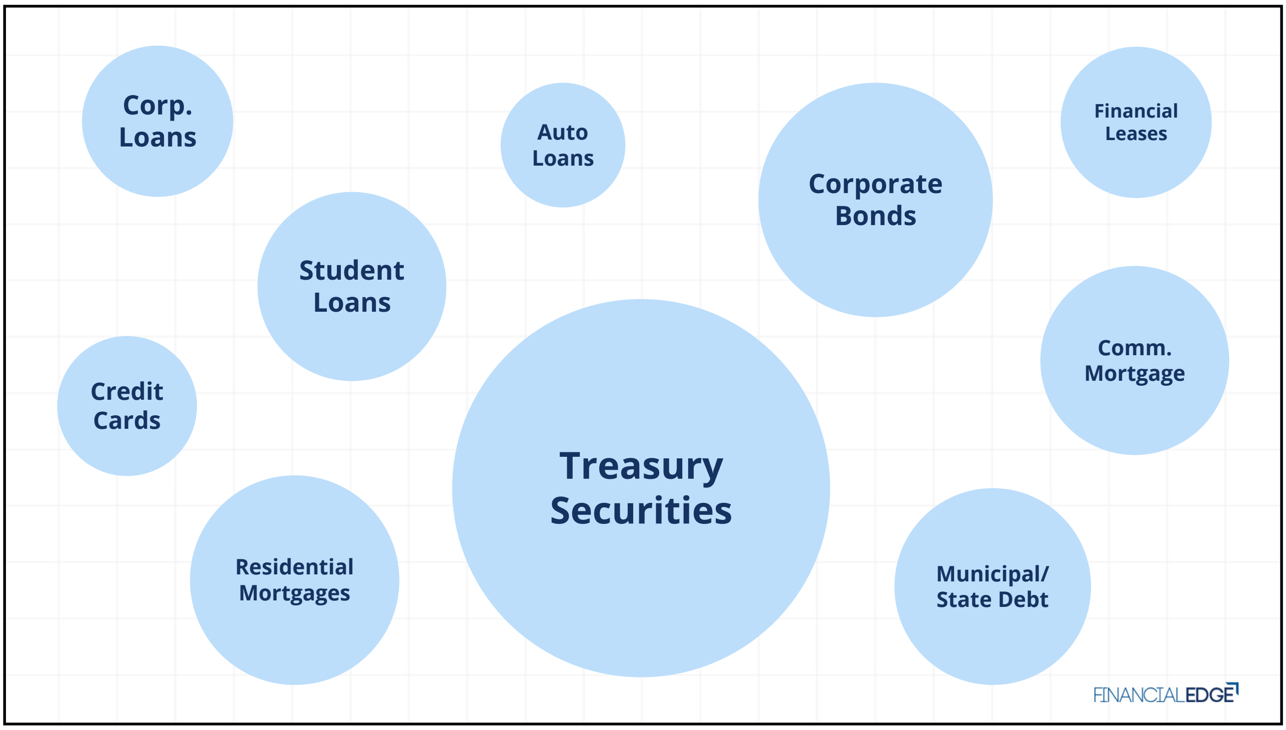
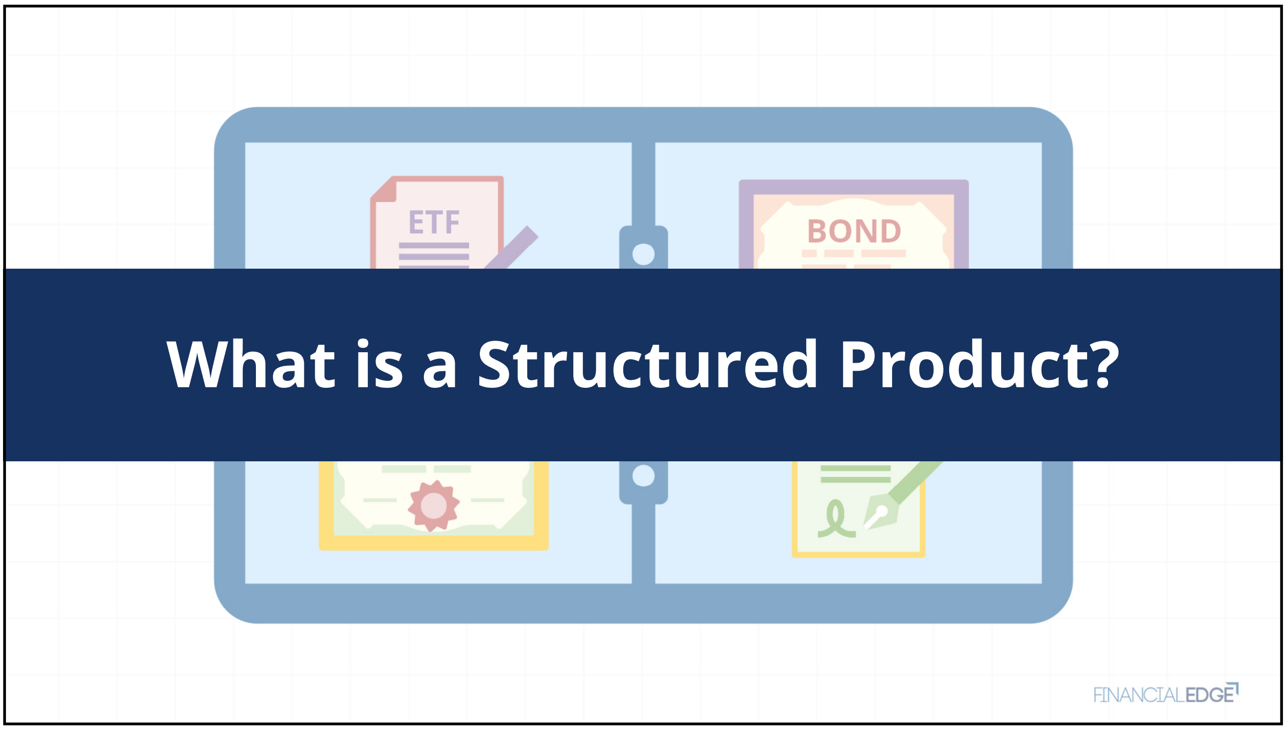
