recently been used primarily to fund dividend recapitalizations of LBO targets or as a restructuring tool for distressed issuers. Periods of elevated PIK issuance tend to be driven by dividend deals.

High-Yield Bond Defaults

What Happens in an Event of Default?

Please refer to the *Defaults* section on page 22 for Fitch's explanation of what happens in an event of default.

What Options Are Available to Issuers Under U.S. Bankruptcy Law?

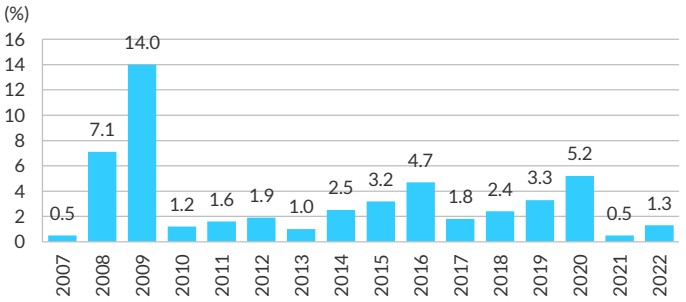
Please refer to the *Defaults* section on page 22 for Fitch's explanation of options available to issuers under U.S. bankruptcy law.

What Are the Historical Default Rates for High-Yield Bonds?

2001–2022

The U.S. high-yield bond par-weighted historical default rate average is 3.6%, with significant variation around the mean. The average during economic recessions is 10.2%, while the nonrecessionary average is a benign 2.1%. The 2009 recession involved multiple industries, leading to a 14% default rate. In more than half the years since the global financial crisis (GFC) of 2007–2009, the default rate has been below 2%, with an uptick between 2014 and 2016 attributable to defaults in the Energy sector due to the commodity glut, and another in 2020 catalyzed by the coronavirus pandemic. This was led by Telecommunications with a 14.5% sector rate (due to the bankruptcy of Frontier Communications Corporation), Energy with 14%, and Leisure & Entertainment with 13.5%. However, despite the spike in defaults in certain sectors, the full market rate did not rise to that experienced during the GFC. The 0.5% 2021 default rate was the lowest recorded since Fitch began tracking. Furthermore, the 1.3% default rate registered in 2022 was buoyed by Bausch Health Companies Inc.'s DDE.

U.S. High-Yield Default Rates



Source: Fitch U.S. High-Yield Default Index

Historically, the Telecommunications sector paced the 2001–2002 recession, producing 46% of the default volume. The default rate climbed to a peak 16.8% in 2002. Unlike 2001–2002, there were seven sectors in 2009 whose default rate topped 20%. Automotives led the way and produced the high sector mark at over 44%. Adverse credit markets led to financing difficulties for car buyers and liquidity problems for manufacturers. Substantial reductions in vehicle sales consequently led to cutbacks in original equipment manufacturers' production and reduced parts demand from suppliers. At the same time, legacy labor and benefit costs were burdensome and prices of raw materials, including steel, were on the rise. These challenges caused widespread auto defaults.

Distressed Debt Exchanges for High-Yield Bonds

Fitch categorizes defaults under three methods: a bankruptcy filing, a missed interest payment in which the issuer does not cure its payment within the 30-day grace period or a DDE. A DDE occurs when bond investors are offered securities with structural or economic terms that are diminished compared with those of existing bonds. For companies with untenable capital structures but sustainable operating profiles, DDEs can be seen as an efficient way to restructure all or part of existing debt.

In considering whether a HY bond restructuring should be classified as a DDE, Fitch applies the following two-prong test: the restructuring imposes a material reduction in terms compared with the original contractual terms; and the restructuring or exchange is conducted to avoid bankruptcy, similar insolvency or intervention proceedings, or a traditional payment default. If a key term is being changed (for example, par amount, maturity or priority) it will satisfy the first prong in most cases. Fitch's criteria presumes changes to key terms are to be deemed material unless there is clear evidence investors would be indifferent to the difference between the original and new terms. Fitch expects a high bar for this indifference test in this environment. In particular, an interest rate increase is not likely to be sufficient to net against any changes to key terms.

Similarly for the second prong, companies that propose such exchanges and investors considering these exchanges are likely doing so with insolvency as a possibility in this uncertain environment. Debt exchanges, as opposed to more traditional liability-management routes, are not part of the traditional liquidity playbook for solvent entities. Solvent entities that want to proactively manage their maturity schedules can more simply do so by tendering for existing bonds and issuing new debt.

Recovery

What Is Recovery?

Please refer to the *Recovery* section on page 25 for Fitch's explanation of recovery.

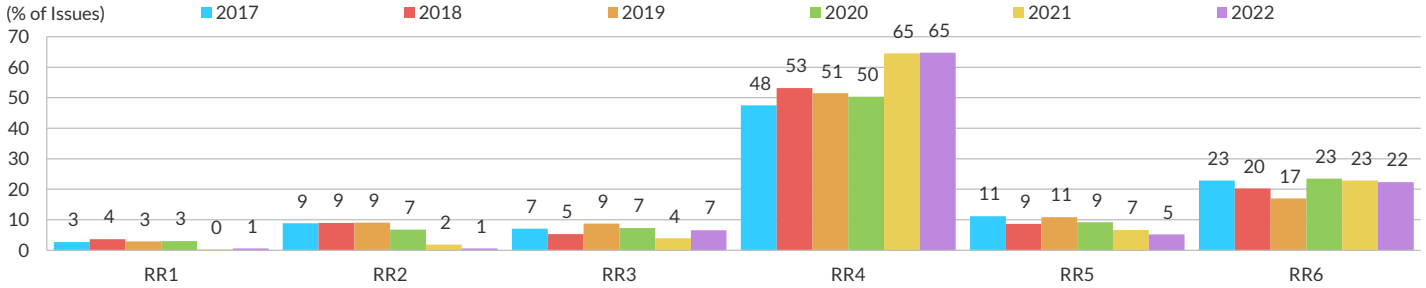
How Does Fitch Estimate Recovery?

Please refer to the *Recovery* section on page 25 for Fitch's approach to estimate recovery.

How Do High-Yield Bonds Perform in Fitch's Recovery Analyses?

Most unsecured RRs trend in the average (RR4) to poor (RR6) ranges due to their lack of seniority in the capital structure. The tally that received the lowest 'RR6' rating increased significantly in our 2021 report, which consisted of ratings for the most part performed during 2020. The large jump resulted primarily from lower going concern enterprise valuations assumed as a result of uncertainty around the pandemic, and these securities' position in the recovery waterfall that generally results in first losses among a defaulting issuer's creditors.

Recovery Rating Distribution — Senior Unsecured Debt



RR – Recovery Rating. Note: U.S. corporate public and private Issuer Default Ratings and Issuer Default Credit Opinions of 'B+'/'b+*' and lower only.
Source: Fitch Ratings

What Are the Historical Post-Default Prices for High-Yield Bonds?

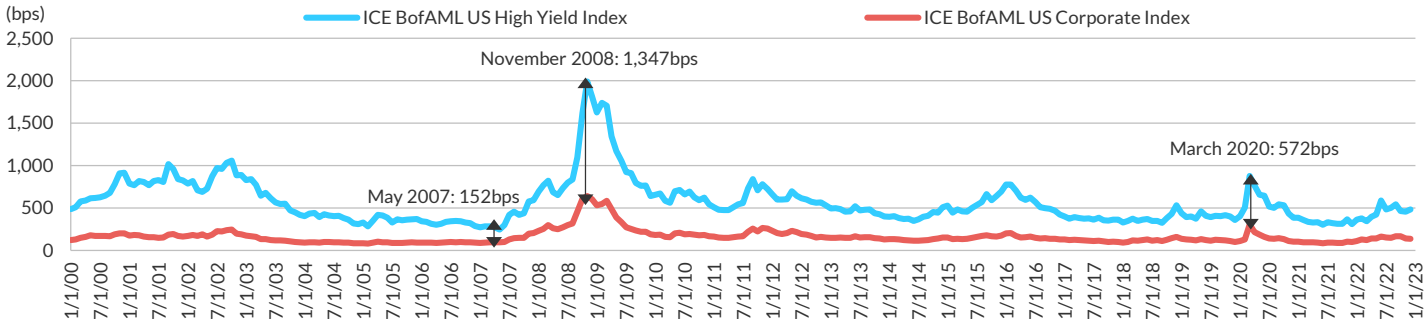
As with leveraged loans, Fitch monitors the 30-day post-default price as a proxy for market expectations of ultimate recovery rates. However, the two correlate only loosely due to the uncertainty surrounding bankruptcy outcomes at the early stages of the process, time-value of money and the effect of partial paydowns. However, taking bid levels one month following a default has the advantage of being easily observable and creates a robust sample size.

The average 30-day post-default price varied significantly over the past 22 years, reaching a high of 75.2% of par in 2021 and a low of 23.3% in 2002. The historical recovery rate average is 40.3%.

