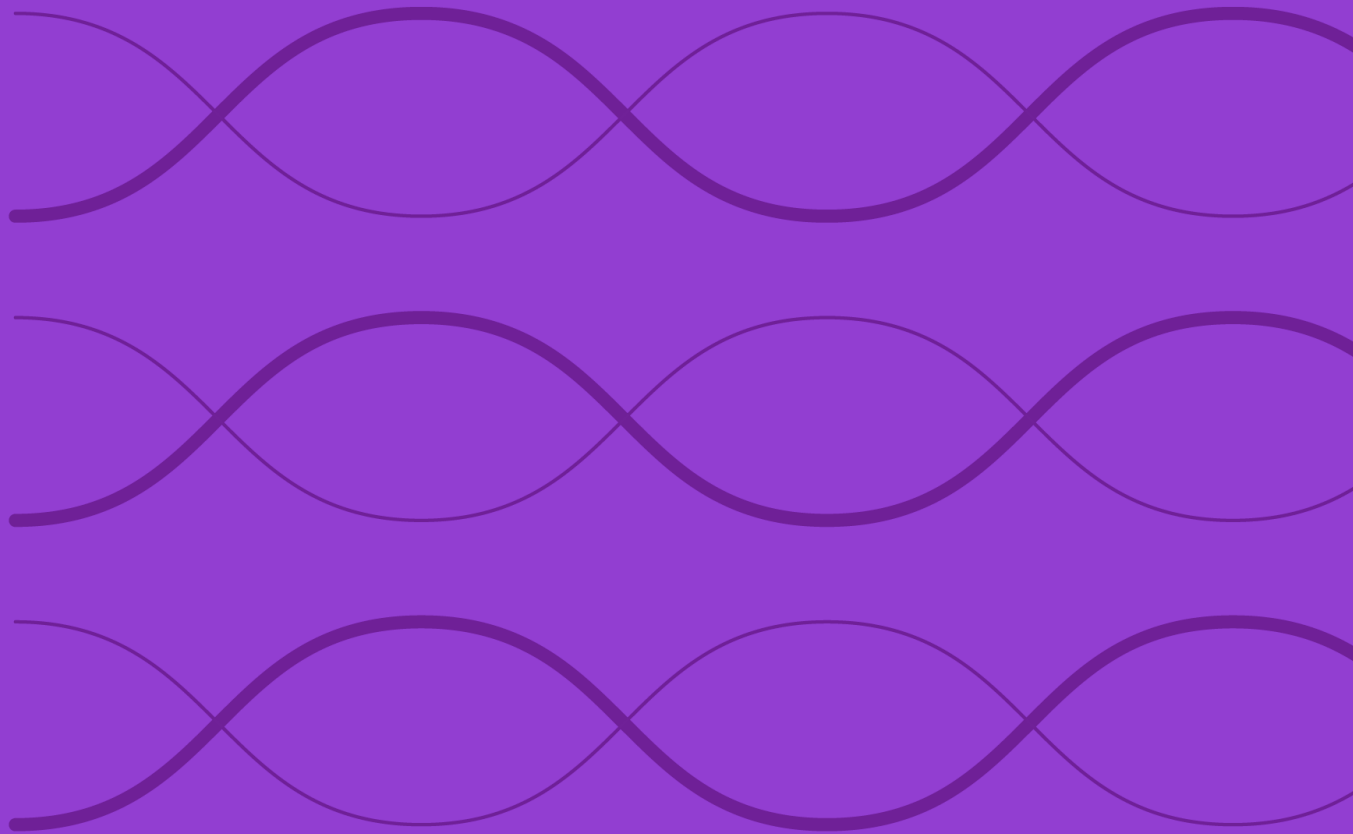


Morningstar Leveraged Loan Indexes Methodology



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Introduction

Index series objective and highlights

The Morningstar Leveraged Loan Indexes are designed to deliver comprehensive, precise coverage of the global leveraged loan market. Underpinned by PitchBook LCD data, the indexes bring transparency to the performance, activity, and key characteristics of the market.

Index series

The index series consists of four flagship indexes. For each flagship index, additional sub-indexes are available.

- **Morningstar LSTA US Leveraged Loan Index**

The Morningstar LSTA US Leveraged Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market.

- **Morningstar LSTA US Leveraged Loan 100 Index**

The Morningstar LSTA US Leveraged Loan 100 Index is designed to measure the performance of the 100 largest facilities in the US leveraged loan market. Index constituents are market value weighted, subject to a single loan facility weight cap of 1.90%.

- **Morningstar European Leveraged Loan Index**

The Morningstar European Leveraged Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market.

- **Morningstar Global Leveraged Loan Index**

The Morningstar Global Leveraged Loan Index is designed to measure the performance of the global leveraged loan market. It is a fixed-weight composite index consisting of 75% weight from the Morningstar LSTA US Leveraged Loan Index and 25% weight from the Morningstar European Leveraged Loan Index.

This methodology document sets out the rules by which the flagship indexes and the related sub-indexes are governed, including index calculation and management procedures, and the various formulas used to calculate index returns and other statistics.

This methodology was created to govern the management of the index series, and to ensure each index achieves the aforementioned objective of measuring the performance of the relevant section of the leveraged loan market. Any changes to or deviations from this methodology are made at the sole judgment and discretion of Morningstar Indexes so that the index(es) continues to achieve its objective.

Morningstar LSTA US Leveraged Loan Index

Technical description

The Morningstar LSTA US Leveraged Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market.

Index history

- Performance inception date (includes back tested history): December 31, 1996
- Live inception date: December 31, 2000

Note: The index was calculated on a monthly basis from December 31, 1996 to December 31, 1998. From January 1, 1999 until March 30, 2007, it was calculated on a weekly basis. From March 31, 2007 onwards, it has been calculated daily.

Starting universe

The starting universe consists of syndicated term leveraged loans that are held within top-tier institutional investor loan portfolios tracked by PitchBook LCD.

Index eligibility

- Seniority: senior secured
- Currency: USD denominated
- Minimum initial term: 1 year
- Minimum initial spread: Base rate + 125 bps
- Minimum initial issue size: \$50 million
- Domicile: all loans must be syndicated in the US, but issuers may be of any origin

Note: A loan in default will remain in the index (but does not accrue interest and is excluded from yield calculations) unless it fails to meet the stated eligibility criteria or has been repaid or restructured. Payment-in-kind (PIK) loans are not eligible for inclusion.

Base currency

The base currency of calculation for the Morningstar LSTA US Leveraged Loan Index is US dollars. The index is also calculated in additional currency variants.

Base rate

Each loan uses a base rate in the calculation of interest. The base rate is the average of the:

- 30-day rolling average of 1-month CME Term SOFR; and
- 90-day rolling average of 3-month CME Term SOFR

The base rate is determined and applied on Friday¹.

Loan interest rate

For each loan in the index, the loan interest rate is the base rate plus the spread for each loan. Loan spreads are updated weekly at the rebalancing date. At the index level, it is the par amount outstanding weighted average of all loan interest rates in the index.

Ratings

The index uses public facility level ratings from S&P Global Ratings, however a facility rating is not required for eligibility in the index.

Index weighting

At each rebalance, the index constituents are market value weighted.

¹ Prior to December 27, 2024, the base rate was calculated as the average of the 1-month synthetic USD LIBOR, 3-month synthetic USD LIBOR, 1-month Term SOFR, and 3-month Term SOFR contracted rates on institutional loans according to the Markit WSO Database. See Appendix II for additional details on the base rate methodology change.

Index pricing

Average bid price from LSTA/LSEG Mark-to-Market Pricing² is used to determine the market value of each loan. The index is priced daily using 3:00 PM Eastern Time US (New York) prices.

Rebalancing

The index is rebalanced on a weekly basis every Friday after the close and new membership is effective at the open on Saturday. Par amounts of index loans are adjusted on the weekly rebalancing date due to partial pre-payments, pay-downs, and other activities impacting par amount for each facility:

- Additions: Loans which meet the eligibility criteria will be added.
- Deletions: Loans are removed from the index when they are repaid, are no longer priced, or no longer meet the stated index eligibility criteria.
- Weekly index rebalancing maintenance is based on information available up to and including each Friday morning.

Sub-indexes and sub-index rules

The following sub-indexes are derived from the Morningstar LSTA US Leveraged Loan Index (the parent index). Unless otherwise specified, the sub-indexes follow all of the same index rules as the parent index in addition to the rules noted for each sub-index below:

Performing status

Performing loan indexes are subject to off-cycle (midweek) rebalancing in the event a loan is downgraded to D by S&P Global Ratings. Loans which are downgraded to D will remain in its original index for one day, marked as D. After the close the index will be rebalanced and the D rated loan will move out of the performing loan index and into the D ratings index. A loan which has met other criteria for default but has not yet been rated D will stop accruing interest and will be excluded from yield calculations but will remain in the given index.

All other credit quality movements will be reflected at the weekly rebalance on Fridays and will not be rebalanced midweek.

Morningstar LSTA US Performing Loan Index: The Morningstar LSTA US Performing Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans which are not in default as measured by an S&P Rating of D. Loans with ratings BBB- and above as rated by S&P Global Ratings are excluded.

Morningstar LSTA US Performing Loan ex-D Ratings Index: The Morningstar LSTA US Performing Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans which are not in default as measured by an S&P Rating of D. Loans with D ratings as rated by S&P Global Ratings are excluded.

Credit quality

Credit quality indexes are subject to off-cycle (midweek) rebalancing in the event a loan is downgraded to D by S&P Global Ratings. Loans which are downgraded to D will remain in its original index for one day, marked as D. After the close the index will be rebalanced and the D rated loan will move out of the original credit rating index and into

² Formerly known as LSTA/Refinitiv Mark-to-Market Pricing.

the D ratings index. A loan which has met other criteria for default but has not yet been rated D will stop accruing interest and will be excluded from yield calculations but will remain in the given index.

All other credit quality movements will be reflected at the weekly rebalance on Fridays and will not be rebalanced midweek.

Morningstar LSTA US BBB Ratings Loan Index: The Morningstar LSTA US BBB Ratings Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with BBB- to BBB+ Ratings as rated by S&P Global Ratings.

Morningstar LSTA US BB Ratings Loan Index: The Morningstar LSTA US BB Ratings Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with BB- to BB+ ratings as rated by S&P Global Ratings.

Morningstar LSTA BB- Ratings and Above Loan Index: The Morningstar LSTA US BB- Ratings and Above Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with BB- ratings and above as rated by S&P Global Ratings.