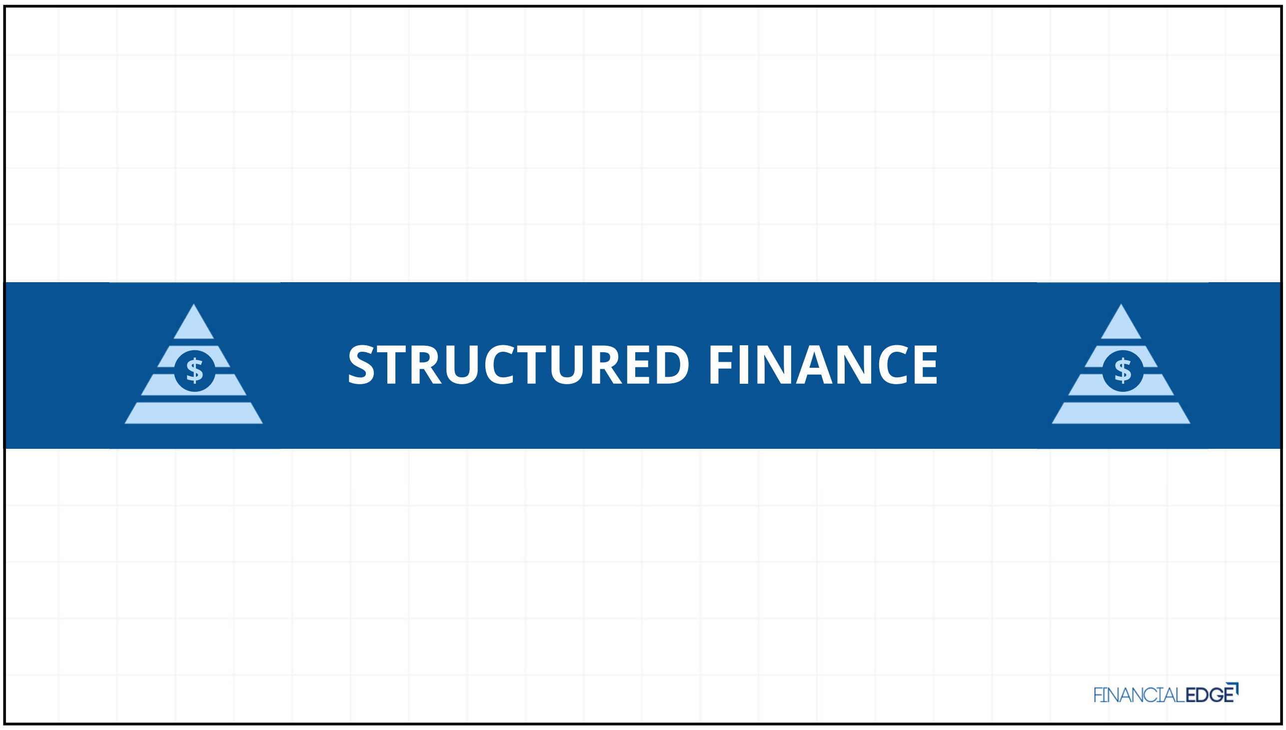
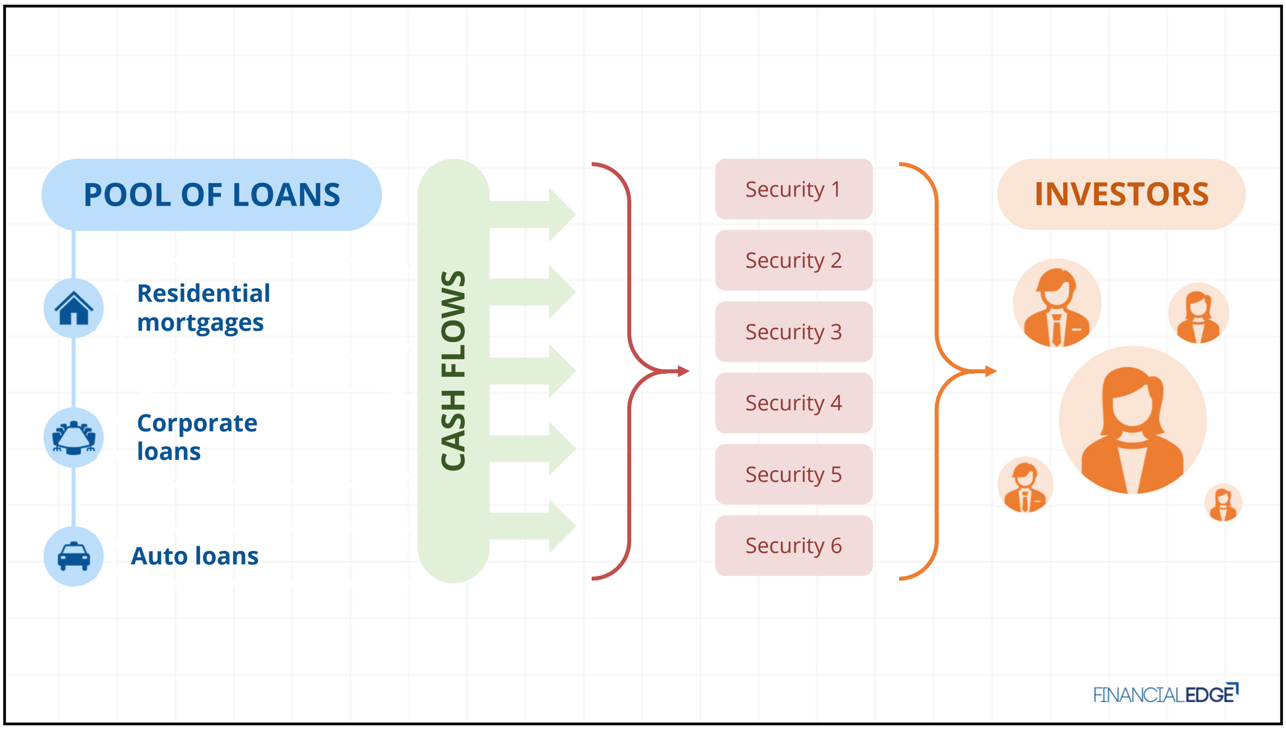
Structured Products Origination