The average 30-day post-default rate was 58.9% in 2022, compared with 31.2% in 2020. A high-default environment usually leads to low recovery rates.

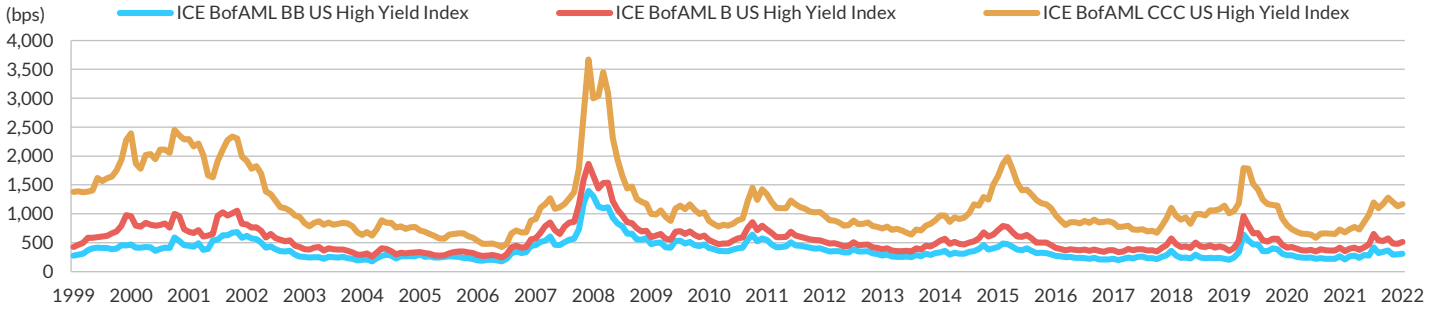
High-Yield Bond Data

Option-Adjusted Spread Comparison — Investment Grade Versus High Yield



Source: Intercontinental Exchange, Inc., used with permission

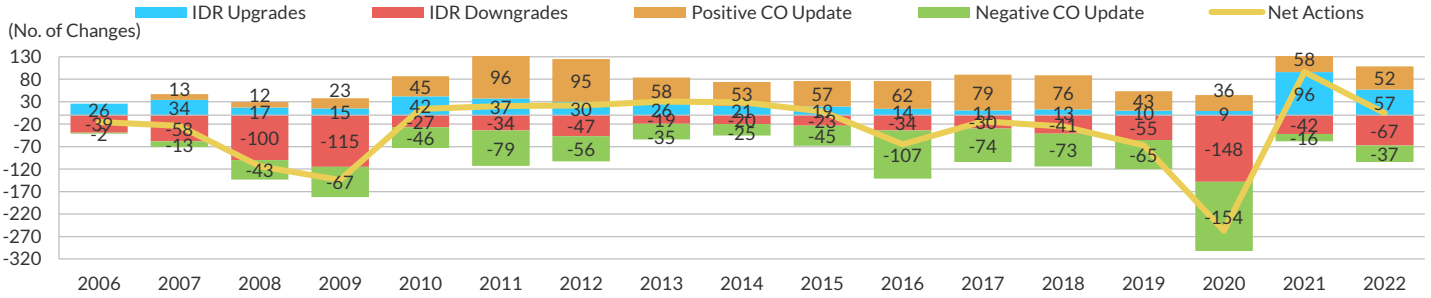
Option-Adjusted Spreads by Rating Category



Source: Intercontinental Exchange, Inc., used with permission

Appendix

Fitch Ratings Speculative-Grade Upgrades/Downgrades by Corporate Group



IDR – Issuer Default Rating. CO – Credit Opinion
Source: Fitch Ratings

Rating Upgrades and Downgrades by Industry — 2022

Industry	Upgrade	Downgrade	Total Actions
Aerospace & Defense	—	2	2
Automobiles	—	—	0
Banking & Finance	1	—	1
Broadcasting & Media	1	1	2
Building & Materials	2	1	3
Business Services Data & Analytics	—	1	1
Business Services General	1	1	2
Chemicals	5	1	6
Consumer Products	3	2	5
Energy Oil & Gas	4	14	18
Environmental Services	—	—	0
Food, Beverage & Tobacco	6	5	11
Gaming, Leisure & Entertainment	3	3	6
Healthcare Devices	3	2	5
Healthcare Providers	3	3	6
Industrial & Manufacturing	3	2	5
Lodging & Restaurants	—	—	0
Metals & Mining	2	2	4
Packaging & Containers	4	—	4
Pharmaceuticals	5	2	7
Real Estate	—	—	0
Retail	6	5	11
Retail Food & Drug	—	—	0
Technology Hardware	2	2	4
Technology Software	6	2	8
Telecommunications	1	—	1
Transportation & Distribution	1	1	2
Utilities Power	3	—	3
Total	**65**	**52**	**117**

Note: Includes Issuer Default Ratings and analyst-based Credit Opinions.
Source: Fitch Ratings

Criteria Overview

Name
Master Rating Criteria
Corporate Rating Criteria
Sector Navigators: Addendum to the Corporate Rating Criteria
New Asset SF Rating Criteria Addendum
Rating Definitions
Feedback Report: Sector Navigators - Addendum to the Corporate Rating Criteria
Other General Criteria Relevant for Corporates
Parent and Subsidiary Linkage Rating Criteria
Corporates Exceeding the Country Ceiling Criteria
Investment Holding Companies Rating Criteria
Aircraft Enhanced Equipment Trust Certificates Rating Criteria
Exposure Draft: Aircraft Enhanced Equipment Trust Certificates Rating Criteria
Criteria on Priority, Security and Recovery Ratings
Corporates Recovery Ratings and Instrument Ratings Criteria
Country-Specific Treatment of Recovery Ratings Criteria
Corporates Hybrids Treatment and Notching Criteria
Relevant Special Reports and Worked Examples
(To help interpret our criteria, these special reports provide examples of how our criteria are applied in typical, practical situations.)
Financial Ratios and Adjustments
Cash-Flow Measures in Corporate Analysis
Debt Factoring; Analytical Adjustments for Corporate Issuers and Their Recovery Ratings
Treatment of Operating Leases in Corporate Analysis
Adjusting for Fair Value of Debt and Related Derivatives in Corporate Analysis
Treatment of Cash in Corporate Analysis
Guide to Fitch's Credit Metrics, Financial Terms and Adjustments
Leveraged Finance
Assigning Corporate Ratings to Issuers in Restructuring
Differentiating Credits Rated 'B+' and Below
Treatment of Junior Corporate Debt in Europe
DIP (Debtor-in-Possession) Rating Criteria
Leveraged Finance Structure Series: Global Treatment of Junior Capital Debt and Leverage
Other Topics
Using Commodity Prices in Corporate Projections
Treatment of Intra-Group Loans in Corporate Analysis
U.S. Public Power Rating Criteria
U.S. Water and Sewer Rating Criteria
Related Resources: Other Cross-Sector Rating Criteria Relevant to Corporates
Third-Party Partial Credit Support Rating Criteria
National Scale Ratings Criteria
Structured Finance and Covered Bonds Counterparty Rating Criteria
Completion Risk Rating Criteria
Oil Vessel-Backed Financing Rating Criteria
CLOs and Corporate CDOs Rating Criteria
Transportation Infrastructure Rating Criteria
Non-Bank Financial Institutions Rating Criteria
Bank Rating Criteria

Source: Fitch Ratings

Corporate Rating Methodology

Key Rating Factors	Description
Sector Risk Profile	Fitch determines an issuer's ratings within the context of each issuer's industry fundamentals. Industries that are in decline, highly competitive, capital intensive, cyclical or volatile are inherently riskier than stable industries with few competitors, high barriers to entry, national dominance and predictable demand levels.
Country Risk	The country risk associated with an issuer's operations has two distinct impacts on the credit profile — its operating environment, and its transfer and convertibility risk. The operating environment is a combination of the location of its revenues, income and assets; the funding environment; and the systemic governance of its primary location. Fitch recognizes that companies can both succeed and fail in the most hospitable environments. However, a higher risk environment can actively constrain a company's potential. Transfer and convertibility risk, the determinants of a country's ceiling, capture the risk of the imposition of exchange controls that would prevent or materially impede the private sector's ability to convert local into foreign currency.
Management Strategy/Corporate Governance	Fitch evaluates management by its ability to create a healthy business mix, maintain operating efficiency and strengthen the market position of the issuer. Fitch generally focuses on the following governance characteristics: governance structure, group structure and financial transparency. Although corporate governance has little to no impact on the issuer's credit ratings, a deficiency that may diminish debtholder protection may have a negative impact on the rating assigned.
Ownership, Support and Group Factors	Fitch assigns the IDR to the issuer of debt that has operations that help define its creditworthiness. Where the issuer is a holding company for the group, operating subsidiaries may be substantially funded by the parent, thus the IDR of the holding company represents the operations of the group as a whole. For group entities that are ring-fenced or have segregated funding, the agency considers the relationship between parents and their subsidiaries.
Business Profile	Fitch considers a variety of factors that indicate an issuer's ability to withstand competitive pressures, including its position in key markets, level of product dominance and its ability to maintain price. Size may be a factor if it confers major advantages in terms of operating efficiency, economies of scale, financial flexibility and competitive position. However, size may not always support higher ratings.
Financial Profile	The quantitative aspect of Fitch's corporate ratings focuses on an issuer's financial profile and its ability to service its obligations from a combination of internal and external resources. The sustainability of these credit-protection measures is evaluated over a period of time, using both actual historical numbers, but more importantly, Fitch's forecasts to determine the strength of an issuer's debt-servicing capacity and funding ability. Fitch's financial analysis emphasizes cash-flow measures of earnings, coverage and leverage. Sustainability of cash flow from operations provides an issuer with both internal debt-servicing resources and a stronger likelihood of achieving and retaining access to external sources of funding.