Morningstar LSTA US B/BB Ratings Loan Index: The Morningstar LSTA US B/BB Ratings Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with B- to BB+ ratings as rated by S&P Global Ratings.

Morningstar LSTA US B/BB Ratings Loan ex Utilities and Energy Index³: The Morningstar LSTA US B/BB Ratings Loan ex Utilities and Energy Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with B- to BB+ ratings excluding loans from issuers classified in the utilities and energy sectors.

Morningstar LSTA US B- Ratings and Above Loan Index: The Morningstar LSTA US B- Ratings and Above Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with B- ratings and above as rated by S&P Global Ratings.

Morningstar LSTA US B+ Ratings Loan Index: The Morningstar LSTA US B+ Ratings Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with B+ ratings as rated by S&P Global Ratings.

Morningstar LSTA US B Ratings Loan Index: The Morningstar LSTA US B Ratings Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with B- to B+ Ratings as rated by S&P Global Ratings.

Morningstar LSTA B- Ratings Loan Index: The Morningstar LSTA US B- Ratings Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with B- rating as rated by S&P Global Ratings.

Morningstar LSTA US CCC Ratings Loan Index: The Morningstar LSTA US CCC Ratings Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with CCC- to CCC+ ratings as rated by S&P Global Ratings.

³ The hedged variants of the Morningstar LSTA US B/BB Ratings Loan ex Utilities and Energy Index follows the Morningstar Currency Hedge Index Methodology with one exception as below:

The index is rebalanced monthly, usually on the last trading day of the month, using foreign currency weights and corresponding notional amounts determined as of one business day before the last business day of the month. This approach ensures that index calculation closely resembles the actual implementation lag seen in real-world portfolios. We assume this one day lag throughout the history including the back-tested performance.

Morningstar LSTA US C Ratings Loan Index: The Morningstar LSTA US C Ratings Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with C to CCC+ ratings as rated by S&P Global Ratings.

Morningstar LSTA US C/D Ratings Loan Index: The Morningstar LSTA US C/D Ratings Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with C or D ratings as rated by S&P Global Ratings.

Morningstar LSTA US D Ratings Loan Index: The Morningstar LSTA US D Ratings Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with D ratings as rated by S&P Global Ratings.

Morningstar LSTA Ex C/D Ratings Loan Index: The Morningstar LSTA US Ex C/D Ratings Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans excluding loans with D to CCC+ ratings as rated by S&P Global Ratings. Non-rated loans are also excluded.

Morningstar LSTA US Non-Rated Loan Index: The Morningstar LSTA US Non-Rated Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans which are not rated by S&P Global Ratings.

The following indexes are not subject to off-cycle (midweek) rebalancing in the event a loan is downgraded to D by S&P Global Ratings. Loans which are downgraded to D will remain in its original index until the weekly rebalance on Friday. A loan which has met other criteria for default but has not yet been rated D will stop accruing interest and will be excluded from yield calculations but will remain in the given index.

All other credit quality movements will be reflected at the weekly rebalance on Fridays and will not be rebalanced midweek.

Morningstar LSTA US BB/B Capped Index: The Morningstar LSTA US Leveraged Loan BB/B Capped Loan Index is a fixed weight index designed to measure the performance of the US leveraged loan market for loans with B- to BB+ loan ratings as rated by S&P Global Ratings. The index is rebalanced to 67% weight in BB rated loans and 33% weight in B rated loans at the weekly rebalance.

Morningstar LSTA US B Ratings and Above ex Financials Loan Index: The Morningstar LSTA US B Ratings and Above ex Financials Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with a rating of B and above as rated by S&P Global Ratings while excluding Term Loan A issuances and loans from issuers classified in the financials sector.

Initial issue amount

Morningstar LSTA US Leveraged Loan \$500M+ Index: The Morningstar LSTA US Leveraged Loan \$500M+ Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans with initial issue amounts of \$500M or greater.

Seniority

Morningstar LSTA US Leveraged Loan 1st Lien Index: The Morningstar LSTA US Leveraged Loan 1st Lien Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for first lien loans.

Morningstar LSTA US Leveraged Loan 2nd Lien Index: The Morningstar LSTA US Leveraged Loan 2nd Lien Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for second lien loans.

Private equity relationship

Morningstar LSTA US Leveraged Loan PE-Sponsored Index: The Morningstar LSTA US Leveraged Loan PE-Sponsored Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans from PE-sponsored issuers.

Morningstar LSTA US Leveraged Loan PE-Sponsored 1st Lien Index: The Morningstar LSTA US Leveraged Loan PE-Sponsored 1st Lien Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for first lien loans from PE-sponsored issuers.

Morningstar LSTA US Leveraged Loan PE-Sponsored 2nd Lien Index: The Morningstar LSTA US Leveraged Loan PE-Sponsored 2nd Lien Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for second lien loans from PE-sponsored issuers.

Morningstar LSTA US Leveraged Loan Non PE-Sponsored Index: The Morningstar LSTA US Leveraged Loan Non PE-Sponsored Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for loans which are not from PE-sponsored issuers.

Morningstar LSTA US Leveraged Loan Non PE-Sponsored 1st Lien Index: The Morningstar LSTA US Leveraged Loan Non PE-Sponsored 1st Lien Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for first lien loans which are not from PE-sponsored issuers.

Morningstar LSTA US Leveraged Loan Non PE-Sponsored 2nd Lien Index: The Morningstar LSTA US Leveraged Loan Non PE-Sponsored 2nd Lien Loan Index is a market value weighted index designed to measure the performance of the US leveraged loan market for second lien loans which are not from PE-sponsored issuers.

Alternative weighting

Morningstar LSTA US Leveraged Loan Select Equal Weight Index: The Morningstar LSTA US Leveraged Loan Select Equal Weight Index is an equal weighted index designed to measure the performance of the US leveraged loan market for facilities with an original minimum par amount outstanding of \$1 billion at the time of entry to the index and no less than \$750 million outstanding for current constituents. In addition, all facilities must be domiciled in the US. At each weekly rebalancing, constituent facilities are assigned an equal weight by applying an adjusted cap factor.

Morningstar LSTA US Leveraged Loan Select Equal Par Value Index: The Morningstar LSTA US Leveraged Loan Select Equal Par Value Index is an equal par value index where at the weekly rebalance each loan is assigned an equal par amount and then is weighted based on price. facilities must have an original minimum par amount outstanding of \$1 billion at the time of entry to the index and no less than \$750 million outstanding for current constituents to remain in the index. In addition, all facilities must be domiciled in the US.

Sector

Sector Indexes: The Morningstar LSTA US Leveraged Loan Index is also offered in a wide array of sector-specific indexes. GICS sectors are used for sector selection and assignment of GICS for each issuer is determined by Standard & Poor's and MSCI. For a complete list of GICS sector indexes, refer to [Appendix IV](#).

Note: Due to market circumstances which impact loan issuance, the number of issuers or facilities in a given sector may fluctuate. Therefore, certain sector indexes may become dormant during periods where there are no issuances associated with an issuer from a given sector. In such cases, index levels will be rolled until such time that a constituent qualifies for a given sector index and returns will begin calculating again.

Morningstar LSTA US Leveraged Loan 100 Index

Technical description

The Morningstar LSTA US Leveraged Loan 100 Index is designed to measure the performance of the 100 largest facilities in the US leveraged loan market. Index constituents are market value weighted, subject to a single loan facility weight cap of 1.90%.

Index history

- Performance inception date (includes back tested history): December 28, 2001
- Live inception date: October 20, 2008

Note: The index was calculated on a weekly basis from December 28, 2001 until March 30, 2007. From March 31, 2007 onwards, it has been calculated daily.

Starting universe

The parent index, the Morningstar LSTA US Leveraged Loan Index, is the starting universe.

Index eligibility

In addition to the eligibility requirements of the parent index, the following requirements must be met:

- CUSIP: must have a publicly issued CUSIP

Note: A loan in default will remain in the index (but does not accrue interest and is excluded from yield calculations) unless it fails to meet the stated eligibility criteria or has been repaid or restructured. Payment-in-kind (PIK) loans are not eligible for inclusion.

Base currency

The base currency of calculation for the Morningstar LSTA US Leveraged Loan 100 Index is US dollars. The index is also calculated in additional currency variants.

Base rate

Each loan uses a base rate in the calculation of interest. The base rate is the average of the:

- 30-day rolling average of 1-month CME Term SOFR; and
- 90-day rolling average of 3-month CME Term SOFR

The base rate is determined and applied on Friday⁴.

Loan interest rate

For each loan in the index, the loan interest rate is the base rate plus the spread for each loan. At the index level, it is the par amount outstanding weighted average of all loan interest rates in the index.

⁴ Prior to December 27, 2024, the base rate was calculated as the average of the 1-month synthetic USD LIBOR, 3-month synthetic USD LIBOR, 1-month Term SOFR, and 3-month Term SOFR contracted rates on institutional loans according to the Markit WSO Database. See Appendix II for additional details on the base rate methodology change.

Ratings

The index uses public facility level ratings from S&P Global Ratings, however a facility rating is not required for eligibility in the index.

Index weighting

At each rebalance, the index constituents are market value weighted, subject to a single constituent cap of 1.90% of the total index weight by market value. If a loan facility's weight exceeds 1.90%, the facility's weight is reduced to 1.90% and the excess weight is proportionally redistributed to uncapped constituents. This process proceeds iteratively until no constituent breaches the 1.90% cap.

Index pricing

Average bid price from LSTA/Refinitiv Mark-to-Market Pricing is used to determine the market value of each loan. The index is priced daily using 3:00 PM Eastern time US (New York) prices.

Reconstitution

The index is reconstituted semi-annually after the close of the second Friday in June and December to select the 100 largest loan facilities by par amount outstanding from the parent index for inclusion in the index.

Rebalancing

The index is rebalanced on a weekly basis every Friday after the close and new membership is effective at the open on Saturday.

- Additions: Loans will be added to the index only when a vacancy is created by a constituent deletion in order to maintain 100 index constituents. The next eligible loan facility (based on largest size) that meets the index criteria will be selected.
- Deletions: Loans are removed from the index when they are repaid, are no longer priced, or no longer meet the stated index eligibility criteria.
- In the case of a repricing, the facility remains in the index with a new CUSIP.
- Weekly index rebalancing maintenance is based on information available up to and including each Wednesday close.