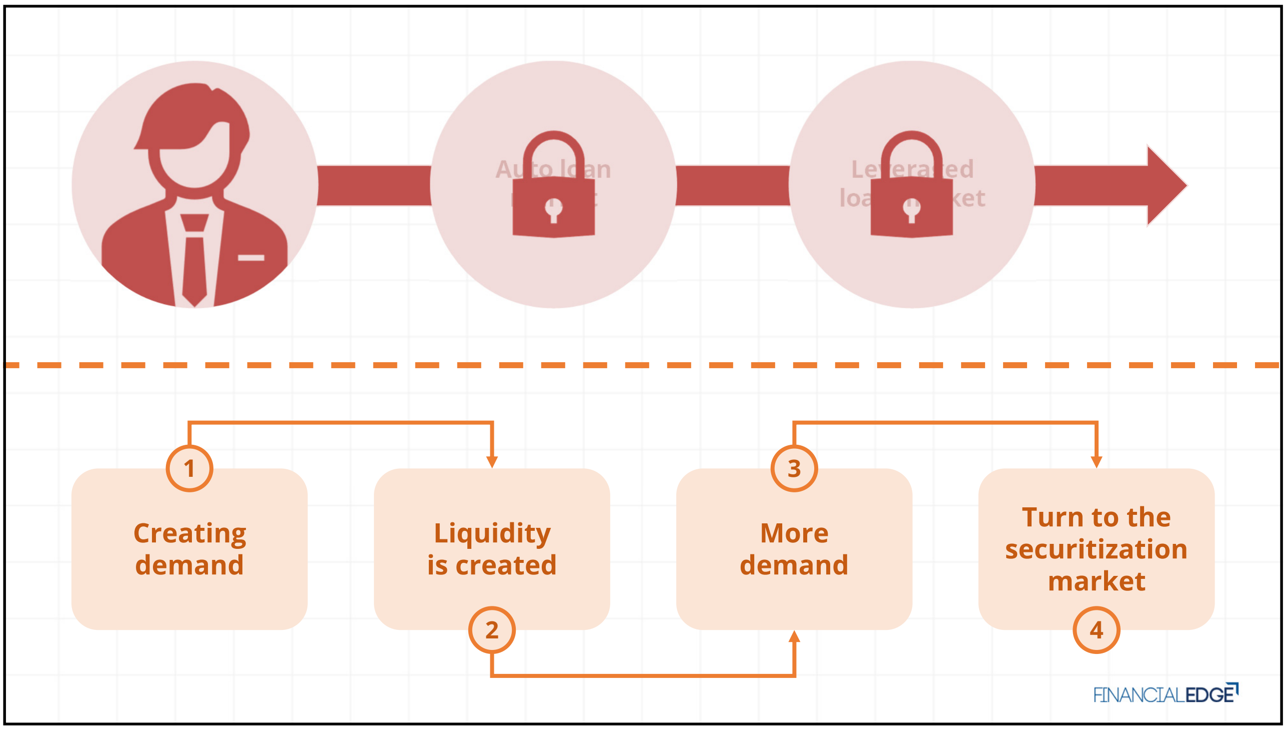
Debt Financing Issuers

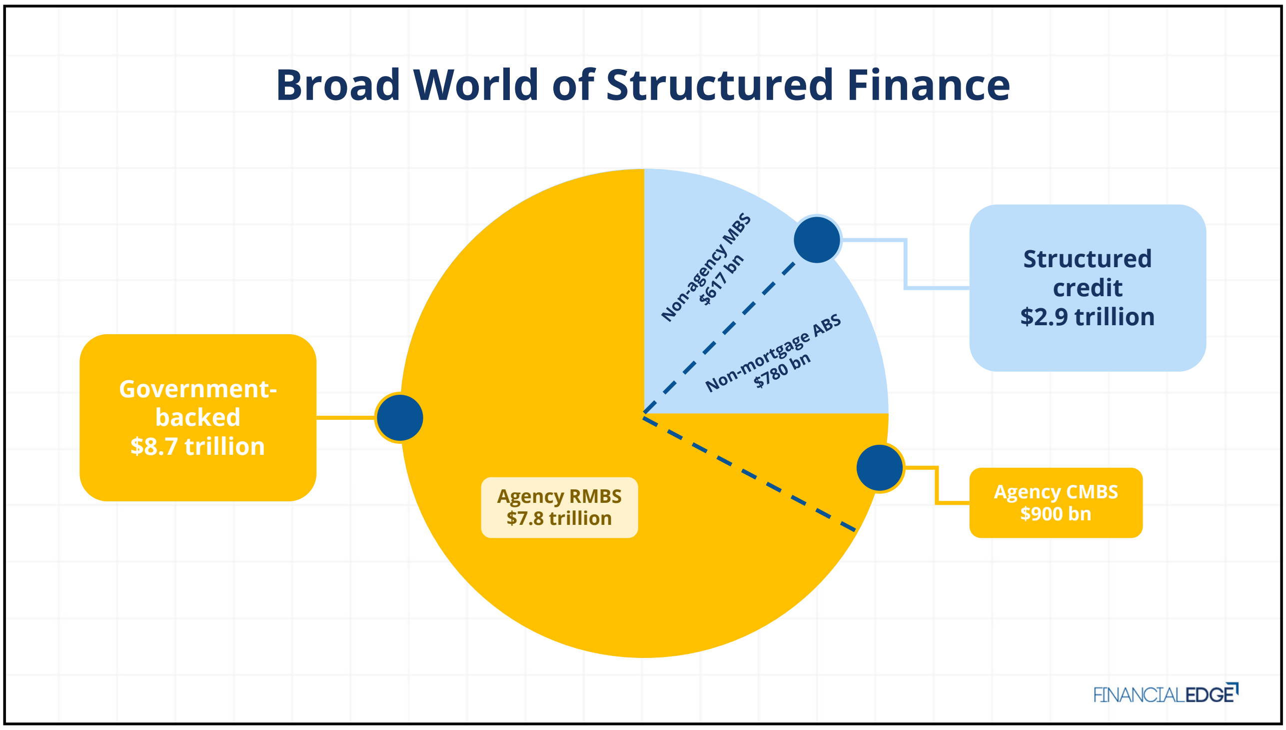

Corp. Loans
Auto Loans
Corporate Bonds
Financial Leases
Student Loans
Comm. Mortgage
Credit Cards
Treasury Securities
Residential Mortgages
Municipal/ State Debt
FINANCIALEDGE


ETF
BOND
What is a Structured Product?
FINANCIALEDGE


STRUCTURED FINANCE
FINANCIALEDGE


POOL OF LOANS
Residential mortgages
Corporate loans
Auto loans
CASH FLOWS
Security 1
Security 2
Security 3
Security 4
Security 5
Security 6
INVESTORS
FINANCIALEDGE