IDR – Issuer Default Rating
Source: Fitch Ratings

Rating Definition Summary

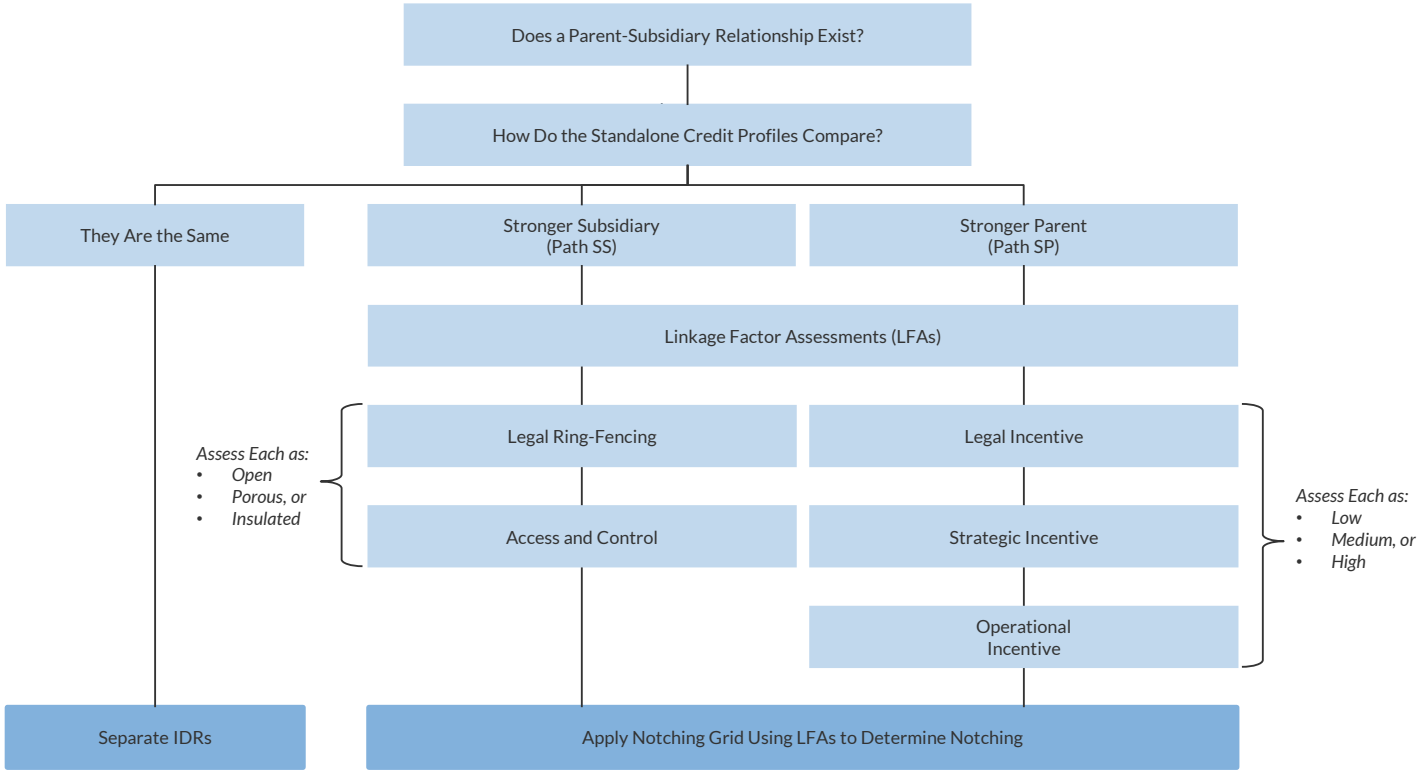
AAA: Highest Credit Quality	'AAA' ratings denote the lowest expectation of default risk. They are assigned only in cases of exceptionally strong capacity for payment of financial commitments. This capacity is highly unlikely to be adversely affected by foreseeable events.
AA: Very High Credit Quality	'AA' ratings denote expectations of very low default risk. They indicate very strong capacity for payment of financial commitments. This capacity is not significantly vulnerable to foreseeable events.
A: High Credit Quality	'A' ratings denote expectations of low default risk. The capacity for payment of financial commitments is considered strong. This capacity may, nevertheless, be more vulnerable to adverse business or economic conditions than is the case for higher ratings.
BBB: Good Credit Quality	'BBB' ratings indicate expectations of default risk are currently low. The capacity for payment of financial commitments is considered adequate, but adverse business or economic conditions are more likely to impair this capacity.
BB: Speculative	'BB' ratings indicate an elevated vulnerability to default risk, particularly in the event of adverse changes in business or economic conditions over time. However, business or financial flexibility exists that supports the servicing of financial commitments.
B: Highly Speculative	'B' ratings indicate material default risk is present, but a limited margin of safety remains. Financial commitments are currently being met. However, capacity for continued payment is vulnerable to deterioration in the business and economic environment.
CCC: Substantial Credit Risk	Default is a real possibility.
CC: Very High Levels of Credit Risk	Default of some kind appears probable.
C: Near Default	A default or default-like process has begun, or the issuer is in standstill; or for a closed-funding vehicle, payment capacity is irrevocably impaired. Conditions indicative of a 'C' category rating for an issuer include: • The issuer has entered into a grace or cure period following nonpayment of a material financial obligation. • The issuer has entered into a temporary negotiated waiver or standstill agreement following a payment default on a material financial obligation. • The formal announcement by the issuer or their agent of a distressed debt exchange.

Rating Definition Summary

AAA: Highest Credit Quality	'AAA' ratings denote the lowest expectation of default risk. They are assigned only in cases of exceptionally strong capacity for payment of financial commitments. This capacity is highly unlikely to be adversely affected by foreseeable events.
	• A closed financing vehicle where payment capacity is irrevocably impaired such that it is not expected to pay interest and/or principal in full during the life of the transaction, but where no payment default is imminent.
D: Default	'D' ratings indicate an issuer that, in Fitch's opinion, has entered into bankruptcy filings, administration, receivership, liquidation or other formal winding-up procedure, or that has otherwise ceased business.
RD: Restricted Default	'RD' ratings indicate an issuer that in Fitch's opinion has experienced an uncured payment default or distressed debt exchange on a bond, loan or other material financial obligation, but has not entered into bankruptcy filings, administration, receivership, liquidation, or other formal winding-up procedure, and has not otherwise ceased operating.

Source: Fitch Ratings

Linkage Considerations Framework



Source: Fitch Ratings

Path SS: Linkage Factor Assessment

		Open	Porous	Insulated
Legal Ring-Fencing	Self-Imposed Conditions	No limitations, or only informal indications of financial policy from management, or other contra-indicating provisions (e.g. legally enforceable upstream guarantees already in place).	Limitations on dividends and other intercompany flows are the subject of short-dated or limited efficacy documentation	Effective ring-fencing documentation in key long-dated financing documents, limiting dividends, upstream guarantees and intercompany lending, explicitly designed to support the subsidiary's profile. In the infrastructure and project finance sector, this may extend t okey contracts and incorporation documentation.
	Regulatory Ring-Fence (Typically Utilities)	No to mildly effective regulatory ring-fencing.	Ring-fence limitations on dividends or debt raising, or imposition of other financial restrictions. However, the parent may still weaken the subsidiary in the longer term.	Ring-fencing is more insulated. This may be due to, for example, additional provisions that exert control over governance or tightened financial controls at specific rating thresholds.
Access and Control	Effective Control	Dominant shareholder control of all major transactions. No minority shareholders or JV partners, or minority shareholders of less than 20% in a low-regulation environment.	Minority shareholders or JV partners present, separate public listing. Some separation of board composition/functional control.	Minority shareholders or Jvpartners in a high-regulation environment, separate public listing, limitations on major transactions without minority shareholder consent.
	Funding and Cash-Management Policy	No formal policy relating to separate funding. Subsidiary can lend cash upstream to be pooled with other group cash. Widespread co-borrower status or all/nearly all external funding via the parent.	A mixture of external and intercompany funding, and/or limited visibility on the future independence of the subsidiary to manage its own external funding and cash.	Minority shareholdersor JV partners in a high-regulation environment, separate public listing, limitations on major transactions without minority shareholder consent.