Sub-indexes and sub-index rules

The following sub-indexes are derived from the Morningstar LSTA US Leveraged Loan 100 Index (the parent index). Unless otherwise specified, the sub-indexes follow all of the same index rules as the parent index in addition to the rules noted for each sub-index below:

Credit quality

Morningstar LSTA US Leveraged Loan 100 B/BB Ratings Index: The Morningstar LSTA US Leveraged Loan 100 B/BB Ratings Index is a sub-index of the Morningstar LSTA US Leveraged Loan 100 Index (the parent index) and is designed to measure the performance of facilities from within the parent index with B- to BB+ ratings as rated by S&P Global Ratings. At each rebalance, the index constituents are market value weighted, subject to a single constituent cap of 1.90% of the total index weight by market value. If a loan facility's weight exceeds 1.90%, the facility's weight is reduced to 1.90% and the excess weight is proportionally redistributed to uncapped constituents. If the number of loan facilities in the index falls to 50 or below, the constituents are equal market value weighted.

- This index is not subject to off-cycle (midweek) rebalancing in the event a loan is downgraded to D by S&P Global Ratings. Loans which are downgraded to D will remain in its original index until the weekly

rebalance on Friday. A loan which has met other criteria for default but has not yet been rated D will stop accruing interest and will be excluded from yield calculations but will remain in the given index.

- All other credit quality movements will be reflected at the weekly rebalance on Fridays and will not be rebalanced midweek.

Sector

Sector Indexes: The Morningstar LSTA US Leveraged Loan 100 Index is also offered in a wide array of sector-specific indexes. GICS sectors are used for sector selection and assignment of GICS for each issuer is determined by Standard & Poor's and MSCI. For a complete list of GICS sector indexes, refer to [Appendix IV](#).

Note: Due to market circumstances which impact loan issuance, the number of issuers or facilities in a given sector may fluctuate. Therefore, certain sector indexes may become dormant during periods where there are no issuances associated with an issuer from a given sector. In such cases, index levels will be rolled until such time that a constituent qualifies for a given sector index and returns will begin calculating again.

Morningstar European Leveraged Loan Index

Technical description

The Morningstar European Leveraged Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market.

Index history

- Performance inception date (includes back tested history): January 1, 2002
- Live inception date: November 1, 2004

Note: The index was calculated on a monthly basis from January 1, 2002 to December 31, 2003. From January 1, 2004 until May 2, 2013 it was calculated on a weekly basis. From May 3, 2013 onwards, it has been calculated daily.

Starting universe

The starting universe consists of syndicated term leveraged loans that are held within top-tier institutional investor loan portfolios tracked by PitchBook LCD.

Index eligibility

- Seniority: senior secured
- Currency: Euro, Pound sterling, US dollar
- Minimum initial term: 1 year
- Minimum initial spread: Base rate (3-month Euribor/3-month SONIA) + 125 bps
- Minimum initial issue size: no minimum size
- Domicile: all loans must be syndicated in Europe, but issuers may be of any origin

Note: a loan in default will remain in the index (but does not accrue interest and is excluded from yield calculations) unless it fails to meet the stated eligibility criteria or has been repaid or restructured. Payment-in-kind (PIK) loans are not eligible for inclusion.

Base currency

The base currency of calculation for the Morningstar European Leveraged Loan Index is euros. The index is also calculated in local currency and other additional currency variants.

Base rate

Each loan uses a base rate in the calculation of interest. For European loans, it is 3-month SONIA for GBP denominated loans and 3-month Euribor for EUR denominated loans. The base rate is determined and applied on Friday.

Loan interest rate

For each loan in the index, the loan interest rate is the base rate plus the spread for each loan. At the index level, it is the par amount outstanding weighted average of all loan interest rates in the index.

Ratings

The index uses public facility level ratings from S&P Global Ratings, however, a facility rating is not required for eligibility in the index. Prior to April 1, 2022, private ratings were eligible for use in the ratings based sub-indexes.

Index weighting

At each rebalance, the index constituents are market value weighted.

Index pricing

End of day average bid price from IHS Markit (LoanX) is used to determine the market value of each loan. The index is priced daily.

Rebalancing

The index is rebalanced on a weekly basis every Friday after the close and new membership is effective at the open on Saturday. Par amounts of index loans are adjusted on the weekly rebalancing date due to partial pre-payments, pay-downs, and other activities impacting par amount for each facility.

- Additions: Loans which meet the eligibility criteria will be added.
- Deletions: Loans are removed from the index when they are repaid, are no longer priced, or no longer meet the stated index eligibility criteria.

Sub-indexes and sub-index rules

The following sub-indexes are derived from the Morningstar European Leveraged Loan Index (the parent index). Unless otherwise specified, the sub-indexes follow all of the same index rules as the parent index in addition to the rules noted for each sub-index, below:

Credit quality

Credit quality indexes are subject to off-cycle (midweek) rebalancing in the event a loan is downgraded to D by S&P Global Ratings. Loans which are downgraded to D will remain in its original index for one day, marked as D. After the close the index will be rebalanced and the D rated loan will move out of the original credit rating index and into the D ratings index. A loan which has met other criteria for default but has not yet been rated D will stop accruing interest and will be excluded from yield calculations but will remain in the given index.

All other credit quality movements will be reflected at the weekly rebalance on Fridays and will not be rebalanced midweek.

Morningstar European BB Ratings Loan Index: The Morningstar European BB Ratings Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans with BB- to BB+ ratings as rated by S&P Global Ratings.

Morningstar European B Ratings Loan Index: The Morningstar European B Ratings Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans with B- to B+ ratings as rated by S&P Global Ratings.

Morningstar European B/BB Ratings Loan Index: The Morningstar European B/BB Rating Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans with B- to BB+ ratings as rated by S&P Global Ratings.

Morningstar European CCC Ratings Loan Index: The Morningstar European CCC Ratings Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans with CCC- to CCC+ ratings as rated by S&P Global Ratings.

Morningstar European CCC and D Ratings Loan Index: The Morningstar European CCC and D Ratings Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans with D to CCC+ ratings as rated by S&P Global Ratings.

Currency

Morningstar European Euro Denominated Loan Index: The Morningstar European Euro Denominated Loan Index is a market value weighted single-currency index designed to measure the performance of the European leveraged loan market for euro denominated loans.

Morningstar European Euro Denominated LBO Loan Index: The Morningstar European Euro Denominated LBO Loan Index is a market value weighted single-currency index designed to measure the performance of the European leveraged loan market for euro denominated loans from PE-sponsored issuers.

Regional

Morningstar European Ex PIIGS Loan Index: The Morningstar European Ex PIIGS Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market excluding loans from issuers from PIIGS countries. The PIIGS countries are Portugal, Ireland, Italy, Greece, and Spain.

Morningstar European France Loan Index: The Morningstar European France Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans from issuers in France.

Morningstar European Germany Loan Index: The Morningstar European Germany Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans from issuers in Germany.

Morningstar European Italy Loan Index: The Morningstar European Italy Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans from issuers in Italy.

Morningstar European Netherlands Loan Index: The Morningstar European Netherlands Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans from issuers in the Netherlands.

Morningstar European Nordic Region Loan Index: The Morningstar European Nordic Region Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans from issuers in the Nordic Region. The Nordic Region includes the following countries: Denmark, Finland, Norway and Sweden.

Morningstar European PIIGS Loan Index: The Morningstar European PIIGS Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans from issuers in PIIGS countries. The PIIGS countries are Portugal, Ireland, Italy, Greece, and Spain.

Morningstar European Spain Loan Index: The Morningstar European Spain Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans from issuers in Spain.

Morningstar European UK Loan Index: The Morningstar European UK Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans from issuers in the UK.

Morningstar European Western Europe Loan Index: The Morningstar European Western Europe Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans from issuers in Western Europe. The index includes issuers from Austria, Belgium, France, Germany, Great Britain, Ireland, Italy, Luxembourg, Netherlands, Spain, and Switzerland.

Seniority

Morningstar European Loan First Lien Loan Index: The Morningstar European First Lien Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for first lien loans.

Morningstar European Loan Second Lien Loan Index: The Morningstar European Second Lien Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for second lien loans.

Tranches

Morningstar European Term Loan B Loan Index: The Morningstar European Term Loan B Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for Term Loan B loans.

Morningstar European Term Loan C Index: The Morningstar European Term Loan C Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for Term Loan C loans.

Private equity relationship

Morningstar European LBO Loan Index: The Morningstar European LBO Loan Index is a market value weighted multi-currency index designed to measure the performance of the European leveraged loan market for loans from PE-sponsored issuers.

Sector

Sector Indexes: The Morningstar European Leveraged Loan Index is also offered in a wide array of sector-specific indexes. GICS sectors are used for sector selection and assignment of GICS for each issuer is determined by Standard & Poor's and MSCI. For a complete list of GICS sector indexes, refer to [Appendix IV](#).

Morningstar Global Leveraged Loan Index

Technical description

The Morningstar Global Leveraged Loan Index is designed to measure the performance of the global leveraged loan market. It is a fixed-weight composite index consisting of 75% weight from the Morningstar LSTA US Leveraged Loan Index and 25% weight from the Morningstar European Leveraged Loan Index.

Index history

- Performance inception date (includes back tested history): January 1, 2002
- Live inception date: October 31, 2013

Note: Since the live inception, the index has been calculated daily. Prior to live inception, a compounding approach was used to calculate daily levels.

Starting universe

The Morningstar Global Leveraged Loan Index derives constituents from two parent indexes, the Morningstar LSTA US Leveraged Loan Index and the Morningstar European Leveraged Loan Index.

Index eligibility

All securities that are included in the two parent indexes of the starting universe are eligible for inclusion in the Morningstar Global Leveraged Loan Index.

Note: a loan in default will remain in the index (but does not accrue interest and is excluded from yield calculations) unless it fails to meet the stated eligibility criteria or has been repaid or restructured. Payment-in-kind (PIK) loans are not eligible for inclusion.

Base currency

The base currency of calculation for the Morningstar Global Leveraged Loan Index is US dollars. The index is also calculated in local currency and other additional currency variants.

Base rate

Each loan uses a base rate in the calculation of interest. The base rate for US loans is the average of the:

- 30-day rolling average of 1-month CME Term SOFR; and
- 90-day rolling average of 3-month CME Term SOFR

For European loans, it is 3-month SONIA for GBP denominated loans and 3-month Euribor for EUR denominated loans.

The base rate is determined and applied on Friday⁵.

⁵ Prior to December 27, 2024, the base rate for US loans was calculated as the average of the 1-month synthetic USD LIBOR, 3-month synthetic USD LIBOR, 1-month Term SOFR, and 3-month Term SOFR contracted rates on institutional loans according to the Markit WSO Database. See Appendix II for additional details on the US base rate methodology change.