1
Creating demand
Liquidity is created
2
3
More demand
Turn to the securitization market
4
FINANCIALEDGE


Broad World of Structured Finance
Non-agency MBS $617 bn
Non-mortgage ABS $780 bn
Structured credit $2.9 trillion
Government-backed $8.7 trillion
Agency RMBS $7.8 trillion
Agency CMBS $900 bn
FINANCIALEDGE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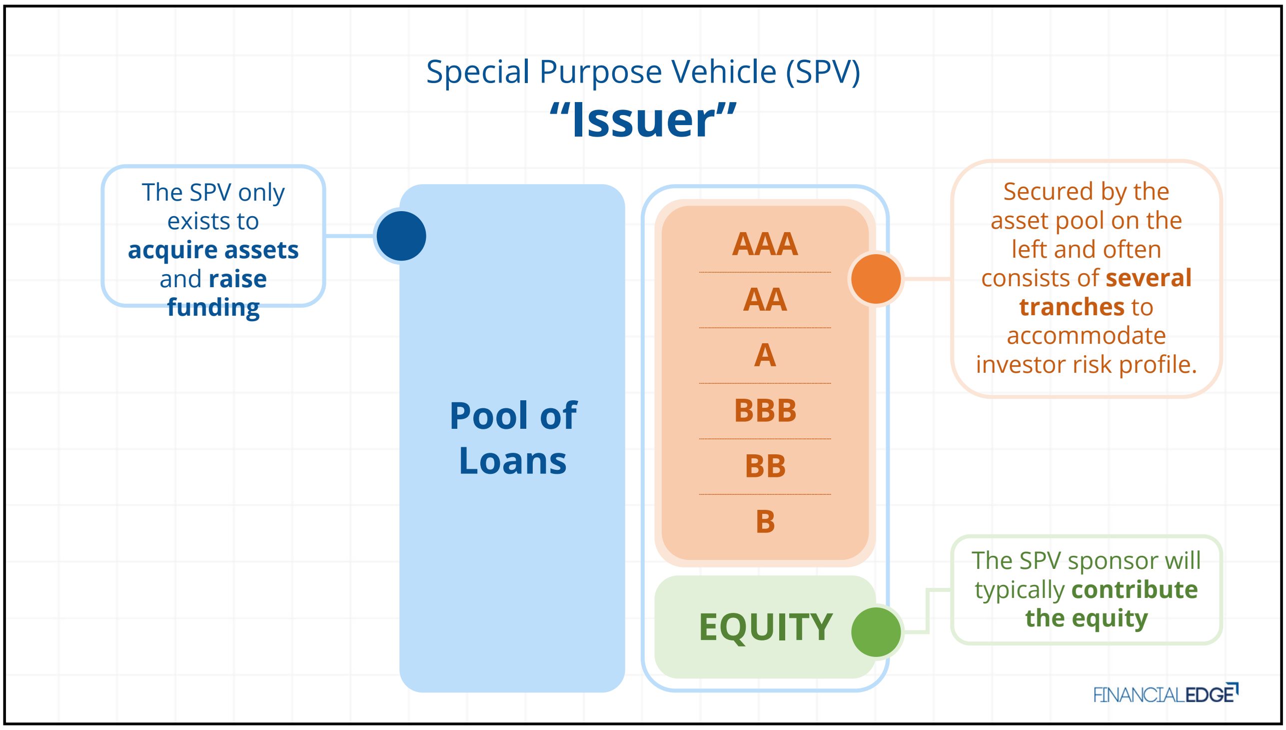
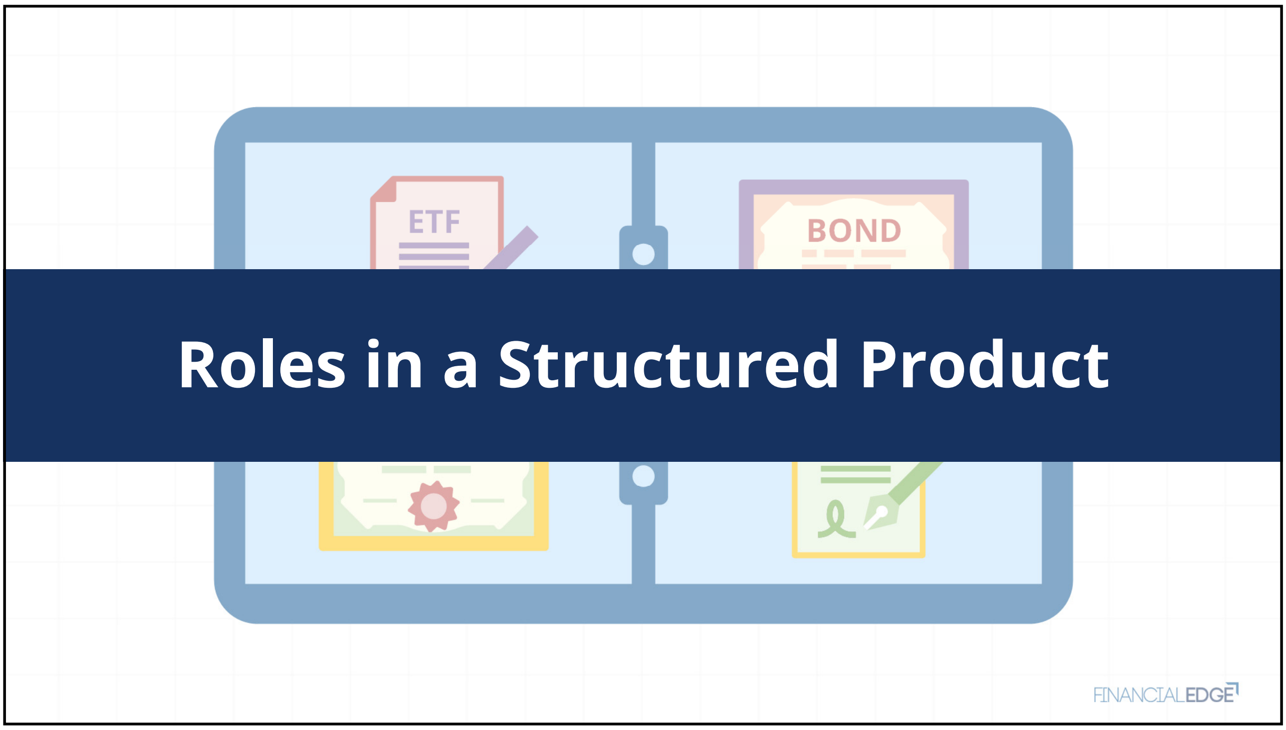
BOND
Creating an Asset-Backed Security
FINANCIALEDGE