SS – Stronger subsidiary. JV – Joint venture
Source: Fitch Ratings

Path SS Notching Matrix

Access and Control	Open	Porous	Insulated
With Open Ring-Fencing	Consolidated	Consolidated + 1	Consolidated + 2
With Porous Ring-Fencing	Consolidated +1	Consolidated + 2	Consolidated + 2
With Insulated Ring-Fencing	[a]	Standalone	Standalone

[a]It is unlikely that considerations for "insulated" legal ring-fencing would co-exist with the conditions outlined under 'open' for access and control. It is more likely that other factors relevant to legal ring-fencing or access and control, but not within this table, would move either one or both of the individual LFAs to a "porous" level that would lead to a consolidated + 1, consolidated + 2 or standalone outcome. SS – Stronger subsidiary
Source: Fitch Ratings

Path SP: Linkage Factor Assessment

		Low Incentive	Medium Incentive	High Incentive
Legal Incentive	Guarantees	Absence of measures listed under "medium" and "high," or only soft support factors (e.g. letter of comfort)	Guarantees are in place but coverage and permanence is less certain than for "high" (e.g. guarantee for 20%–50% of debt)	Parent guarantees a major portion of subsidiary's long-dated debt (greater than 50%) with confidence in the stability of the financial policy
	Other Legal Ties	—	Cross-defaults with moderate permanence or with limitations on scope; and/or other support language — profit- and loss-sharing agreements/undertakings regarding subsidiary liquidity, etc.	Cross-default/acceleration language in parent's long-dated public debt documents with reasonable certainty about the permanence of the cross-default/cross-acceleration provisions
Strategic Incentive	Financial Contribution	Low financial or asset value contribution to future group profile	Reasonable material financial or asset value contribution to future group profile	Substantial financial or asset value contribution to future group profile
	Competitive Advantage	Subsidiary provides no material competitive advantage to the parent	Subsidiary provides a material competitive advantage	Subsidiary provides critical competitive advantage to parent

Path SP: Linkage Factor Assessment

		Low Incentive	Medium Incentive	High Incentive
	Growth Potential	Secular decline, sunset phase, negative growth prospects	Moderate growth potential, in area of reasonable materiality to group profile	Rapid growth anticipated, very favorable long-term prospects material to the group profile
Operations Incentive	Operational Synergies	Avoidance cost of the subsidiary's operational benefits to the parent are not material	Avoidance cost for the parent is reasonable	Avoidance cost of the subsidiary operational benefits to the parent would be substantial
	Management and Brand Overlap	No common management and/or sharing of product/service branding, or bundling of products/services	Some material common management/sharing of brands, or bundling of major products/services	Fully integrated management decisions and product/service branding, and/or fully integrated bundling of critical products/services

SP – Strong parent
Source: Fitch Ratings

Path SP Notching Matrix

Strategic and Operational Incentives	Both Low	One Medium, One Low	Both Medium or One High, One Low	One High, One Medium	Both High
With Low Legal Incentive	Standalone	BU+1[a]	BU+2[a]	TD-1[b]	Equalized
With Medium Legal Incentive	BU+1[a]	BU+2[a]	TD-1[b]	Equalized	Equalized
With High Legal Incentive	Equalized	Equalized	Equalized	Equalized	Equalized

[a]BU rating outcomes are capped at TD-1, where the subsidiary's SCP is more than one notch away from the consolidated profile. Where the subsidiary's SCP is one notch below the consolidated profile, the subsidiary's rating will be equalized. [b]TD-1 rating outcomes will be equalized where the subsidiary's SCP is one notch below the consolidated profile.
BU – Bottom-up, notched from the lower SCP. TD – Top down, notched from the consolidated profile. SCP – Standalone Credit Profile.
Source: Fitch Ratings

Recovery Analysis Methodology for Issuers Rated 'B+' or Below

Step 1: Estimate a Post-Restructuring Enterprise Value (EV) or Liquidation Value (LV)

In deriving a consolidated EV, Fitch may also separate the company's operating units by segment or by region to apply the most relevant valuation method to the various components.

Going Concern (GC) Approach — Cash Flow Multiple

Fitch's most often used method involves two elements:

- **GC EBITDA Analysis:** Fitch estimates a GC EBITDA, which assumes both depletion of the current position to reflect an assumed cause of distress that provoked default, and a level of corrective action assumed to occur during restructuring. This aims to establish the level of post-restructuring cash flow upon which it is most appropriate to base the valuation.
- **Multiple Selection and Application:** Fitch applies a multiple reflecting a company's individual financial and operational characteristics, industry dynamics and comparable peer data within the regional band.
  - **U.S.:** 4.0x–8.0x, with a 6.0x midpoint.
  - **Rest of the World:** 3.0x–7.0x, with a 5.0x midpoint.
    The differential between regional ranges reflects lower transparency of insolvency valuation outside the U.S., historical public market trading multiple differentials and a generally less issuer-friendly process where liquidations immediately after default at trough-point valuations are more frequent.

Four key factors determine the multiple assumption within the regional range:

- **Industry Dynamics:** Subfactors include whether the sector is in a growth phase or in secular decline, the degree of barriers to entry, the regulatory environment and supply-chain concentration levels.
- **Company Business:** This includes an issuer's competitive position and operating profile. Subfactors that determine whether the multiple should be situated low, medium or high in the range include market share, customer churn rates, counterparty risk of customers, intangible value, the elasticity of end-market demand and asset quality.
- **Company Financial Position:** Subfactors range from scale, historical and anticipated cash flow trajectory, to certainty of revenues, margins and operating leverage.
- **Peer Comparables:** This factor evaluates data for multiples applied for close peers and for relatively large sectors, the sector midpoint, recent market M&A transaction multiples for comparable companies, public market trading multiples of close peers or historical distressed sales and reorganization data from bankruptcy studies, to the extent available.

Traded Asset Value — Acceptable for industry sectors with valuation approaches for assets that are actively traded on exchanges or frequently bought or sold.

Recovery Analysis Methodology for Issuers Rated 'B+' or Below

	Discounted Cash Flow — Acceptable when future cash flows can be estimated with adequate precision.
Liquidation Value (LV) Approach	Involves discounting the book value of balance sheet assets and summing the results to estimate the total asset liquidation proceeds in a hypothetical liquidation process

Step 2: Estimating Creditor Claims

Fitch estimates existing claims through:

- Claims that are typically taken on as a credit quality deteriorates;
- Claims that are necessary to the reorganization process; and
- Claims that have priority under the relevant bankruptcy code.

Fitch's analysis includes the following:

- Revolving claims;
- Priority and administrative claims;
- Lease-related claims ;
- Concession assumption;
- Pension and other post-employment benefit (OPEB) obligations;
- Other nondebt and contingent claims.

Step 3: Distribute the Greater of the EV or LV According to Priority

After the valuation is complete, the total estimated amount is allocated to creditors according to the relative seniority of their claims (the waterfall, with the surplus recovery over the most senior claim, if any, flowing down to the next priority).

The following factors may affect the distribution of value in Fitch's analysis:

- **Structural Subordination:** Organization structure can also affect priority in all jurisdictions.
- **Treatment of Cash Balances:** The general assumption is that cash and cash equivalents on the balance sheet dissipate prior to bankruptcy or during the process.
- **Considerations Primarily for U.S. Issuers:**
  - **Absolute Priority:** Unsecured administrative claims must be paid in full before secured claims for a Chapter 11 Plan of Reorganization (or Plan of Liquidation) to be confirmed.
  - **Guarantee Contributions:** Fitch allocates the guarantee burden proportionally among the guarantors with sufficient liquidity and/or cash flow available to perform under the guarantee (unless contra-indicated by jurisdictional practice or provisions of the guarantee agreement).
  - **Nondomestic Subsidiaries:** Value from foreign subsidiary guarantees of debt or residual equity value available is factored into the recovery waterfall at the appropriate relative priority level of the claim.
  - **Treatment of ABL Facilities:** In the case of ABL facilities with credit-protective features, Fitch assumes ABL debt is senior to other first-lien debt claims that do not share a first lien on the working capital asset collateral.