Loan interest rate

For each loan in the index, the loan interest rate is the base rate plus the spread for each loan. At the index level, it is the par amount outstanding weighted average of all loan interest rates in the index.

Ratings

The index uses ratings from S&P Global Ratings, however a facility rating is not required for eligibility in the index.

Index weighting

The index is fixed-weighted at 75% weight from the Morningstar LSTA US Leveraged Loan Index and 25% weight from the Morningstar European Leveraged Loan Index. Weighting is based on market value in USD.

Index pricing

3:00 PM Eastern Time US (New York) average bid price from LSTA/LSEG Mark-to-Market Pricing is used to determine the market value of each loan in the Morningstar LSTA US Leveraged Loan Index. End of day average bid price from IHS Markit (LoanX) is used to determine the market value of each loan in the Morningstar European Leveraged Loan Index.

The index is priced daily.

Rebalancing

The index is rebalanced on a weekly basis every Friday after the close and new membership is effective at the open on Saturday. to ensure the index maintains the target 75% / 25% weights from the Morningstar LSTA US Leveraged Loan Index and Morningstar European Leveraged Loan Index, respectively. Par amounts of index loans are adjusted on the weekly rebalancing date due to partial pre-payments, pay-downs, and other activities impacting par amount for each facility.

- **Additions:** Index additions are reviewed on a weekly basis for each underlying sub-index.
- **Deletions:** Loans are removed from the index when they are repaid, are no longer priced, or no longer meet the stated index eligibility criteria for each underlying sub-index.

Sub-indexes and sub-index rules

The following sub-indexes are derived from the Morningstar Global Leveraged Loan Index (the parent index). Unless otherwise specified, the sub-indexes follow all of the same index rules as the parent index in addition to the rules noted for each sub-index, below:

Liquidity-based selection

Morningstar Global Leveraged Loan 100 Index: The Morningstar Global Leveraged Loan 100 Index is designed to measure the performance of the 100 largest facilities in the global leveraged loan market.

- **Reconstitution:** At each reconstitution, the 75 largest loans in Morningstar LSTA US Leveraged Loan Index and 25 largest loans in the Morningstar European Leveraged Loan Index are selected for inclusion for a total of 100 loans. Only the largest loan (by par amount outstanding) per issuer is included in the index. The reconstitution takes place on a quarterly basis on the second Friday of each calendar quarter (March, June, September and December). In addition, the constituents stemming from the Morningstar LSTA US Leveraged Loan Index are weighted at 75% and constituents stemming from the Morningstar European Leveraged Loan Index are weighted at 25%.

- **Rebalancing:** At each weekly rebalance, the weights are reset to 75% and 25% for the US and European leveraged loans, respectively.
 - Additions: Loans will be added to the index only when a vacancy is created by a constituent deletion in order to maintain 75 constituents from the US index and 25 constituents from the European index, for a total of 100 index constituents. The next eligible loan facility (based on largest size by par amount outstanding) that meets the index criteria will be selected.
 - Deletions: Loans are removed from the index when they are repaid, are no longer priced, or no longer meet the stated index eligibility criteria.
- Loans do not require a CUSIP.

Morningstar Global Leveraged Loan 150 Issuers Index: The Morningstar Global Leveraged Loan 150 Issuers Index is designed to measure the performance of the 150 largest issuers in the global leveraged loan market.

- **Reconstitution:** At each reconstitution, the 100 largest issuers in the Morningstar LSTA US Leveraged Loan Index and the 50 largest issuers in the Morningstar European Leveraged Loan Index are selected. Issuers are selected based on total par amount outstanding; all issues/tranches from a selected issuer are included in the index with the exception of Term A loans and second lien loans. Each US issuer is subject to a 1.90% index weight cap and each European Issuer is subject to 4.90% weight cap. Index constituents are reconstituted on a quarterly basis on the second Friday of March, June, September, and December.
- **Rebalancing:** At each weekly rebalance US issuers that exceed 1.90% of the market value weight of the index are reduced to 1.90% and European issuers that exceed 4.90% of the market value weight of the index are reduced to 4.90%.
 - **Additions:** An issuer will be added to the index only when a vacancy is created by an issuer deletion in order to maintain 100 issuers from the US index and 50 issuers from the European index, for a total of 150 issuers (the number of total issues will vary). The next eligible issuer (based on largest total par amount outstanding of all eligible issues) will be selected.
 - **Deletions:** Issuers are removed from the index when they are repaid, are no longer priced, or no longer meet the stated index eligibility criteria.
- Loans do not require a CUSIP.

Alternative weighting

Morningstar Global Leveraged Loan 70/30 Index: The Morningstar Global Leveraged Loan 70/30 Index is designed to measure the performance of the global leveraged loan market. It is a fixed-weight composite index consisting of 70% weight from the Morningstar LSTA US Leveraged Loan Index and 30% weight from the Morningstar European Leveraged Loan Index.

Morningstar Global Leveraged Loan 80/20 Index: The Morningstar Global Leveraged Loan 80/20 Index is designed to measure the performance of the global leveraged loan market. It is a fixed-weight composite index consisting of 80% weight from the Morningstar LSTA US Leveraged Loan Index and 20% weight from the Morningstar European Leveraged Loan Index.

Credit quality

Morningstar Global Leveraged Loan B/BB Ratings 85/15 Index: The Morningstar Global Leveraged Loan B/BB Ratings 85/15 Index is designed to measure the performance of the global leveraged loan market for facilities with B- to BB+ ratings. It is a fixed-weight composite index consisting of 85% weight from the Morningstar LSTA US B/BB Leveraged Loan Index and 15% weight from the Morningstar European B/BB Leveraged Loan Index.

- This index is not subject to off-cycle (midweek) rebalancing in the event a loan is downgraded to D by S&P Global Ratings. Loans which are downgraded to D will remain in its original index until the weekly rebalance on Friday. A loan which has met other criteria for default but has not yet been rated D will stop accruing interest and will be excluded from yield calculations but will remain in the given index.
- All other credit quality movements will be reflected at the weekly rebalance on Fridays and will not be rebalanced midweek.

Index Calculations

Total return

Each loan facility's total return is calculated by aggregating the interest return, price return, and currency return (where applicable). The return of each loan facility is weighted in the index based upon its market value outstanding, which reflects both the prior period's price as well as accrued interest. The overall index return is the composite of each component loan facility's return multiplied by the market value outstanding from the prior time period. Refer to [Appendix III](#) for details.

Price return

Price return reflects the gains or losses due to changes in end-of-day prices, principal prepayments, and amortization payments. Refer to [Appendix III](#) for details.

Interest return

Interest return reflects the return due to interest paid and accrued interest. Refer to [Appendix III](#) for details.

Currency return

The return from FX translation.

Yield

Yield is reflected as the simple margin of the loan facility, with capping applied at 250% (daily). Refer to [Appendix III](#) for details.

Base rate floor

For US loans with a LIBOR or SOFR floor or European loans with a SONIA or Euribor floor as part of the loan's terms and conditions, the spread for the loan will be increased by the difference between the floor and the base rate in the event that the index base rate falls below the loan's stated base rate floor.

Defaults

Defaulted loans remain in the index unless they no longer meet any of the other criteria for inclusion. A defaulted loan will not accrue interest and is not included in the aggregation of index characteristics, such as yield, during the default period. A default may occur when:

- 1) A borrower has missed a principal or interest payment and is not in a forbearance period

- 2) A borrower files for bankruptcy under Chapter 7 or Chapter 11 of the US Bankruptcy Code
- 3) A borrower has hired a restructuring advisor or has entered the restructuring process (applies only to European syndicated loans)
- 4) A loan has been downgraded to D by S&P Global Ratings (does not apply in cases of distressed exchanges)

There may be a lag between the time that default activities occur and S&P Global Ratings downgrades a loan to D. During this period the loans will not accrue interest and will not be included in the aggregation of index characteristics. For indexes which use credit quality as a constraint, defaulted loans will only be removed from the index once the loan has been downgraded to D by S&P Global ratings and the removal will take place at the next scheduled rebalance.

Currency of calculation and additional index return series

WM/Refinitiv foreign exchange rates are taken daily at 4:00 PM London time and used in the calculation of the indexes and to convert index or constituent values to the stated currency, where applicable.

The Morningstar Leveraged Loan Indexes are calculated in a wide array of currency and currency hedged variants. For a complete list of the currency and currency hedged index variants available, refer to the [Morningstar Indexes website](#).

Pricing, Trading, Settlement, and Transaction Costs

Indicative bid side prices are used for all index calculations and are provided daily by outside pricing sources. Bid prices are used when securities are added to an index. Transaction costs and tax consequences are ignored.

Cash flows

WM/Interest payments are considered paid on a rolling 90-day basis from the date each loan enters the index and are reinvested in the index, on a relative weight basis, after 90 days. Pre-payments, pay-downs, and most other forms of cash flow (other than scheduled interest payments) are reconciled at each rebalance.

Holiday schedule

Price return is calculated on all business days of the year following the Securities Industry and Financial Markets Association (SIFMA®) holiday schedule for US and UK market schedules for the US and European loan indexes, respectively. On holidays, prices are rolled from the prior business day. Interest return and total return is calculated daily, regardless of holidays. In the event Friday is a holiday, rebalance information is still processed and distributed on Friday and effective at the open on Saturday.

Methodology Review and Index Cessation Policy

The index methodology is continually reviewed to ensure it achieves all stated objectives. These reviews consider corporate action treatment, eligibility requirements and maintenance procedures. Subscribers to the index will be notified before any methodology changes are made. For more details, refer to the [Morningstar Index Methodology Change Policy](#).

Morningstar Indexes notifies all subscribers and stakeholders of the index that circumstances might arise that require a material change to, or a possible cessation of, the index. These circumstances are generally not within Morningstar's control and may include significant changes to the underlying market structure, inadequate access to

necessary data, geo-political events, and regulatory changes. In addition, factors such as low usage or methodology convergence may result in the cessation of an index.

Because the cessation of the index or benchmark index could disrupt subscriber products that reference this index, all subscribers are encouraged to have robust fallback procedures if an index is terminated. For more details, refer to the [Morningstar Index Cessation Process](#).

Index Policy

Announcements

Announcements of any relevant information pertaining to the indexes are made after market close or as determined by Morningstar.

Rebalancing

The Morningstar Indexes Operations Committee may change the date of a given rebalancing for reasons including market holidays occurring on or around the scheduled rebalancing date. Any such change will be announced with proper advance notice where possible.

Ratings changes

Ratings changes on a loan in between rebalancing may carry for up to a week until the next rebalancing. Defaults are reflected same day.