Special Purpose Vehicle (SPV)
"Issuer"
The SPV only exists to **acquire assets** and **raise funding**
Pool of Loans
AAA
AA
A
BBB
BB
B
EQUITY
Secured by the asset pool on the left and often consists of **several tranches** to accommodate investor risk profile.
The SPV sponsor will typically **contribute the equity**
FINANCIALEDGE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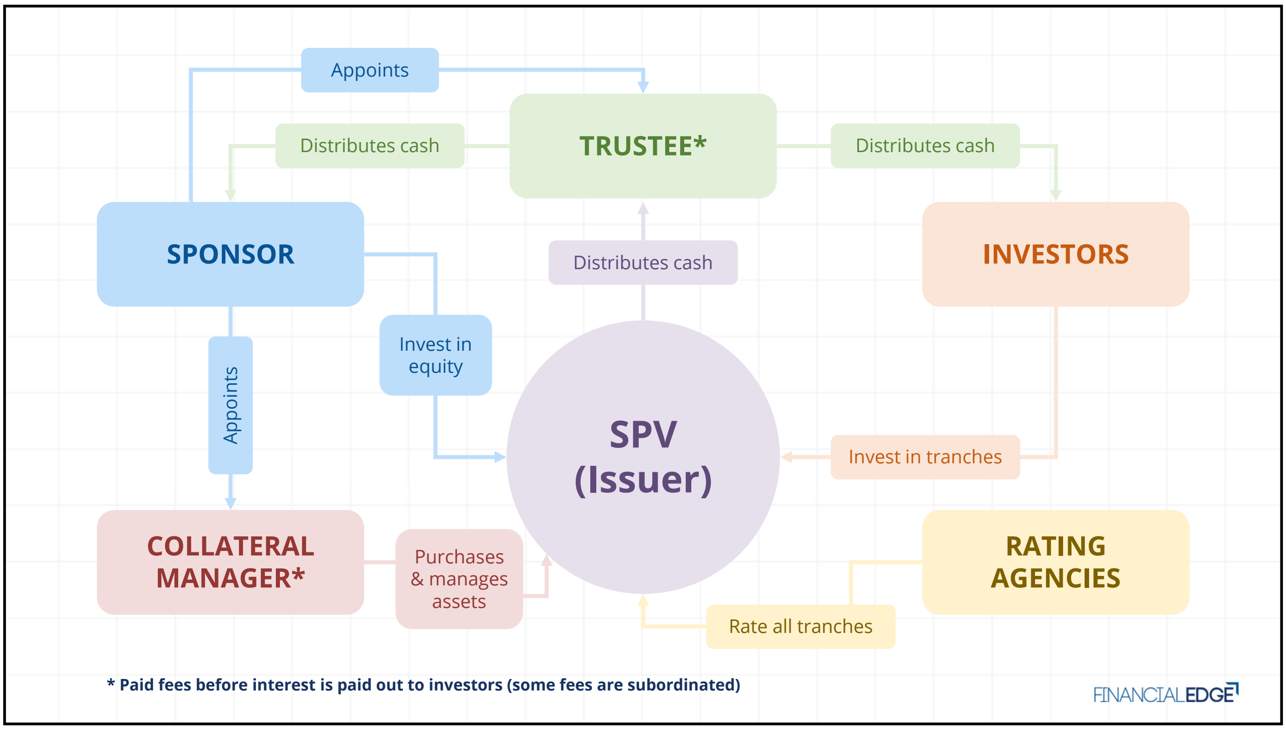
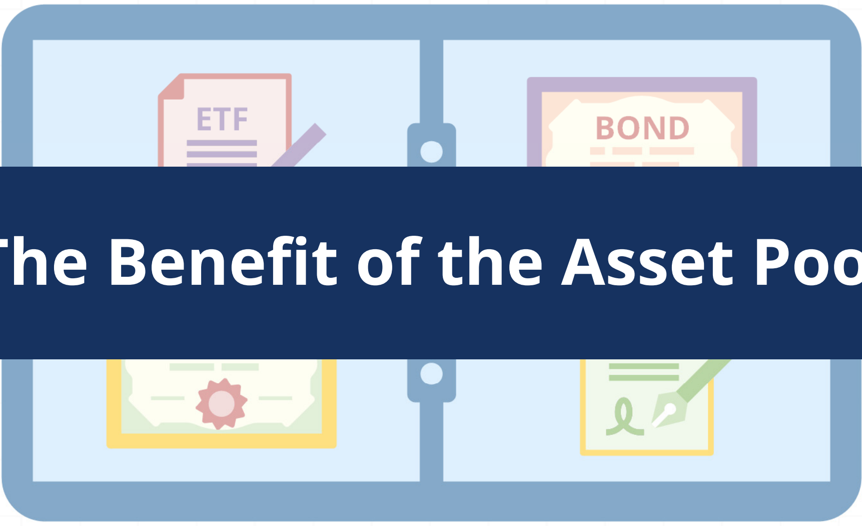
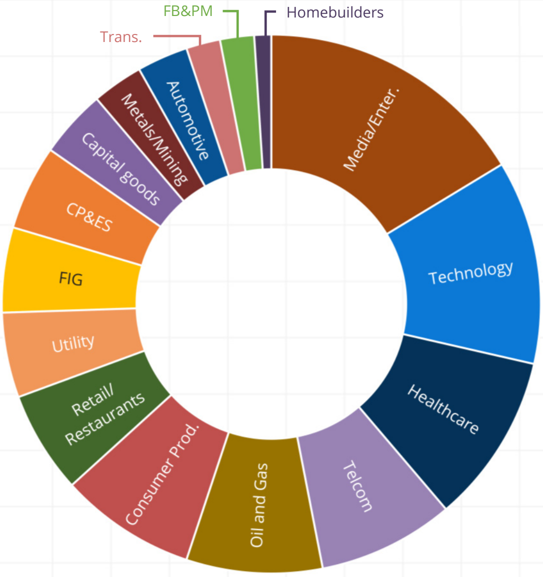
Roles in a Structured Product
FINANCIALEDGE


Appoints
Distributes cash
TRUSTEE*
Distributes cash
SPONSOR
Distributes cash
INVESTORS
Invest in equity
Appoints
SPV (Issuer)
Invest in tranches
COLLATERAL MANAGER*
Purchases & manages assets
RATING AGENCIES
Rate all tranches
* Paid fees before interest is paid out to investors (some fees are subordinated)
FINANCIALEDGE