ABL – Asset-backed loan
Source: Fitch Ratings

Recovery Ratings (RR) Scale

Recovery Rating	Description	WGRC (%)	Issue Notching for 'B+' and Lower IDRs
RR1	Outstanding	91–100	+3 (first-lien debt only)
RR2	Superior	71–90	+2 (second-lien and unsecured are capped at 'RR2')[a]
RR3	Good	51–70	+1
RR4	Average	31–50	+0
RR5	Below Average	11–30	–1
RR6	Poor	0–10	–2 to –3[b]

[a]Unless the issuer is a structurally senior subsidiary issuer in a multilevel corporate group structure. [b]As many junior debt instruments may be rated 'RR6', varied notching enables differentiation in subordination of the debt within this category. IDR – Issuer Default Rating. WGRC – Waterfall-generated recovery computation. Note: In the bespoke approach, we apply 'RR2' caps to unsecured and second-lien instruments, except when issued by structurally senior operating subsidiaries in a multitier corporate structure. RRs on subordinated debt that ranks after senior secured debt and senior unsecured debt in the priority of payment would typically be capped at 'RR4'. RRs in the Native American gaming sector are capped at 'RR2'. Regardless of IDR, some sectors may benefit from above-average recovery assumptions upon default and receive an uplift. We refer to these sectors as Uplift Sectors in this report and they currently include equity REITs and equivalent property investment companies (PICs), collectively referred to as REITs, and regulated utility companies.
Source: Fitch Ratings

'B+' and Below IDR/Debt Instrument Mapping

IDR	B+	B	B–	CCC+	CCC	CCC–	CC	C/RD/D
RR1	BB+	BB	BB–	B+	B	B–	CCC+	CCC
RR2	BB	BB–	B+	B	B–	CCC+	CCC	CCC–
RR3	BB–	B+	B	B–	CCC+	CCC	CCC–	CC
RR4	B+	B	B–	CCC+	CCC	CCC–	CC	C

'B+' and Below IDR/Debt Instrument Mapping

IDR	B+	B	B–	CCC+	CCC	CCC–	CC	C/RD/D
RR5	B	B–	CCC+	CCC	CCC–	CC	C	C
RR6	B–/CCC+[a]	CCC+/CCC[a]	CCC/CCC–[a]	CCC–/CC	CC/C[a]	C	C	C

[a]Differentiation in notching between two instruments at the 'RR6' level depends on structural and contractual features. Where there is only a single instrument at the 'RR6' level, –2 notching from the IDR will apply. IDR – Issuer Default Rating. RR – Recovery Rating. RD – Restricted Default
Source: Fitch Ratings

Notching for 'BB' Category Issuers (Excluding Uplift Sectors)

	BB+		BB		BB–	
	RR	Notching	RR	Notching	RR	Notching
Super Senior Revolving Credit Facility	RR1	+1	RR1	+2	RR1	+2
Asset-Backed Loan (ABL) Facility	RR1	+1	RR1	+2	RR1	+2
Category 1 First Lien[a]	RR1	+1	RR1	+2	RR1	+2
Category 2 First Lien	RR2	+1	RR2	+1	RR2	+2
Second Lien/Unsecured	RR4	+0	RR4	+0	RR4	+0
Subordinated	RR5	–1	RR5	–1	RR5	–1
Deeply Subordinated	RR6	–2	RR6	–2	RR6	–2

Category 2 First-Liens Include:

- First liens ranked contractually, structurally or practically junior to ABL facilities;
- First liens with excessive fully drawn secured gross leverage, measured as secured gross debt of all liens greater by 50% than the midpoint of 'BB' category leverage expectations for that sector;
- First liens for enterprises with a projected enterprise value (EV) of less than $250 million using the sector's median multiple for that region;
- First liens secured only by a subsidiary equity pledge and where there is material subsidiary-level debt;
- First liens for financial investment vehicles or similar entities where the collateral is composed of minority equity holdings;
- First liens secured on collateral composed of assets with unusually speculative or hard to verify valuations (e.g. art work, musical performance rights);
- First liens that otherwise exhibit capital structure or EV characteristics detrimental to the first-lien loan recovery prospects sufficient to preclude the likelihood of an ultimate recovery rating better than 'RR2';
- All first-lien instruments issued by non-U.S.-based borrowers, or where the majority of EV is outside the US. First-lien instruments issued by non-U.S.-based borrowers but secured by assets that are predominantly in the U.S. could still be eligible for Category 1 treatment.

[a]Category 1 first-liens are reserved for first liens of U.S.-based borrowers that do not feature any of the limitations in Category 2 on a current or projected basis.
IDR – Issuer Default Rating. RR – Recovery Rating
Source: Fitch Ratings

U.S. Leveraged Finance Research

Date	Report Title
3/22/23	Retail Bankruptcy Enterprise Values and Creditor Recoveries (2023 Fitch Case Studies)
2/28/23	Tech Defaults Lift US Loan Rate to 1.9%; Top Market Concern List Grows
2/15/23	US CLOs Get Credit Pressure Reprieve in January
2/14/23	U.S. HY Default Rate Inches Higher; Diamond Sports Default Looming
2/9/23	Airline and Transportation Bankruptcy Enterprise Values and Creditor Recoveries (2023 Fitch Case Studies)
2/9/23	U.S. Middle Market Chart Book: Fourth-Quarter 2022 (Lighter MM Loan Issuance; MM LBO Activity Drops Sharply; LBO Equity Contributions Rise)
2/2/23	U.S. Leveraged Finance Chart Book: Fourth-Quarter 2022 (Institutional Loan, High Yield Issuance Stagnant; Loan Credit Deterioration Accelerates)
1/27/23	Automotive Bankruptcy Enterprise Values and Creditor Recoveries (2022 Fitch Case Studies)
1/25/23	Fitch U.S. Leveraged Loan Default Insight (2023 LL Default Rate Band Tightened to 2.5%–3.0% on Growing Macro Headwinds; 2022 Ends at 1.6%)
1/24/23	Global CLO 4Q22 Activity Struggles Amid High Spreads, Low Corporate Issuance
1/20/23	U.S. MM CLOs End 2022 Stable, 'CCC', Permitted Deferrables Increasing
1/19/23	U.S., Europe Semi-Annual Default Insight (2022–2024 Cumulative Default Rates Expected Well Below 2007–2009 Levels)
1/18/23	Fitch U.S. High Yield Default Insight (2023 HY Default Rate Tightened to 3.0%–3.5% on Growing Macro Headwinds; 2022 Finishes at 1.3%)
1/12/23	US 2023 LL, HY Default Forecast Lifted by Growing Macro Headwinds
1/12/23	U.S. CLOs Structurally Resilient Amid Corporate Rating Pressures
1/3/22	Fitch 50 Organizational Structures Book (Corporate Structures for 50 Prominent U.S. Leveraged Issuers)
12/16/22	Macroeconomic Uncertainty Will Weigh on US CLO Sectors in 2023
12/16/22	US CLO OC Levels Stable as Weak Exposure Creeps Up
12/15/22	U.S. and Euro Corporate Default Rates to Continue Ascent in 2023, 2024
12/13/22	US Leveraged Finance Outlook 2023
12/12/22	High-Yield Energy Market Shrinking (E&P and Oilfield Services Sectors Becoming Smaller but Stronger)
12/6/22	Leveraged Finance Structure Series: Global Treatment of Junior Capital Debt and Leverage
11/29/22	Fitch U.S. Leveraged Loan Default Insight (Distressed Debt Exchanges Propel YTD Rate to 1.5%)
11/15/22	Fitch U.S. High Yield Default Insight (YTD Default Rate Inches Up to 1.3%; Top Market Concern Total Grows)
11/14/22	U.S. Investment-Grade Bond Market Monitor (Debt Issuance to Decline a Second Consecutive Year as Interest Rates Continue to Rise)
11/2/22	Healthcare, Food, Beverage and Consumer Bankruptcy Enterprise Values and Creditor Recoveries (2022 Fitch Case Studies)
10/31/22	U.S. Leveraged Finance Chart Book: Third-Quarter 2022 (3Q22 Institutional Loan, High Yield Issuance Dragged Down by Recessionary Concerns)
10/26/22	Fitch U.S. Leveraged Loan Default Insight (Market Concern Loan Total Soars; YTD Default Rate Reaches 1.4%)
10/14/22	U.S. MM CLOs Maintain Stable Performance with Mild Uptick in 'CCC' and Defaults
10/13/22	Recent US CLOs Post Stable Metrics Amid Credit Weakening
9/30/22	Fitch U.S. Leveraged Loan Default Insight (2023 Loan Default Forecast Raised to 2.0%–3.0%; 2024 Projected at 3.0%–4.0%)v
9/26/22	Fitch U.S. High Yield Default Insight (Bausch Health's DDE Lifts YTD Default Rate Above 1%; Top Market Concern Total Highest Since June 2020)
9/14/22	Slew of Defaults Inflate U.S. CLOs' Weak Exposure
9/13/22	Energy, Power and Commodities Bankruptcy Enterprise Values and Creditor Recoveries (2022 Fitch Case Studies)
8/30/22	Fitch U.S. Leveraged Loan Default Insight (Healthcare Defaults Propel YTD Rate to 1%; Cineworld Bankruptcy Looms)
8/23/22	Revolver Facilities Achieve Strong Recoveries (Creditor Outcomes Remain Strong, Despite Elevated Utilization Rates at Bankruptcy)
8/11/23	Fitch U.S. High Yield Default Insight (TTM Default Rate Could Hit 1% in August; Top Market Concern Total Grows)
8/9/22	CLO Manager Bond Allocations Show Modest Rise (Utilization Remains Well Under Limits)
7/28/22	U.S. Leveraged Finance Chart Book: Second-Quarter 2022
7/21/23	U.S., Europe Semi-Annual Default Insight (Default Rates Anticipated to Increase in 2023; Market Concern Totals Grow)
7/20/22	US Corporate Debt Issuance to Weaken as Rates Rise
7/12/23	Default Exposure Low for US CLOs; 'B-' Exposure Building
7/11/22	What Investors Want to Know: Growth of Private Debt in the Middle Market (Demand for Private Debt Continues Despite Economic Uncertainty)