End-of-day calculation

Index levels are calculated at the end of day Monday - Friday unless specified by Morningstar. Saturday and Sunday levels are distributed at end of day on Friday.

Index-Related Data and Divisor Corrections

In general, index calculation data input defects—such as price, dividends, or foreign exchange rates, that do not affect the index weighting factor – if discovered within two trading days, are corrected, and the index is recalculated regardless of the performance impact. Such errors discovered after two trading days typically only result in an index restatement if the impact on performance is material; otherwise, they are corrected prospectively. Errors involving mandatory corporation actions will generally be corrected with a restatement, regardless of the performance impact. For information on the recalculation policy please refer to the [Recalculation Guidelines](#).

Sanctions

Morningstar Indexes reviews and addresses treatment of debt securities from issuers that have been sanctioned or put on a trading prohibition list by US, European Union, or other regulatory authorities on a case-by-case basis.

New debt issuances from sanctioned entities are not eligible for the Morningstar Indexes. Clients will be notified of identified issuers that require blockage of new issuances from entering the Morningstar Fixed Income Indexes and effective implementation date of the block. Existing debt issuances may remain in the Indexes unless sanctions require divestiture, or liquidity and investibility does not meet a sufficient level, as determined by Morningstar Indexes.

The removal of securities from sanctioned entities in between or at upcoming rebalance periods may be required to ensure the ongoing investibility of the indexes. Morningstar Indexes may consult clients on any such removals deemed necessary. Removal decisions will be reviewed and approved by the Morningstar Indexes Methodology Committee and will be communicated to clients via notifications and proforma files where available.

In the event that sanctions are removed, the Morningstar Indexes Methodology Committee will review securities from the previously restricted entities to determine whether such securities meet all index eligibility criteria. If approved to enter or re-enter the Morningstar Indexes, clients will receive notifications and the addition will be reflected in proforma files where available.

Exceptions

While Morningstar will seek to apply the methodology as described within this document, the market environment, supervisory, legal, financial, or tax reasons may require an alternative approach to be adopted. A decision to take an alternative approach will be made by the Morningstar Index Methodology Committee, and in all instances, the exception will be reported to the Morningstar Index Oversight Committee.

Contact information

For questions regarding an index, please contact: indexes@morningstar.com.

Appendix I

Defined Terms

Announcement Date

The date on which changes to the index are published, as further described in the section on index maintenance.

Repricing

Change in spread via an amendment.

Close

The end of a calendar or business day for the purpose of calculating index values and other statistics.

Facility

A syndicated loan (or credit) is comprised of facilities (or tranches). Each facility can have different maturities, sizes, spreads, and terms to fulfil a variety of borrowing needs.

First lien

A loan where the holder has first claim on collateral.

Index loan

A facility that is included in the index.

Cap factor

The cap (adjustment) factor used to reduce or increase the weight of a particular security in the to meet specified issuer or facility weighting caps. The cap factor default is 1.00 which reflects no adjustments.

PE-sponsored

An issuer that is majority owned by a private equity firm. In the case of the European index, this is referred to as an LBO Loan.

Par amount

The total par or "face value" amount outstanding of an index loan or an eligible loan, net of partial calls and tenders.

Rebalancing date

Every Friday after the close when the changes to the index become effective.

Second lien

A loan where the holder has a second priority claim on collateral.

Term A loan

Amortizing term loan. These tranches generally have a gradual amortization until maturity.

Term B loan

Institutional term loan. These tranches traditionally have a bullet repayment with little (1% per annum) or no amortization.

Term C loan

Institutional term loan. These tranches traditionally have a bullet repayment with little (1% per annum) or no amortization.

Appendix II

Methodology changes

| Change | Effective Date | Previous Methodology | Updated Methodology |
|------------------------------------|-------------------|--|--|
| Change in US base rate methodology | December 27, 2024 | Each loan uses a base rate in the calculation of interest. The base rate is the average of the 1-month synthetic USD LIBOR, 3-month synthetic USD LIBOR, 1-month Term SOFR, and 3-month Term SOFR contracted rates on institutional loans according to the Markit WSO Database. The base rate is determined on the Wednesday prior to the upcoming rebalance and is applied on Friday. | <p>Each loan uses a base rate in the calculation of interest. The base rate is the average of the:</p> <ul style="list-style-type: none"> 30-day rolling average of 1-month CME Term SOFR; and 90-day rolling average of 3-month CME Term SOFR <p>The base rate is determined and applied on Friday.</p> |

| | | | |
|--|-------------------|---|---|
| Change in reconstitution schedule for the Morningstar LSTA US Leveraged Loan 100, Morningstar Global Leveraged Loan 100, Morningstar Global Leveraged Loan 150 Issuers and all related sub-indexes | December 13, 2024 | Indexes with a semiannual schedule reconstitute on the last business day of June and December and indexes with a quarterly schedule reconstitute on the last business day of March, June, September and December | Indexes with a semiannual schedule reconstitute on the second Friday of June and December and indexes with a quarterly schedule reconstitute on the second Friday of March, June, September and December |
| Change in hedge methodology | May 4, 2024 | Hedged indexes used S&P Dow Jones Indices Fixed Income Mathematics Methodology | Indexes use the Morningstar Indexes Currency Hedge Index Methodology |
| Change in calculation agent and administrator | May 3, 2024 | Indexes were calculated and administered by S&P Dow Jones Indices, with the final date of calculation as of May 3, 2024. | Indexes are calculated and administered by Morningstar Indexes effective May 4, 2024. Clarifying language has been inserted to correct certain inaccuracies in the previous S&P rulebook or to enable clearer understanding of index rules. Refer to Appendix V for details. |
| Base rate – US loans | June 30, 2023 | Each loan uses a base rate in the calculation of interest. For US loans, the base rate is the average of the 1-month USD LIBOR, 3-month USD LIBOR, 1-month Term SOFR, and 3-month Term SOFR contracted rates on institutional loans according to the Markit WSO Database. | Each loan uses a base rate in the calculation of interest. For US loans, the base rate is the average of the 1-month synthetic USD LIBOR, 3-month synthetic USD LIBOR, 1-month Term SOFR, and 3-month Term SOFR contracted rates on institutional loans according to the Markit WSO Database. |
| Index Names | August 26, 2022 | All indexes are branded as S&P | All indexes are branded as Morningstar |
| GICS | June 1, 2022 | Sector based indexes used LCD sectors | All sector based indexes are based on GICS. Former LCD sector indexes are decommissioned. |

| | | | |
|----------------------------|-------------------|---|---|
| Private ratings | April 1, 2022 | Public or private ratings may be used for loans in European Loan Indexes. | Only public ratings may be used for loans in the European Loan Indexes. |
| Base rate – European loans | February 25, 2022 | For European syndicated loans, is the average EURIBOR rate obtained from public sources. The base rate, for index calculation purposes, is updated each Monday. | For Euro denominated loans and UK pound denominated loans, the average three-month EURIBOR and or SONIA rates (obtained from public sources) are used, respectively. The base rate, for index calculation purposes, is updated each Monday. |
| Base rate – US loans | December 31, 2021 | Each loan uses a base rate in the calculation of interest. For USD denominated loans, this base rate represents the average contracted LIBOR rate set on institutional loans posted by the Markit WSO Database. | Each loan uses a base rate in the calculation of interest. For USD denominated loans, this base rate represents the average contracted LIBOR and SOFR rates set on institutional loans posted by the Markit WSO Database. |

Appendix III

Index calculations

Calculation of index loan market values and relative weights

The market value for each index loan is calculated as of the close on each calendar day.

The market value of an index loan on day t is calculated as follows:

$$MV_t = PAR_t * \frac{(P_t + AI_t)}{100}$$

where:

| | | |
|---------|---|--|
| MV_t | = | The market value of Index Loan on day t |
| PAR_t | = | The par amount of Index Loan as of the last weekly rebalancing, adjusted for principal pre-payments, etc., up to and including day t |
| P_t | = | The price of Index Loan on day t |
| AI_t | = | The accrued interest ⁶ on Index Loan up to and including day t |

⁶ AI_t is calculated on a 360-day basis. Accrued interest is reduce to zero every 90 days after loan enters the index.

If the valuation date is not a business day, the market value is based on the price as of the immediate prior business day, plus interest accrued to the valuation date.

The relative weight of an Index Loan is defined as the market value of that loan expressed as a percentage of the aggregate market value of all Index Loans in the Index portfolio, as follows:

$$weight_k = \frac{MV_k}{\sum_k MV_k}$$

Calculation of index loan returns

Returns are calculated for all Index Loans on every calendar day.

Total return

The total return, TR , of an Index Loan at time t is the sum of the interest return and the market price return on day t :

$$TR_t = IR_t + PR_t$$

where:

$$\begin{aligned} IR_t &= \text{Interest return on day } t \\ PR_t &= \text{Price return on day } t \end{aligned}$$

Price return measures the return due to the change in the market price of the loan. Interest return (or coupon return) includes the return due to the interest earned on that loan.

Interest return

The formula for the interest return on an individual Index Loan on day t is as follows:

$$IR_t = \frac{(PAR_t * R_t) / 360}{MV_{Beg}}$$

where:

$$\begin{aligned} IR_t &= \text{Interest return on day } t \\ PAR_t &= \text{Par Amount of the Index Loan as of the last weekly rebalancing, adjusted for principal pre-payments, etc., up to and including day } t \\ R_t &= \text{Interest rate on day } t \\ MV_{Beg} &= \text{Market value, at the beginning of day } t \end{aligned}$$

Price return

The formula for the price return for an Index Loan on day t is as follows:

$$PR_t = \frac{PAR_t * \left(\frac{P_t - P_{t-1}}{100} \right) + Prin_t * \left(\frac{RP - P_{t-1}}{100} \right)}{MV_{Beg}}$$

where:

$$PR_t = \text{Price return on day } t$$

| | | |
|------------|---|--|
| PAR_t | = | Par amount of the Index Loan as of the last weekly rebalancing, adjusted for principal pre-payments, etc., up to and including day t |
| P_t | = | Loan price on day t |
| P_{t-1} | = | Loan price on the previous day |
| $Prin_t$ | = | Principal pre-payments, etc., on day t |
| MV_{Beg} | = | Market value, beginning of day t |
| RP | = | Redemption price |

Note that the formula for the Price Return (5) itself has two components. The first term, in the numerator on the left side, represents the unrealized return due to any change in the price, while the second term (on the right) represents the realized return due to receiving a principal repayment at the Redemption Price (which could differ from par) rather than at the current end of day price.