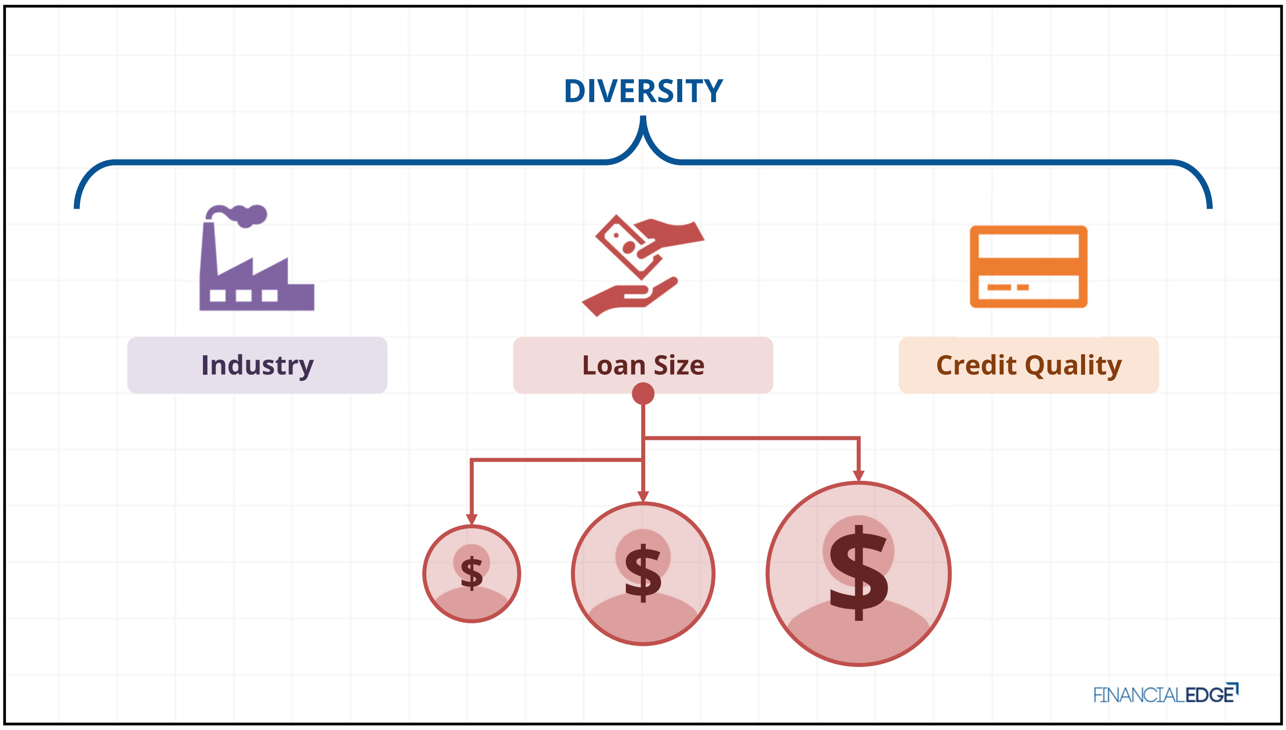
The Benefit of the Asset Pool

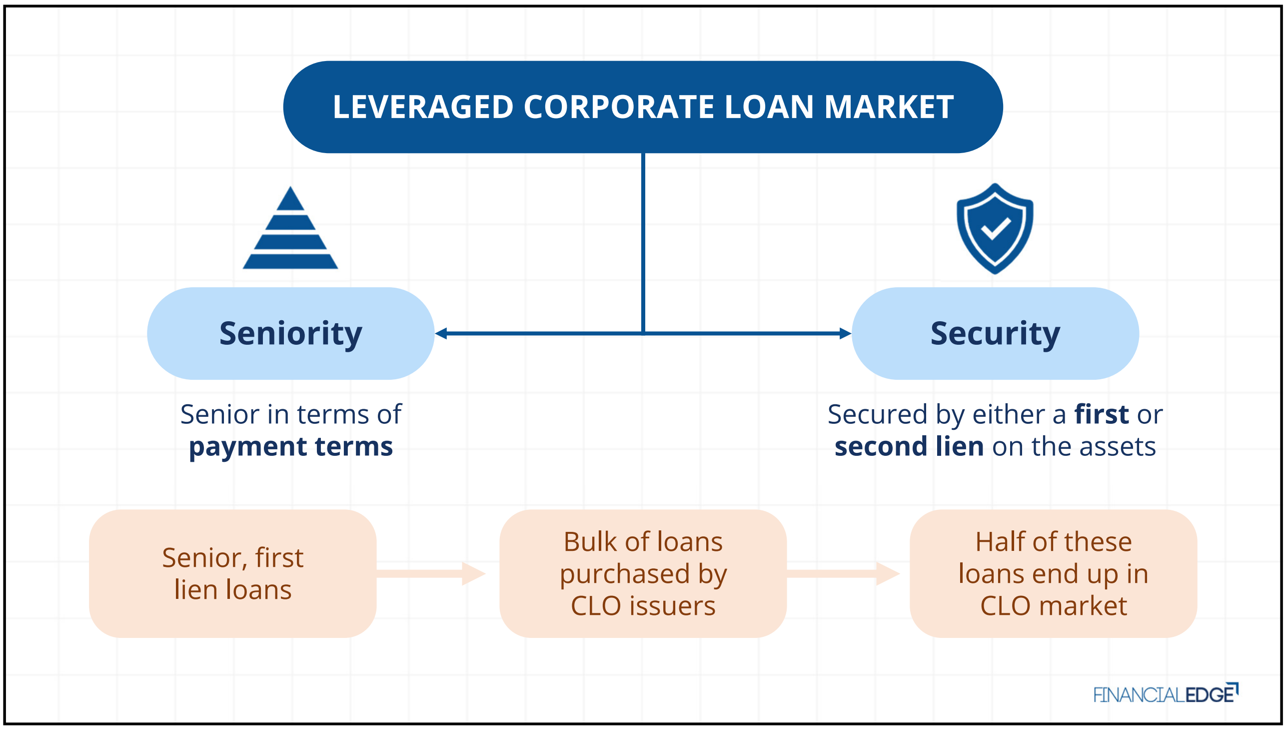


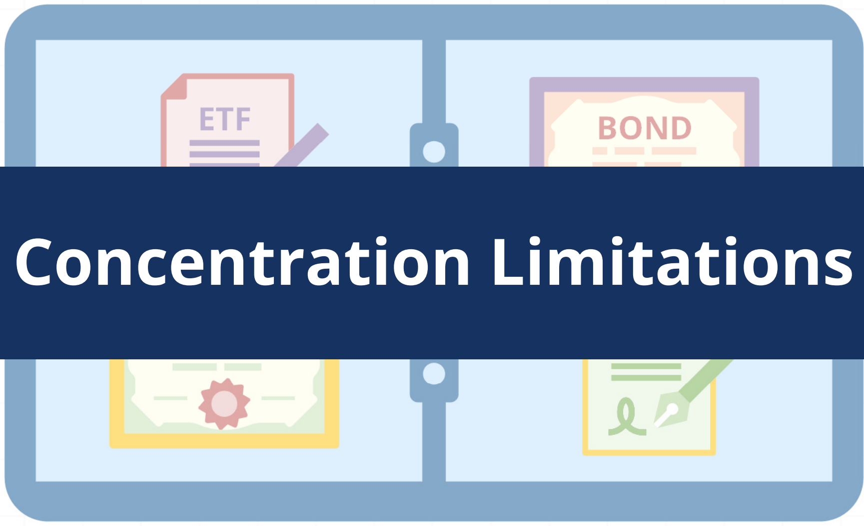
$1.2 trillion loan market

CLO Example

CLO Issuer purchases **100 to 200** sub-investment grade loans representing various industries, credit qualities, and loan amounts. These loans on average pay high yields due to **riskiness as individual loans**