U.S. Leveraged Finance Research

Date	Report Title
7/7/22	Globalization of Asset Managers Continues (More European Platforms Setting Up in the U.S.)
7/6/22	Telecom, Media and Technology Bankruptcy Enterprise Values and Creditor Recoveries (2022 Fitch Case Studies)
6/27/22	Terms & Conditions Series: Asset Sales (Borrowers Have Increasing Flexibility to Divert Proceeds from Reaching Lenders)
6/22/22	Fitch Ratings Raises 2023 U.S. Loan Default Forecast to 1.5%-2%
6/21/22	2022 US LevFin Outlook Remains Neutral Despite Macroeconomic Risks
6/21/22	CLO Manager Survey: 2022 (Loan Assets Increase, Staff Sizes Remain Adequate, ESG More in Focus)
6/21/22	CLO Survey Highlights Staffing Stability, ESG Development, and Heightened M&A Activity
6/14/22	Fitch U.S. High Yield Default Insight (2023 Default Forecast Raised to 1.25%–1.75%; Rate Could Trend Higher in 2024)
6/13/22	US LL, HY Default Rates to Rise Slightly in 2023, Exceed 2% by 2024
6/7/22	Winds Blowing but Metrics Mostly Stable for US CLOs in May
5/27/22	More US CLO Managers Considering ESG in Investment Decisions
5/24/22	US Institutional Lev Loan Issuance Slowed in March, Bids Show Some Stress
5/24/22	US Investment-Grade Bond Market Nears $5T, Despite Rising Rates
5/20/22	YTD U.S. Institutional Leveraged Loan Default Rate at 0.5%
5/17/22	CLO Asset Manager Handbook (May 2022)
5/13/22	Gaming, Leisure, Lodging and Restaurant Bankruptcies See Above-Average Multiples
5/12/22	Record LevFin Issuance in 2021; Corporates Resilient Despite Macro Concerns
5/11/22	U.S. HY YTD Default Rate Remains Low Despite May Pickup
5/11/22	US CLO Performance Stable Amid Signals of Asset Quality Weakening
5/5/22	First-Lien BSL and MM Recovery Prospects Remain Solid

Source: Fitch Ratings

Additional Corporates and Relevant Research

Date	Report Title
3/2/23	Excess Inventory More a Drag for U.S. Chips Sector than Export Ban
2/23/23	Global Quantitative Tightening Will Be USD2trn Over Next Two Years
2/13/23	Failure to Address Debt Ceiling a Risk for Some U.S. Corporates
2/9/23	Inflation, Cost of Capital and Politics in Focus for Global Credit
2/7/23	U.S. and Canadian E&P Transactions -- 2H22 (Permian and Royalty Deals Continue, Eagle Ford Consolidation Returns and Canadian Transactions Pick Up)
2/6/23	Aggressive Fed Tightening Cycle Will Further Dampen US Consumer Spending in 2023
2/6/23	US Fiscal Tailwinds Are Fading as Spending Challenges Grow, Debt Limit Reached
2/3/23	Rating Trends Point to Downside Risk for Global Corporate Ratings
1/31/23	U.S. Industrials Positioned to Offset Inflationary Cost Pressures
1/30/23	NA Corporate Downgrades Exceed Upgrades for Second Straight Quarter
1/27/23	Tax Changes to Compound Pressures for Highly-Levered US Corporates
1/24/23	What Investors Want to Know: Diversified Manufacturing, Capital Goods and Aerospace & Defense 2023 Expectations (Sector-Specific Momentum Mitigates Economic Risks)
1/24/23	What Investors Want to Know: Transport — Autos, Airlines and Logistics (Key Trends to Watch amid Expected Economic Downturn)
1/9/23	U.S. Gaming - Relative Credit Analysis
1/8/23	Macro Risks Drive Global Corporate Revenue Forecasts Down
1/6/23	2023 Outlook: Headroom Supports Corporate Ratings as Economy Falters
1/5/23	Macro Challenges Dominate Credit Risk: 2023 Global Outlook Overview
12/22/22	U.S. Cruise Operators Unlikely to Repair Balance Sheets in Near Term
12/20/22	U.S. Health Insurers to Weather Industry Challenges, Higher Utilization
12/15/22	US and EMEA Food, Beverage, Tobacco and Consumer Outlook 2023
12/14/22	Global Chemicals Outlook Deteriorates on Supply-Demand Imbalance

Additional Corporates and Relevant Research

Date	Report Title
12/14/22	Global Mining Outlook 2023
12/14/22	NA IG Corporates Outlook Is Neutral Despite Macro Headwinds
12/14/22	North American Steel Outlook 2023
12/13/22	Global Steel Outlook 2023
12/13/22	U.S. Healthcare — Medical Devices, Healthcare Providers and Pharmaceuticals Outlook 2023
12/12/22	North American Paper & Packaging Outlook 2023
12/9/22	Degrees and Rates of Deterioration to Vary Across US Tech in 2023
12/9/22	Global Gaming Outlook 2023
12/9/22	Potential Recession and Scarce Capital to Temper U.S. REITs Pandemic Recovery in 2023
12/9/22	U.S. Retailing Outlook 2023
12/8/22	Global Auto Manufacturers and Suppliers Outlook 2023
12/8/22	Global Transportation - Airlines Outlook 2023
12/8/22	North American Energy (Oil & Gas) Outlook 2023
12/8/22	U.S. Environmental Services Outlook 2023
12/7/22	North American and European FinTech Outlook 2023
12/7/22	North American Building Products and Materials Outlook 2023
12/7/22	North American Utilities, Power & Gas Outlook 2023
12/7/22	U.S. and Canadian Telecommunications and Cable Outlook 2023
12/7/22	U.S. Business Services Data and Analytics Outlook 2023
12/7/22	U.S. Media, Broadcasting & Entertainment Outlook 2023
12/7/22	U.S. Technology Outlook 2023
12/6/22	North American Midstream Energy Outlook 2023
12/6/22	U.S. Leisure Outlook 2023
12/5/22	North American Midstream: 3Q22 Earnings Wrap-Up (Yoy EBITDA Higher and Credit Quality Intact; Demand for U.S. Hydrocarbons Up)
12/1/22	U.S. Diversified Industrials and Capital Goods Outlook 2023
11/30/22	Global Aerospace & Defense Outlook 2023
11/28/22	North American Chemicals Outlook 2023
11/23/22	U.S. Utilities: Mostly Strong Quarterly Earnings; Bill Affordability in Focus (3Q22 Earnings Wrap-Up)
11/15/22	Commercial Mortgage REIT Cash Earnings Supported by Higher Rates
11/14/22	North American Exploration & Production: High Yield -- Peer Review
11/9/22	U.S. Refinery Ratings Unaffected by Exceptionally High Crack Spreads (Refining Margin Trend Reversal Expected in 2023)
11/9/22	US Consumer Discretionary Sectors Face Rocky and Uneven 2023
11/1/22	FinTech: Reset to the New Normal (U.S. FinTech Thoughts After the Money 20/20 Conference)
10/25/22	Recession, Strong Dollar May Stall NA Chemicals Momentum in 2023
10/19/22	US Recession Could Pressure Aircraft Deliveries, Delevering Plans
10/19/22	US Recession May Temper Steel Sector Ratings Momentum
10/17/22	Pent-Up Demand to Balance Softer Pricing for US Autos in 2023
10/17/22	What Investors Want to Know: North American Steel (Rethinking Steel: The Shift Toward Value-Added Production)
10/13/22	North American Utilities, Power & Gas Capex Dashboard: 4Q22 (Green Goals Drive Record Spending)
10/12/22	Macau Gaming Recovery Remains Distant, Despite Recent Travel Easing
10/11/22	North American Chemicals Issuers Increase Sustainability Investments (Issuers Take Meaningful Action on Sustainability)
10/11/22	North American Oil Refining and Marketing – Peer Review
10/5/22	Strengthening US Dollar Adds to US Corporates' Macro Headwinds
10/3/22	US Office Utilization Rates Rising Toward New, Lower Normal
9/19/22	Secular Trends to Balance Weaker Macro for US Industrials
9/9/22	U.S. Corporate Earnings Likely to Increasingly Signal Recession and Stagflation Risks (Fitch Forecast Assumptions Consider a Downturn, Particularly for Cyclical Sectors)