Returns in Base Currency

The above returns are calculated in local currency. For multi-currency indexes, the index values are calculated after incorporating FX returns of the respective currencies for each security. The interest return, price return and total return of underlying securities are converted from local currency to index base currency using the formulas shown below:

$$\begin{aligned}
 IR_{i,t,Base} &= (1 + IR_{i,t}) * (1 + FX_{return}) - 1 \\
 PR_{i,t,Base} &= (1 + PR_{i,t}) * (1 + FX_{return}) - 1 \\
 TR_{i,t,Base} &= (1 + TR_{i,t}) * (1 + FX_{return}) - 1 \\
 FX_{return} &= \frac{FX_t - FX_{t-1}}{FX_{t-1}}
 \end{aligned}$$

where:

FX_t = Foreign exchange Spot rate on day t , denominated in terms of base currency per unit of home currency
 FX_{t-1} = Foreign exchange Spot rate on day $t-1$, denominated in terms of base currency per unit of home currency

Data Source for FX Rate

The source data for forward and spot rates used in this methodology is WMR London 4 p.m. fixing rates. WMR foreign exchange rates are taken daily at 4 p.m. London time and used in the calculation of the indexes. Unless otherwise noted, this is applicable for all sections where FX Rate is used.

For all non USD currency pairs, the spot and forward rates are calculated from respective USD rates.

Calculation of index returns and levels

Daily index returns

The individual Index Loan returns are aggregated to calculate returns for the index. Specifically, the total return, interest return and price return for the Index, on a given day, are equal to a weighted average of the returns of the Index Loans that constitute the index — with the weight of each Index Loan return being equal to the relative weight of that Index Loan in the index as of the previous calendar day (adjusted for principal pre-payments, etc.). The formula is as follows:

$$IndexTR_t = \frac{\sum_i^n MV_{i,Beg} * TR_{i,t}}{\sum_i^n MV_{i,Beg}}$$

$$IndexIR_t = \frac{\sum_i^n MV_{i,Beg} * IR_{i,t}}{\sum_i^n MV_{i,Beg}}$$

$$IndexPR_t = \frac{\sum_i^n MV_{i,Beg} * PR_{i,t}}{\sum_i^n MV_{i,Beg}}$$

where:

- $TR_{i,t}$ = Total return of the Index Loan i on day t
 $IR_{i,t}$ = Interest return of the Index Loan i on day t
 $PR_{i,t}$ = Price return of the Index Loan i on day t
 $MV_{i,Beg}$ = Market value of the Index Loan, beginning of day t

Daily index values

Index values are calculated each day by applying the current day's index return to the previous day's index value, as follows:

$$TRIV_t = TRIV_{t-1} * (1 + TR_t)$$

$$PRIV_t = PRIV_{t-1} * (1 + PR_t)$$

$$IRIV_t = IRIV_{t-1} * (1 + IR_t)$$

where:

- $TRIV_t$ = Total return index value on day t
 $PRIV_t$ = Price return index value on day t
 $IRIV_t$ = Interest return index value on day t

Yield

$$Yield_{i,t} = BaseRate_{i,t} \times 100 + MS_{i,t}$$

$$MS_{i,t} = \frac{100}{Price_{i,t}} \times \left(\frac{100 - Price_{i,t}}{RemainingTerm_{i,t}} + AdjustedSpread_{i,t} \times 100 \right)$$

$$AdjustedSpread_{i,t} = BaseRateFloor_{i,t} - BaseRate_{i,t} + UnadjustedSpread_{i,t}$$

$$RemainingTerm_{i,t} = \frac{MaturityDate_i - EffectiveDate}{365}$$

where:

- $Yield_{i,t}$ = Yield of the Index Loan i on day t
 $BaseRate_{i,t}$ = Base Rate of the Index Loan i on day t
 MS_t = Margin Spread of the Index Loan i on day t . If EffectiveDate t is equal to or after the Maturity Date, the Margin Spread equals the Adjusted Spread.
 $Price_{i,t}$ = Price of the Index Loan i on day t
 $RemainingTerm_{i,t}$ = Remaining term to maturity of the Index Loan i on day t
 $AdjustedSpread_{i,t}$ = Adjusted Spread of the Index Loan i on day t . If BaseRate is above BaseRateFloor on day t , the Adjusted Spread equals the Unadjusted Spread.
 $BaseRateFloor_{i,t}$ = The floor of the Base Rate of the Index Loan i on day t

UnadjustedSpread_{i,t} = Unadjusted Spread of the Index Loan i on day t
MaturityDate_i = Maturity date of the Index Loan i on day t
EffectiveDate = Day t

The index level Yield is calculated by aggregating the constituent yields using the open weights:

$$Yield_t = \frac{\sum_i^n MV_{i, Beg} \times Yield_{i,t}}{\sum_i^n MV_{i, Beg}}$$

Defaulted loans are excluded from the index level Yield calculation. In addition, a cap of 250% is applied to individual constituent yields as a part of the index level aggregation.

Hedged returns

Please refer to the [Morningstar Currency Hedge Index Methodology](#) for information on standard hedged calculations.

Appendix IV

List of Sector Indexes

| Portfolio ID | Index Name |
|--------------|---|
| 2921241 | Morningstar LSTA US Aerospace & Defense Loan |
| 2922262 | Morningstar LSTA US Air Freight & Logistics Loan |
| 2920622 | Morningstar LSTA US Airlines Loan |
| 2921242 | Morningstar LSTA US Auto Components Loan |
| 2920501 | Morningstar LSTA US Automobiles & Components Loan |
| 2922261 | Morningstar LSTA US Automobiles Loan |
| 2920624 | Morningstar LSTA US Banks Loan |
| 2922266 | Morningstar LSTA US Beverages Loan |
| 2920626 | Morningstar LSTA US Biotechnology Loan |
| 2921245 | Morningstar LSTA US Building Products Loan |
| 2922295 | Morningstar LSTA US Capital Goods Loan |
| 2920627 | Morningstar LSTA US Capital Markets Loan |
| 2921247 | Morningstar LSTA US Chemicals Loan |
| 2922268 | Morningstar LSTA US Commercial & Professional Services Loan |

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| 2920628 | Morningstar LSTA US Commercial Services & Supplies Loan |
| 2920629 | Morningstar LSTA US Communications Equipment Loan |
| 2921248 | Morningstar LSTA US Construction & Engineering Loan |
| 2920522 | Morningstar LSTA US Construction Materials Loan |
| 2920529 | Morningstar LSTA US Consumer Durables & Apparel Loan |
| 2921249 | Morningstar LSTA US Consumer Finance Loan |
| 2922296 | Morningstar LSTA US Consumer Services Loan |
| 2922269 | Morningstar LSTA US Containers & Packaging Loan |
| 2920526 | Morningstar LSTA US Distributors Loan |
| 2921250 | Morningstar LSTA US Diversified Consumer Services Loan |
| 2920631 | Morningstar LSTA US Diversified Financial Services Loan |
| 2922271 | Morningstar LSTA US Diversified Financials Loan |
| 2920533 | Morningstar LSTA US Diversified Telecommunication Services Loan |
| 2922272 | Morningstar LSTA US Electric Utilities Loan |
| 2921251 | Morningstar LSTA US Electrical Equipment Loan |
| 2920632 | Morningstar LSTA US Electronic Equipment, Instruments & Components Loan |
| 2921252 | Morningstar LSTA US Energy Equipment & Services Loan |
| 2920534 | Morningstar LSTA US Energy Loan |
| 2922273 | Morningstar LSTA US Entertainment Loan |
| 2920633 | Morningstar LSTA US Equity Real Estate Investment Trusts (REITs) Loan |
| 2920634 | Morningstar LSTA US Food & Staples Retailing Loan |
| 2922274 | Morningstar LSTA US Food Products Loan |
| 2921253 | Morningstar LSTA US Food, Beverage & Tobacco Loan |
| 2920535 | Morningstar LSTA US Gas Utilities Loan |

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| 2922275 | Morningstar LSTA US Health Care Equipment & Services Loan |
| 2921254 | Morningstar LSTA US Health Care Equipment & Supplies Loan |
| 2920635 | Morningstar LSTA US Health Care Providers & Services Loan |
| 2920536 | Morningstar LSTA US Health Care Technology Loan |
| 2920538 | Morningstar LSTA US Hotels, Restaurants & Leisure Loan |
| 2920636 | Morningstar LSTA US Household & Personal Products Loan |
| 2921255 | Morningstar LSTA US Household Durables Loan |
| 2922276 | Morningstar LSTA US Household Products Loan |
| 2922283 | Morningstar LSTA US Independent Power and Renewable Electricity Producers Loan |
| 2921256 | Morningstar LSTA US Industrial Conglomerates Loan |
| 2922277 | Morningstar LSTA US Insurance Loan |
| 2920502 | Morningstar LSTA US Interactive Media & Services Loan |
| 2920496 | Morningstar LSTA US IT Services Loan |
| 2921257 | Morningstar LSTA US Leisure Products Loan |
| 2922278 | Morningstar LSTA US Life Sciences Tools & Services Loan |
| 2920638 | Morningstar LSTA US Machinery Loan |
| 2920500 | Morningstar LSTA US Marine Loan |
| 2921258 | Morningstar LSTA US Materials Loan |
| 2920641 | Morningstar LSTA US Media & Entertainment Loan |
| 2922279 | Morningstar LSTA US Media Loan |
| 2921259 | Morningstar LSTA US Metals & Mining Loan |
| 2922280 | Morningstar LSTA US Mortgage Real Estate Investment Trusts (REITs) Loan |
| 2920642 | Morningstar LSTA US Multiline Retail Loan |
| 2920503 | Morningstar LSTA US Multi-Utilities Loan |
| 2922281 | Morningstar LSTA US Oil, Gas & Consumable Fuels Loan |