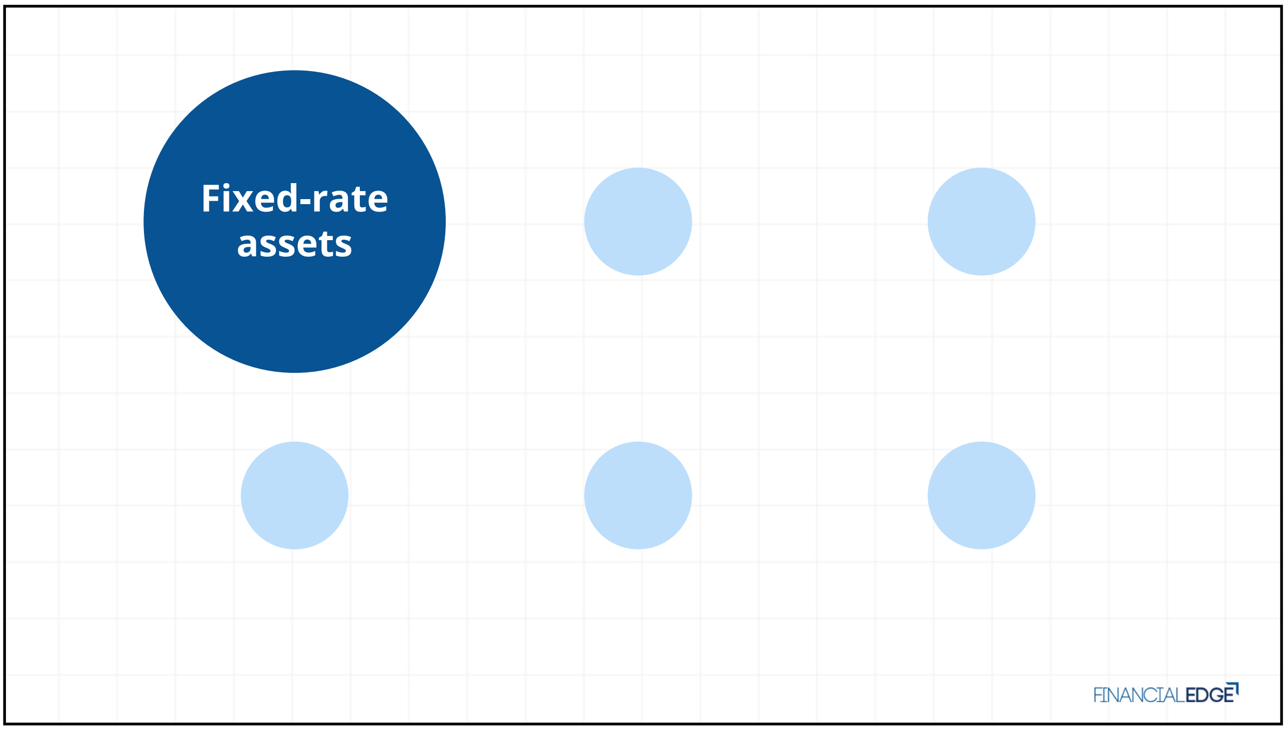

DIVERSITY
Industry
Loan Size
Credit Quality
$
$
$
FINANCIALEDGE

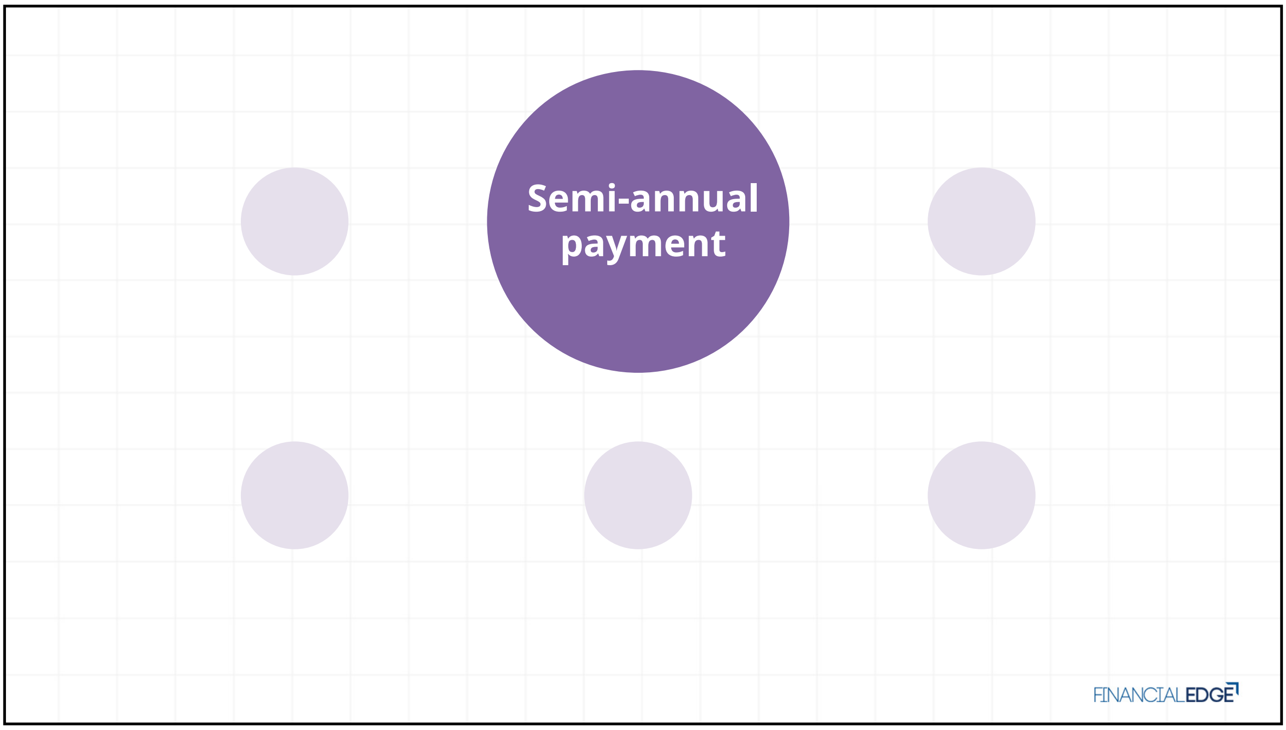

LEVERAGED CORPORATE LOAN MARKET
Seniority
Security
Senior in terms of **payment terms**
Secured by either a **first** or **second lien** on the assets
Senior, first lien loans
Bulk of loans purchased by CLO issuers
Half of these loans end up in CLO market
FINANCIALEDGE