Additional Corporates and Relevant Research

Date	Report Title
9/8/22	Regulatory Challenges May Lower M&A Event Risk for US Corporates
9/1/22	Healthcare and Pharma Credit Rounds: 2Q22 (Rating Actions Increasingly Negative)
8/29/22	What Investors Want to Know: Wildfires and California Investor-Owned Utilities (A Path to Upgrades Amid Record Wildfire Activity and Drought)
8/24/22	U.S. and Canadian E&P Transactions - 1H22 (Large Mergers Return, Gas Deals Slow and Royalty Transactions Pick Up)
8/18/22	North American Corporates — 3Q22 Base Case Forecast Updates (Macroeconomic Uncertainty and Supply Chain Risk Persists)
8/16/22	Possibility of Severe U.S. Housing Downturn Grows, but Not Yet Probable (Financial Policy Discipline Key to Homebuilder Ratings)
8/12/22	Airline Fundamentals Improving but Risk to Recovery is Rising
8/8/22	North American Paper and Packaging Companies Increase Share Repurchases (Healthy Cash Flows Support Buybacks within Credit Profiles)
8/5/22	Behavior Changes, Supply Chains, Challenge US Retailers
8/4/22	FMCG Companies' Margins Squeezed by Costs, Lower Consumer Spending
8/3/22	North American Midstream: 2Q22 Earnings Wrap-Up (Broad-Based and Large Profit Increase)
8/2/22	Higher Interest Rates Increase Risk for Cruise Operators (Credit Profile Improvements Challenging Despite Demand Recovery)
8/1/22	U.S. and EMEA Corporates Positioning Analysis (Increased Risks in Sectors Exposed to Stagflation)
7/22/22	US Bank 2Q22 Earnings Decline as Macroeconomic Uncertainty Persists
7/20/22	US Corporate Debt Issuance to Weaken as Rates Rise
7/18/22	US Drug Legislation to Weigh on Global Pharma Growth and Margins
7/14/22	Apparel, Durable Goods Retail Most Vulnerable to Climate Risk
7/13/22	Secular Risks Prompt Tighter Office REIT Rating Sensitivities
6/30/22	NA Corporate Sector Outlooks Neutral/Improving, Despite Macro Risks
6/30/22	Supply Shortages Support Metals Prices Despite Demand Challenges
6/27/22	What Investors Want to Know: North American Oil & Gas (Credits in Transition, Russia-Ukraine Effects Top the List of Investor Questions)
6/21/22	Competition, Rising Rates Shift Investing and Funding Focus for BDCs
6/21/22	Global Corporates: 2022 Sector Outlook Updates
6/21/22	Interest, Rate Rises and Stagflation Risks Drive Deterioration in Sector Outlooks
6/14/22	U.S. Utilities: Sales Near Pre-Pandemic Levels; Solar Projects Hit a Snag (1Q22 Earnings Wrap-Up)
6/8/22	New BDC Structure Adds to Competitive U.S. Middle-Market Landscape
6/8/22	US Consumer Spending Supported by Strong Job and Wage Growth
6/6/22	North American Midstream: 1Q22 Earnings Wrap-Up (Credit Quality Better and Better)
6/2/22	Pent-Up Demand, Liquidity Should Limit US Airlines' Stagflation Risk
5/31/22	Rising Rates to Benefit BDC Returns, Portfolio Credit a Watch Item
5/23/22	Healthcare and Pharma Credit Rounds: 1Q22 (Most Long-Term Credit Profiles Remain Intact)
5/18/22	Fertilisers to Face Uneven Impact from Energy Transition
5/16/22	Avian Flu May Further Exacerbate US Protein Supply Disruptions
5/16/22	US E&Ps Uniquely Positioned to Benefit from Rising Rates to De-lever
5/10/22	2022 North American Onshore E&P Guidance (Small Producers Regain Growth Momentum, Large Producers Remain Disciplined)
5/10/22	US Homebuilders Poised for Modest Downturn, Stagflation Adds Risk
5/5/22	Stagflation Would Raise Liquidity and Refinancing Risks for Airlines and Auto Suppliers (Airlines, Auto Suppliers Are More Exposed Than Auto Manufacturers)
5/5/22	TMT's Low Climate Vulnerability, but Growing Social Risks
5/3/22	Cement Most Vulnerable to Climate Risk Among Building Materials
4/27/22	Ransomware a Growing Cyber Risk for US Corporates, Financials, Govt

Source: Fitch Ratings

Fitch U.S. Corporate Finance Contact List

Name	Title	Market Sector Coverage	Phone	Email
Jeremy Carter	Global Head of Corporates	Corporate Finance	+44 20 3530-1391	jeremy.carter@fitchratings.com
Megan Neuburger	Regional Group Head - U.S. and Canada Corporate Ratings	Corporate Finance	+1 212 908-0501	megan.neuburger@fitchratings.com
Shalini Mahajan	Managing Director	Corporate Finance	+1 212 908-0351	shalini.mahajan@fitchratings.com
Frederic Gits	Global Group Credit Officer	Corporate Finance	+33 01 44 29 91 84	frederic.gits@fitchratings.com
Alex Bumazhny	Group Credit Officer U.S. and Canada	Corporate Finance	+1 212 908-9179	alex.bumazhny@fitchratings.com
Healthcare & Pharma Group				
Britton Costa	Managing Director	Group Head — Healthcare & Pharma	+1 212 908-0524	britton.costa@fitchratings.com
Patrick Finnegan	Senior Director	Healthcare & Pharma	+1 646 582-4620	patrick.finnegan@fitchratings.com
Todd Corsair	Senior Director	Healthcare & Pharma	+1 212 908-0505	todd.corsair@fitchratings.com
Robert Kirby	Director	Healthcare & Pharma	+1 312 368-3147	robert.kirby@fitchratings.com
Yi Liu	Director	Healthcare & Pharma	+1 647 799-6162	yi.liu@fitchratings.com
Steven Hicks	Associate Director	Healthcare & Pharma	+1 212 908-0265	steven.hicks@fitchratings.com
Harold Chen	Associate Director	Healthcare & Pharma	+1 212 908-0872	harold.chen@fitchratings.com
Industrials & Transportation				
Dino Kritikos	Managing Director	Group Head — Industrials and Transportation	+1 312 368-3150	dino.kritikos@fitchratings.com
Eric Ause	Senior Director	Diversified Industrials & Capital Goods	+1 312 606-2302	eric.ause@fitchratings.com
Stephen Brown	Senior Director	Autos and Transportation	+1 312 368-3139	stephen.brown@fitchratings.com
Joseph Rohlena	Senior Director	Airlines, Transportation and EETCs	+1 312 368-3112	joseph.rohlena@fitchratings.com
Nicholas Varone	Senior Director	A&D, Diversified Manufacturing	+1 212 908-0349	nicholas.varone@fitchratings.com
Yee Man Chin	Senior Director	Diversified Industrials	+1 312 606-2332	yeeman.chin@fitchratings.com
Emari Wydick	Senior Director	Diversified Industrials	+1 312 606-2308	emari.wydick@fitchratings.com
Carlos Benedict	Director	Diversified Industrials	+1 312 606-2332	carlos.benedict@fitchratings.com
Joseph Fong	Director	Airlines, Transportation and EETCs	+1 646 582-3670	joseph.fong@fitchratings.com
Hugh Shim	Director	Diversified Industrials	+1 646 582-4494	hugh.shim@fitchratings.com
Leveraged Finance Group				
Lyuba Petrova	Senior Director	Group Head — Leveraged Finance	+1 646 582-4885	lyuba.petrova@fitchratings.com
Lyle Margolis	Senior Director	Leveraged Finance	+1 646 582-3589	lyle.margolis@fitchratings.com
Judah Gross	Senior Director	Leveraged Finance	+1 212 908-0884	judah.gross@fitchratings.com
Eric Rosenthal	Senior Director	Leveraged Finance	+1 212 908-0286	eric.rosenthal@fitchratings.com
Joshua Clark	Director	Leveraged Finance	+1 646 582-3421	joshua.clark@fitchratings.com
Kenneth Chan	Director	Leveraged Finance	+1 646 582-3458	kenneth.chan@fitchratings.com
Rey Stander	Associate Director	Leveraged Finance	+1 647 799-6191	rey.stander@fitchratings.com
Real Estate & Leisure Group				
Britton Costa	Managing Director	Group Head —Real Estate & Leisure	+1 212 908-0524	britton.costa@fitchratings.com
Colin Mansfield	Senior Director	Gaming, Lodging & Leisure	+1 212 908-0899	colin.mansfield@fitchratings.com
Robert Rulla	Senior Director	Homebuilding & Building Products and Services	+1 312 606-2311	robert.rulla@fitchratings.com
John Kempf	Senior Director	Real Estate & Leisure	+1 646 582-4710	john.kempf@fitchratings.com
Christopher Wimmer	Senior Director	Real Estate & Leisure	+1 646 582-3412	christopher.wimmer@fitchratings.com
Peter Siciliano	Director	REITs	+1 646 582-4760	peter.siciliano@fitchratings.com
Ryan O'Loughlin	Associate Director	Homebuilding & Building Products and Services	+1 646 582-4777	ryan.s.oloughlin@fitchratings.com
Connor Parks	Associate Director	Homebuilding & Building Products and Services	+1 312 606-3316	connor.parks@fitchratings.com