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| 2920643 | Morningstar LSTA US Paper & Forest Products Loan |
| 2922282 | Morningstar LSTA US Personal Products Loan |
| 2920644 | Morningstar LSTA US Pharmaceuticals Loan |
| 2920554 | Morningstar LSTA US Pharmaceuticals, Biotechnology & Life Sciences Loan |
| 2921262 | Morningstar LSTA US Professional Services Loan |
| 2921240 | Morningstar LSTA US Real Estate Loan |
| 2920645 | Morningstar LSTA US Real Estate Management & Development Loan |
| 2920558 | Morningstar LSTA US Retailing Loan |
| 2921263 | Morningstar LSTA US Road & Rail Loan |
| 2922284 | Morningstar LSTA US Semiconductors & Semiconductor Equipment Loan |
| 2921264 | Morningstar LSTA US Software & Services Loan |
| 2922285 | Morningstar LSTA US Software Loan |
| 2920650 | Morningstar LSTA US Specialty Retail Loan |
| 2920561 | Morningstar LSTA US Technology Hardware & Equipment Loan |
| 2921265 | Morningstar LSTA US Technology Hardware, Storage & Peripherals Loan |
| 2922286 | Morningstar LSTA US Telecommunication Services Loan |
| 2920562 | Morningstar LSTA US Textiles, Apparel & Luxury Goods Loan |
| 2920563 | Morningstar LSTA US Tobacco Loan |
| 2921266 | Morningstar LSTA US Trading Companies & Distributors Loan |
| 2920652 | Morningstar LSTA US Transportation Infrastructure Loan |
| 2922287 | Morningstar LSTA US Transportation Loan |
| 2921267 | Morningstar LSTA US Utilities Loan |
| 2922288 | Morningstar LSTA US Water Utilities Loan |
| 2920653 | Morningstar LSTA US Wireless Telecommunication Services Loan |

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| 2920568 | Morningstar LSTA US Leveraged Loan 100 Automobiles & Components |
| 2921268 | Morningstar LSTA US Leveraged Loan 100 Banks |
| 2922289 | Morningstar LSTA US Leveraged Loan 100 Capital Goods |
| 2920654 | Morningstar LSTA US Leveraged Loan 100 Commercial & Professional Services |
| 2920567 | Morningstar LSTA US Leveraged Loan 100 Consumer Durables & Apparel |
| 2921269 | Morningstar LSTA US Leveraged Loan 100 Consumer Services |
| 2922290 | Morningstar LSTA US Leveraged Loan 100 Diversified Financials |
| 2920655 | Morningstar LSTA US Leveraged Loan 100 Energy |
| 2921270 | Morningstar LSTA US Leveraged Loan 100 Food & Staples Retailing |
| 2920570 | Morningstar LSTA US Leveraged Loan 100 Food, Beverage & Tobacco |
| 2922291 | Morningstar LSTA US Leveraged Loan 100 Health Care Equipment & Services |
| 2920614 | Morningstar LSTA US Leveraged Loan 100 Household & Personal Products |
| 2920569 | Morningstar LSTA US Leveraged Loan 100 Insurance |
| 2921271 | Morningstar LSTA US Leveraged Loan 100 Materials |
| 2922292 | Morningstar LSTA US Leveraged Loan 100 Media & Entertainment |
| 2920611 | Morningstar LSTA US Leveraged Loan 100 Pharmaceuticals, Biotechnology & Life Sciences |
| 2920571 | Morningstar LSTA US Leveraged Loan 100 Real Estate |
| 2921272 | Morningstar LSTA US Leveraged Loan 100 Retailing |
| 2922293 | Morningstar LSTA US Leveraged Loan 100 Semiconductors & Semiconductor Equipment |
| 2920610 | Morningstar LSTA US Leveraged Loan 100 Software & Services |
| 2920572 | Morningstar LSTA US Leveraged Loan 100 Technology Hardware & Equipment |
| 2921273 | Morningstar LSTA US Leveraged Loan 100 Telecommunication Services |
| 2922294 | Morningstar LSTA US Leveraged Loan 100 Transportation |

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| 2920608 | Morningstar LSTA US Leveraged Loan 100 Utilities |
| 2921176 | Morningstar European Aerospace & Defense Loan |
| 2920481 | Morningstar European Air Freight & Logistics Loan |
| 2916473 | Morningstar European Airlines Loan |
| 2921177 | Morningstar European Auto Components Loan |
| 2920598 | Morningstar European Automobiles & Components Loan |
| 2922211 | Morningstar European Automobiles Loan |
| 2916474 | Morningstar European Banks Loan |
| 2916475 | Morningstar European Beverages Loan |
| 2920602 | Morningstar European Biotechnology Loan |
| 2922212 | Morningstar European Building Products Loan |
| 2921179 | Morningstar European Capital Goods Loan |
| 2922213 | Morningstar European Capital Markets Loan |
| 2921180 | Morningstar European Chemicals Loan |
| 2922214 | Morningstar European Commercial & Professional Services Loan |
| 2921181 | Morningstar European Commercial Services & Supplies Loan |
| 2922215 | Morningstar European Communications Equipment Loan |
| 2916477 | Morningstar European Construction & Engineering Loan |
| 2921182 | Morningstar European Construction Materials Loan |
| 2916481 | Morningstar European Consumer Durables & Apparel Loan |
| 2920621 | Morningstar European Consumer Finance Loan |
| 2922216 | Morningstar European Consumer Services Loan |
| 2920606 | Morningstar European Containers & Packaging Loan |
| 2916482 | Morningstar European Distributors Loan |

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| 2920617 | Morningstar European Diversified Consumer Services Loan |
| 2921183 | Morningstar European Diversified Financials Loan |
| 2922217 | Morningstar European Diversified Financial Services Loan |
| 2916484 | Morningstar European Diversified Telecommunication Services Loan |
| 2921193 | Morningstar European Electric Utilities Loan |
| 2920579 | Morningstar European Electrical Equipment Loan |
| 2922218 | Morningstar European Electronic Equipment, Instruments & Components Loan |
| 2920578 | Morningstar European Energy Equipment & Services Loan |
| 2916485 | Morningstar European Energy Loan |
| 2921194 | Morningstar European Entertainment Loan |
| 2922219 | Morningstar European Equity Real Estate Investment Trusts (REITs) Loan |
| 2921196 | Morningstar European Food & Staples Retailing Loan |
| 2920544 | Morningstar European Food Products Loan |
| 2922220 | Morningstar European Food, Beverage & Tobacco Loan |
| 2916488 | Morningstar European Gas Utilities Loan |
| 2922222 | Morningstar European Health Care Equipment & Services Loan |
| 2921197 | Morningstar European Health Care Equipment & Supplies Loan |
| 2916489 | Morningstar European Health Care Providers & Services Loan |
| 2920546 | Morningstar European Health Care Technology Loan |
| 2920547 | Morningstar European Hotels, Restaurants & Leisure Loan |
| 2916495 | Morningstar European Household & Personal Products Loan |
| 2921198 | Morningstar European Household Durables Loan |
| 2922223 | Morningstar European Household Products Loan |
| 2920520 | Morningstar European Independent Power and Renewable Electricity Producers Loan |

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| 2921199 | Morningstar European Industrial Conglomerates Loan |
| 2922224 | Morningstar European Insurance Loan |
| 2922227 | Morningstar European Interactive Media & Services Loan |
| 2920548 | Morningstar European IT Services Loan |
| 2916497 | Morningstar European Leisure Products Loan |
| 2920505 | Morningstar European Life Sciences Tools & Services Loan |
| 2921201 | Morningstar European Machinery Loan |
| 2922226 | Morningstar European Marine Loan |
| 2916498 | Morningstar European Materials Loan |
| 2921202 | Morningstar European Media & Entertainment Loan |
| 2920507 | Morningstar European Media Loan |
| 2916499 | Morningstar European Metals & Mining Loan |
| 2920512 | Morningstar European Mortgage Real Estate Investment Trusts (REITs) Loan |
| 2921203 | Morningstar European Multiline Retail Loan |
| 2922228 | Morningstar European Multi-Utilities Loan |
| 2921204 | Morningstar European Oil, Gas & Consumable Fuels Loan |
| 2922229 | Morningstar European Paper & Forest Products Loan |
| 2916501 | Morningstar European Personal Products Loan |
| 2920513 | Morningstar European Pharmaceuticals Loan |
| 2921205 | Morningstar European Pharmaceuticals, Biotechnology & Life Sciences Loan |
| 2916502 | Morningstar European Professional Services Loan |
| 2922231 | Morningstar European Real Estate Loan |
| 2921206 | Morningstar European Real Estate Management & Development Loan |
| 2916503 | Morningstar European Retailing Loan |

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| 2920524 | Morningstar European Road & Rail Loan |
| 2922232 | Morningstar European Semiconductors & Semiconductor Equipment Loan |
| 2920528 | Morningstar European Software Loan |
| 2916504 | Morningstar European Software & Services Loan |
| 2922233 | Morningstar European Specialty Retail Loan |
| 2916505 | Morningstar European Technology Hardware & Equipment Loan |
| 2920537 | Morningstar European Technology Hardware, Storage & Peripherals Loan |
| 2921208 | Morningstar European Telecommunication Services Loan |
| 2921215 | Morningstar European Textiles, Apparel & Luxury Goods Loan |
| 2921214 | Morningstar European Tobacco Loan |
| 2922235 | Morningstar European Trading Companies & Distributors Loan |
| 2920542 | Morningstar European Transportation Infrastructure Loan |
| 2916508 | Morningstar European Transportation Loan |
| 2916516 | Morningstar European Utilities Loan |
| 2921216 | Morningstar European Water Utilities Loan |
| 2922237 | Morningstar European Wireless Telecommunication Services Loan |
| 2922238 | Morningstar Global Aerospace & Defense Loan |
| 2916518 | Morningstar Global Air Freight & Logistics Loan |
| 2918825 | Morningstar Global Airlines Loan |
| 2922239 | Morningstar Global Auto Components Loan |
| 2921218 | Morningstar Global Automobiles & Components Loan |
| 2916519 | Morningstar Global Automobiles Loan |
| 2918826 | Morningstar Global Banks Loan |

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| 2918827 | Morningstar Global Beverages Loan |
| 2921220 | Morningstar Global Biotechnology Loan |
| 2916520 | Morningstar Global Building Products Loan |
| 2922241 | Morningstar Global Capital Goods Loan |
| 2916521 | Morningstar Global Capital Markets Loan |
| 2918828 | Morningstar Global Chemicals Loan |
| 2921221 | Morningstar Global Commercial & Professional Services Loan |
| 2922242 | Morningstar Global Commercial Services & Supplies Loan |
| 2922243 | Morningstar Global Communications Equipment Loan |
| 2918829 | Morningstar Global Construction & Engineering Loan |
| 2916522 | Morningstar Global Construction Materials Loan |
| 2916523 | Morningstar Global Consumer Durables & Apparel Loan |
| 2918830 | Morningstar Global Consumer Finance Loan |
| 2921223 | Morningstar Global Consumer Services Loan |
| 2921222 | Morningstar Global Containers & Packaging Loan |
| 2922244 | Morningstar Global Distributors Loan |
| 2916524 | Morningstar Global Diversified Consumer Services Loan |
| 2921224 | Morningstar Global Diversified Financial Services Loan |
| 2920458 | Morningstar Global Diversified Financials Loan |
| 2922245 | Morningstar Global Diversified Telecommunication Services Loan |
| 2920459 | Morningstar Global Electric Utilities Loan |
| 2916525 | Morningstar Global Electrical Equipment Loan |
| 2921225 | Morningstar Global Electronic Equipment, Instruments & Components Loan |
| 2916526 | Morningstar Global Energy Equipment & Services Loan |