Fitch U.S. Corporate Finance Contact List

Name	Title	Market Sector Coverage	Phone	Email
Michael Brathwaite	Associate Director	Real Estate & Leisure	+1 647 558-0386	michael.brathwaite@fitchratings.com
Michelle Jensen	Associate Director	Real Estate & Leisure	+1 646 582-3405	michelle.jensen@fitchratings.com
Arslan Khawaja	Associate Director	Real Estate & Leisure	+1 647 264-0474	arslan.khawaja@fitchratings.com
Retail & Consumer Group				
Monica Aggarwal	Managing Director	Group Head — Retail & Consumer	+1 212 908-0282	monica.aggarwal@fitchratings.com
William Densmore	Senior Director	Tobacco, Beverage & Agri Products; Telecommunications & Cable	+1 312 368-3125	bill.densmore@fitchratings.com
David Silverman	Senior Director	Retail	+1 212 908-0840	david.silverman@fitchratings.com
John Chu	Director	Retail, Consumer	+1 647 932-7536	john.chu@fitchratings.com
Jonathan Reid	Director	Retail, Consumer	+1 647 492-0184	jonathan.reid@fitchratings.com
Timothy Lee	Director	Foodservice, Consumer	+1 512 215-3741	timothy.lee@fitchratings.com
Craig Sabatini	Director	Retail, Consumer	+1 212 908-0221	craig.sabatini@fitchratings.com
Emily Spain	Associate Director	Retail, Consumer	+1 646 582-4473	emily.spain@fitchratings.com
Lena Zheng	Associate Director	Retail, Consumer	+1 647 490-3726	lena.zheng@fitchratings.com
Technology, Media & Telecommunications Group				
David Peterson	Senior Director	Group Head — Technology, Media & Telecommunications	+1 312 368-3177	david.peterson@fitchratings.com
John Culver	Senior Director	Telecommunications	+1 312 368-3216	john.culver@fitchratings.com
Jack Kranefuss	Senior Director	Media & Entertainment	+1 212 908-0791	jack.kranefuss@fitchratings.com
Alen Lin	Senior Director	Technology	+1 312 368-5471	alen.lin@fitchratings.com
Jason Pompeii	Senior Director	Technology	+1 312 368-3210	jason.pompeii@fitchratings.com
Robert Galtman	Senior Director	Technology	+1 312 368-2053	robert.galtman@fitchratings.com
Kathleen Connelly	Director	Technology	+1 212 908-0290	kathleen.connelly@fitchratings.com
Kent Reynolds	Director	Technology	+1 212 908-0668	kent.reynolds@fitchratings.com
Cristobal Lozano	Director	Technology	+1 212 908-0874	cristobal.lozano@fitchratings.com
Salonie Sehgal	Director	Telecommunications	+1 312 368-3137	salonie.sehgal@fitchratings.com
Renos Tryphonas	Associate Director	Telecommunications	+1 647 933-0237	renos.tryphonas@fitchratings.com
Wunmi Adekanmbi	Associate Director	Technology, Media & Telecommunications	+1 647 800-8981	wunmi.adekanmbi@fitchratings.com
Rahul Bhojwani	Associate Director	Technology, Media & Telecommunications	+1 647 933-0263	rahul.bhojwani@fitchratings.com
Priyanka Bhuwania	Associate Director	Technology, Media & Telecommunications	+1 647 932-7532	priyanka.bhuwania@fitchratings.com
David Fisher	Associate Director	Technology, Media & Telecommunications	+1 647 800-8979	david.fisher@fitchratings.com
Mahdie Dashti	Associate Director	Technology, Media & Telecommunications	+1 647 977-1428	mahdie.dashti@fitchratings.com
Sukaina Dosani	Associate Director	Technology, Media & Telecommunications	+1 647 930-7973	sukaina.dosani@fitchratings.com
Utilities & Midstream Group				
Shalini Mahajan	Managing Director	Group Head — Utilities and Midstream	+1 212 908-0351	shalini.mahajan@fitchratings.com
Thomas Brownsword	Senior Director	Gas, Midstream and MLPs	+1 646 582-4881	thomas.brownsword@fitchratings.com
Barbara Chapman	Senior Director	Utilities, Power & Gas	+1 646 582-4886	barbara.chapman@fitchratings.com
Jodi Hecht	Senior Director	Utilities, Power & Gas	+1 646 582-4969	jodi.hecht@fitchratings.com
Philip Smyth	Senior Director	Utilities, Power & Gas	+1 212 908-0531	philip.smyth@fitchratings.com
Manish Consul	Director	Utilities, Power & Gas/ Midstream and MLPs	+1 212 908-0784	manish.consul@fitchratings.com
Michael Ruggirello	Director	Utilities, Power & Gas	+1 647 933-0261	michael.ruggirello@fitchratings.com

Fitch U.S. Corporate Finance Contact List

Name	Title	Market Sector Coverage	Phone	Email
Ivana Ergovic	Director	Utilities, Power & Gas/ Midstream and MLPs	+1 212 908-0354	ivana.ergovic@fitchratings.com
Julie Jiang	Director	Utilities, Power & Gas	+1 212 908-0708	julie.jiang@fitchratings.com
Audrey Ling	Director	Utilities, Power & Gas	+1 646 582-3472	audrey.ling@fitchratings.com
Daniel Neama	Associate Director	Utilities, Power & Gas	+1 212 908-0561	daniel.neama@fitchratings.com
Lindsay Mondragon	Associate Director	Utilities, Power & Gas/Midstream and MLPs	+1 212 908-0841	lindsay.mondragon@fitchratings.com
Prathamesh Sinha	Associate Director	Utilities, Power & Gas/ Midstream and MLPs	+1 647 417-3055	prathamesh.sinha@fitchratings.com
Simar Jolly	Associate Director	Utilities, Power & Gas/Midstream and MLPs	+1 647 556-8268	simar.jolly@fitchratings.com
Neeraj Mehra	Associate Director	Utilities, Power & Gas/ Midstream and MLPs	+1 647 930-8579	neeraj.mehra@fitchratings.com
Zhihua Zhang	Associate Director	Utilities, Power & Gas/ Midstream and MLPs	+1 647 693-3763	zhihua.zhang@fitchratings.com
Natural Resources Group				
Lucas Aristizabal	Managing Director	Group Head — Natural Resources	+1 312 368-3260	lucas.aristizabal@fitchratings.com
Michael Ainge	Senior Director	Natural Resources	+1 646 582-4701	michael.ainge@fitchratings.com
Monica Bonar	Senior Director	Basic Materials/Natural Resources	+1 212 908-0579	monica.bonar@fitchratings.com
Mark Sadeghian	Senior Director	Energy (Oil & Gas)	+1 312 368-2090	mark.sadeghian@fitchratings.com
Laura Christopher	Director	Natural Resources	+1 212 908-0822	laura.christopher@fitchratings.com
Slava Demchenko	Director	Natural Resources	+1 646 582-3659	slava.demchenko@fitchratings.com
Dana Dratch	Director	Energy (Oil & Gas)	+1 646 582-3688	dana.dratch@fitchratings.com
Joshua Drucker	Director	Natural Resources	+1 646 582-3549	joshua.drucker@fitchratings.com
Noah Naiditch	Director	Basic Materials/Natural Resources	+1 312 368-3130	noah.naiditch@fitchratings.com
Neil Stirrat	Director	Energy (Oil & Gas)	+1 647 933-0227	neil.stirrat@fitchratings.com
Jassim Ansari	Associate Director	Natural Resources	+1 646 582-3457	jassim.ansari@fitchratings.com
Ciaran Fingleton	Associate Director	Natural Resources	+1 647 799-6143	ciaran.fingleton@fitchratings.com
Daniel Michalik	Associate Director	Natural Resources	+1 312 606-3314	daniel.michalik@fitchratings.com
William Van Meerbeke	Associate Director	Basic Materials/Natural Resources	+1 646 582-4737	william.vanmeerbeke@fitchratings.com

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