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| 2916526 | Morningstar Global Energy Loan |
| 2920460 | Morningstar Global Entertainment Loan |
| 2921226 | Morningstar Global Equity Real Estate Investment Trusts (REITs) Loan |
| 2920461 | Morningstar Global Food & Staples Retailing Loan |
| 2916527 | Morningstar Global Food Products Loan |
| 2922247 | Morningstar Global Food, Beverage & Tobacco Loan |
| 2921227 | Morningstar Global Gas Utilities Loan |
| 2916528 | Morningstar Global Health Care Equipment & Services Loan |
| 2922248 | Morningstar Global Health Care Equipment & Supplies Loan |
| 2920480 | Morningstar Global Health Care Providers & Services Loan |
| 2921228 | Morningstar Global Health Care Technology Loan |
| 2921229 | Morningstar Global Hotels, Restaurants & Leisure Loan |
| 2920462 | Morningstar Global Household & Personal Products Loan |
| 2922249 | Morningstar Global Household Durables Loan |
| 2916529 | Morningstar Global Household Products Loan |
| 2920488 | Morningstar Global Independent Power and Renewable Electricity Producers Loan |
| 2922250 | Morningstar Global Industrial Conglomerates Loan |
| 2920601 | Morningstar Global Insurance Loan |
| 2921232 | Morningstar Global Interactive Media & Services Loan |
| 2921230 | Morningstar Global IT Services Loan |
| 2922251 | Morningstar Global Leisure Products Loan |
| 2920603 | Morningstar Global Life Sciences Tools & Services Loan |
| 2920482 | Morningstar Global Machinery Loan |
| 2921231 | Morningstar Global Marine Loan |

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| 2922252 | Morningstar Global Materials Loan |
| 2920484 | Morningstar Global Media & Entertainment Loan |
| 2920605 | Morningstar Global Media Loan |
| 2922253 | Morningstar Global Metals & Mining Loan |
| 2920607 | Morningstar Global Mortgage Real Estate Investment Trusts (REITs) Loan |
| 2920486 | Morningstar Global Multiline Retail Loan |
| 2921233 | Morningstar Global Multi-Utilities Loan |
| 2922254 | Morningstar Global Oil, Gas & Consumable Fuels Loan |
| 2920609 | Morningstar Global Paper & Forest Products Loan |
| 2920485 | Morningstar Global Personal Products Loan |
| 2921234 | Morningstar Global Pharmaceuticals Loan |
| 2922255 | Morningstar Global Pharmaceuticals, Biotechnology & Life Sciences Loan |
| 2920612 | Morningstar Global Professional Services Loan |
| 2922256 | Morningstar Global Real Estate Loan |
| 2921235 | Morningstar Global Real Estate Management & Development Loan |
| 2920613 | Morningstar Global Retailing Loan |
| 2920487 | Morningstar Global Road & Rail Loan |
| 2921236 | Morningstar Global Semiconductors & Semiconductor Equipment Loan |
| 2922257 | Morningstar Global Software & Services Loan |
| 2920615 | Morningstar Global Software Loan |
| 2920491 | Morningstar Global Specialty Retail Loan |
| 2921237 | Morningstar Global Technology Hardware & Equipment Loan |
| 2922258 | Morningstar Global Technology Hardware, Storage & Peripherals Loan |
| 2920616 | Morningstar Global Telecommunication Services Loan |

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| 2921239 | Morningstar Global Textiles, Apparel & Luxury Goods Loan |
| 2921238 | Morningstar Global Tobacco Loan |
| 2922259 | Morningstar Global Trading Companies & Distributors Loan |
| 2920492 | Morningstar Global Transportation Infrastructure Loan |
| 2920618 | Morningstar Global Transportation Loan |
| 2922260 | Morningstar Global Utilities Loan |
| 2920619 | Morningstar Global Water Utilities Loan |
| 2920497 | Morningstar Global Wireless Telecommunication Services Loan |

Appendix V

Summary of clarifications and other updates to the index methodology document.

| Version date | Description |
|--------------------|---|
| January 14, 2025 | Added index rules for the Morningstar LSTA US \$500M+ Index |
| November 27, 2024 | Corrected the description of base rate application for European loans. |
| October 30, 2024 | <p>Clarified the weighting method used when calculating the index level loan spread.</p> <p>Other minor clarifications as part of routine review of all relevant index documentation.</p> |
| September 23, 2024 | <p>Added index rules for the Morningstar LSTA US B Ratings and Above ex Financials Loan Index</p> <p>Issued clarifications to:</p> <ul style="list-style-type: none"> • The effective date of weekly rebalances and holiday treatment • Index descriptions for the Morningstar LSTA US Leveraged Loan Select Equal Weight Index and the Morningstar LSTA US Leveraged Loan Select Equal Par Value Index |
| July 24, 2024 | Added index rules for the Morningstar LSTA US B/BB Ratings Loan ex Utilities and Energy Index |

| | |
|---------------|---|
| June 18, 2024 | Added base currency calculation formulas to Calculation of index loan returns section. Added clarification that PIK loans are not eligible for inclusion. |
|---------------|---|

As part of the transition from calculation and Administration by S&P Dow Jones Indices to Morningstar Indexes effective May 4, 2024, Morningstar Indexes identified certain methodology descriptions which required a correction and/or clarification to reflect the actual implementation employed by S&P Dow Jones Indices prior to the transition and the implementation to be employed by Morningstar Indexes effective May 4, 2024 onwards. These items are described in the following table:

Corrections/Clarifications upon transition to Morningstar Indexes as Calculator and Administrator

Capping:

- The Morningstar LSTA US Leveraged Loan 100 Index and Morningstar LSTA US Leveraged Loan 100 B/BB Ratings Index was described as having a 2.0% weight cap on loan facilities in the April 2023 and prior versions of the rulebook. This has been corrected in the May 4, 2024 version to match the actual implementation of 1.9% capping employed by S&P at each rebalance prior to May 4, 2024 and implemented by Morningstar Indexes as of the transition date.
- The Morningstar Global Leveraged Loan 150 Issuers Index was described as having a 2.0% weight cap on US loan facilities and a 5.0% weight cap on European loan facilities. This has been corrected in the May 4, 2024 version to match the actual implementation of 1.9% capping on US facilities and 4.9% capping on European facilities employed by S&P at each rebalance prior to May 4, 2024 and implemented by Morningstar Indexes as of the transition date.
- The Morningstar Global Leveraged Loan 100 Index was described as having a 2.0% weight cap on US loan facilities and a 5.0% weight cap on European loan facilities. This has been corrected in the May 4, 2024 version to match the actual implementation which does not incorporate capping.

European Regional Indexes:

- The Morningstar European PIIGS Loan Index and Morningstar European ex-PIIGS Loan Index did not correctly include or exclude the PIIGS countries of Portugal, Ireland, Italy, Greece and Spain in the implementation of the methodology prior to May 4, 2024. Effective May 4, 2024 the correction has been applied.
- The Morningstar European Nordics Region Loan Index did not include loans from Norway prior to May 4, 2024. Effective May 4, 2024 the correction has been applied.

Base rate:

- The date of application of the base rate in the April 2023 and prior versions of the rulebook was described as being applied on Monday. This has been corrected in the May 4, 2024 version to match the actual implementation of application on Friday prior to May 4, 2024 and implemented by Morningstar Indexes as of the transition date.
-

Rebalancing frequency of performing loan and credit rating indexes:

- The April 2023 and prior versions of the rulebook did not reflect that the performing loan and credit ratings indexes are subject to off-cycle (midweek) rebalancing in the event a loan is downgraded to D by S&P Global Ratings. This has been clarified in the May 4, 2024 version of the rulebook for all indexes subject to this treatment to match the actual implementation prior to May 4, 2024 and implemented by Morningstar Indexes as of the transition date.
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In the event of any inconsistency between the text below and any version which is translated into any other language, the text below shall prevail.

The indexes are proprietary to Morningstar. No use or publication may be made of an index, or any of its provisions or values, without the prior written consent of Morningstar.

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Morningstar Indexes were built to keep up with the evolving needs of investors—and to be a leading-edge advocate for them. Our rich heritage as a transparent, investor-focused leader in data and research uniquely equips us to support individuals, institutions, wealth managers and advisors in navigating investment opportunities across major asset classes, styles and strategies. From traditional benchmarks and unique IP-driven indexes, to index design, calculation and distribution services, our solutions span an investment landscape as diverse as investors themselves.

Morningstar Indexes Methodology Committee

The Morningstar Indexes Methodology Committee oversees all new indexes development, index methodology changes, and cessation of indexes for any indexes where Morningstar owns the intellectual property. This committee is also charged with ensuring that indexes align with Morningstar research principles and values. The group is comprised of members of the index team with index research, product development, product management, client service, index implementation and operation expertise who provide the first layer of governance over index design and methodology.

Morningstar Indexes Operations Committee

The Morningstar Indexes Operations Committee governs the processes, systems, and exception handling of the day-to-day management of all live indexes, including index rebalancing and reconstitution, restatements, market classification, and contingency management. The committee oversees the annual review of index methodology (as required by UK & EU Benchmark Regulations), ensuring methodologies remain fit for purpose and continue to achieve their stated investment objectives. This committee is comprised of members of the index team with data, operations, corporate actions, product development, index launch, client service, and index management experience who provide the first layer of governance over index operations.

Morningstar Indexes Oversight Committee

The Morningstar Indexes Oversight Committee is responsible for the index oversight function as per the requirements of the UK & EU Benchmark Regulations (“BMRs”), providing independent oversight of all aspects of the governance of benchmark administration as required by the relevant BMR. Its remit extends to all calculation and administration-related business activities of Morningstar Indexes including administration of Morningstar-owned

benchmarks as well as client-owned benchmarks and index calculation. The Morningstar Indexes Oversight Committee is part of the organizational structure of Morningstar, but is separate and independent from the Index business, Index Management, and the other Index Committees.

www.indexes.morningstar.com

Contact Us

indexes@morningstar.com

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