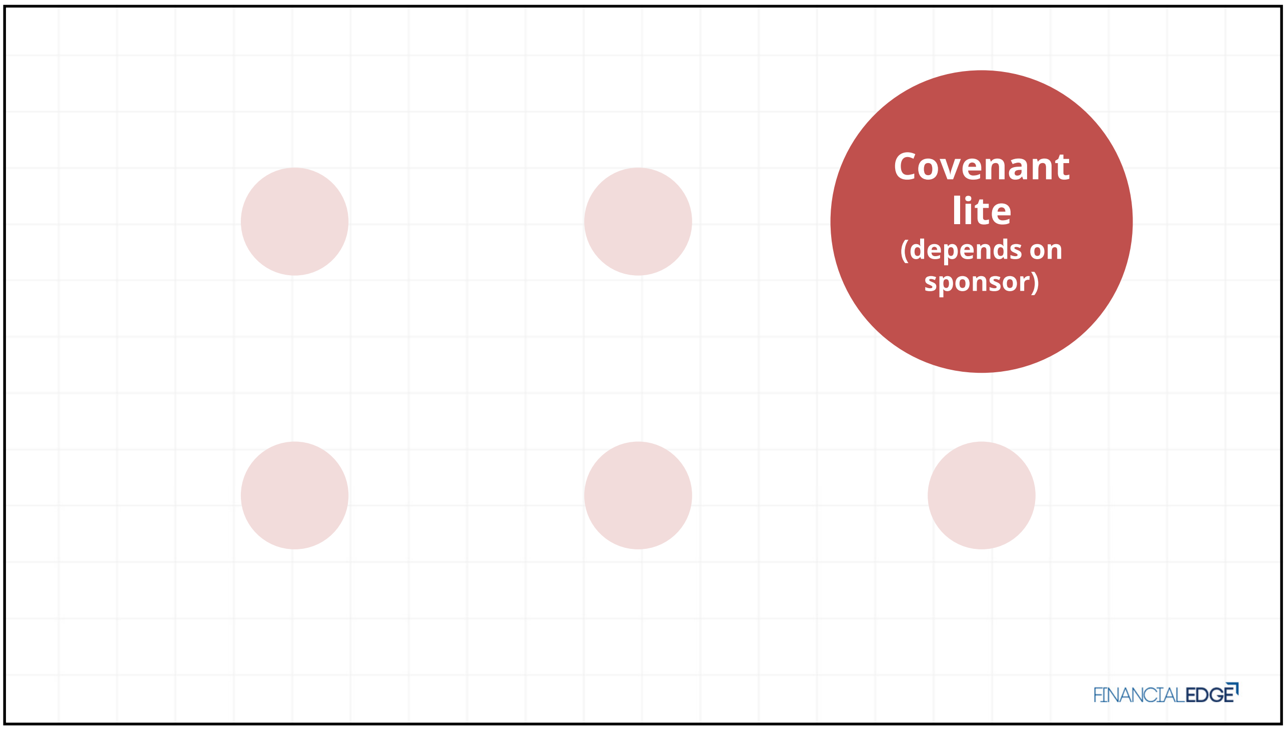


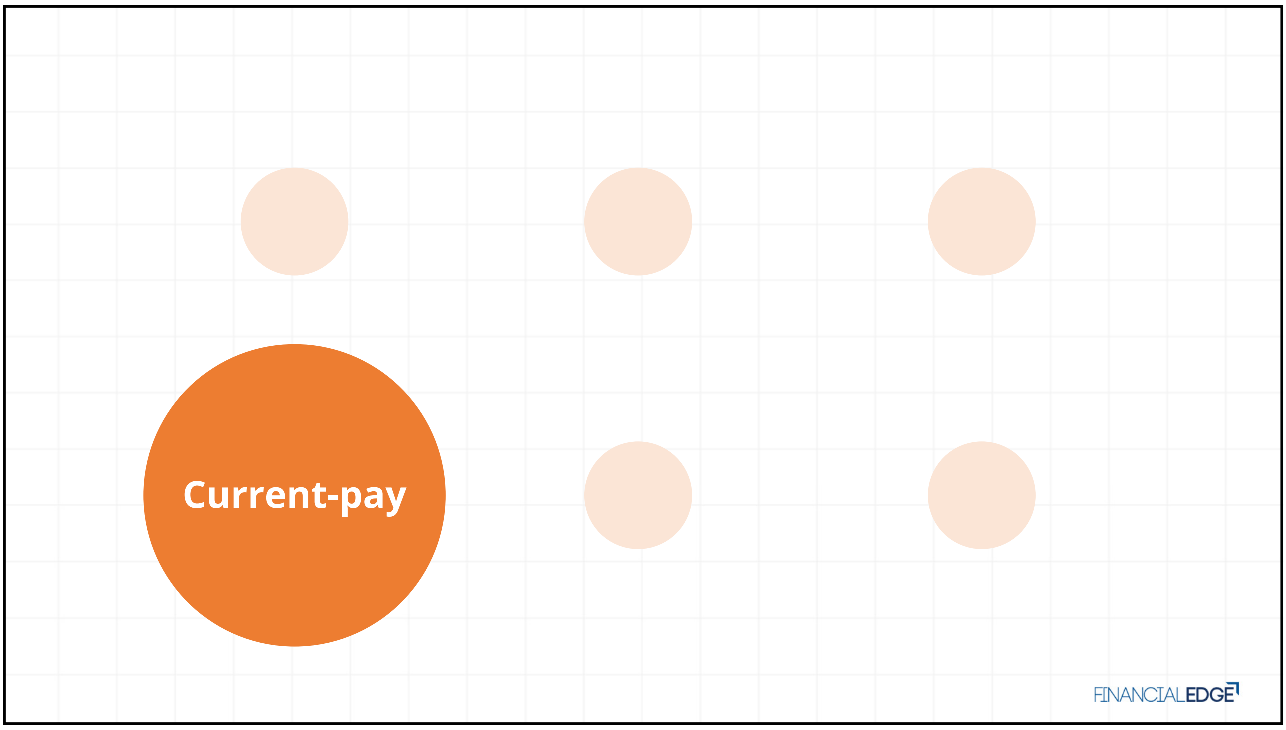
Concentration Limitations

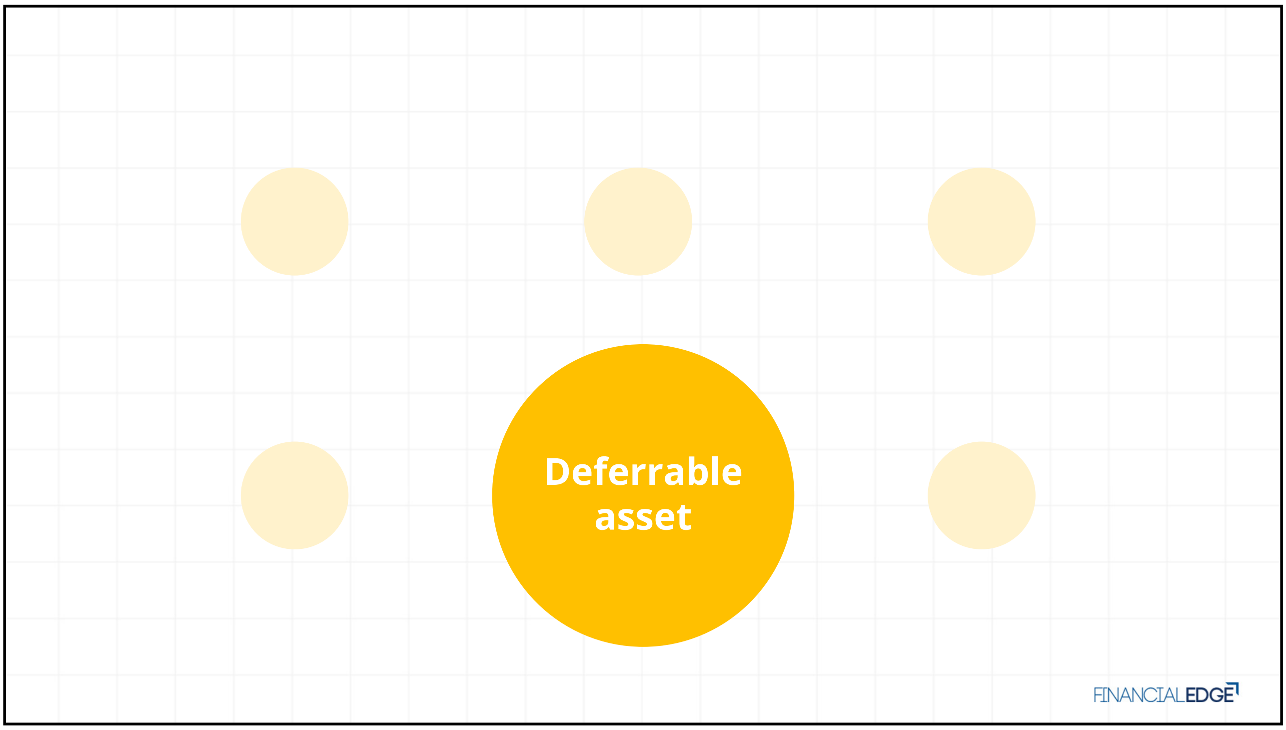
Guidelines when buying and trading loans for the portfolio

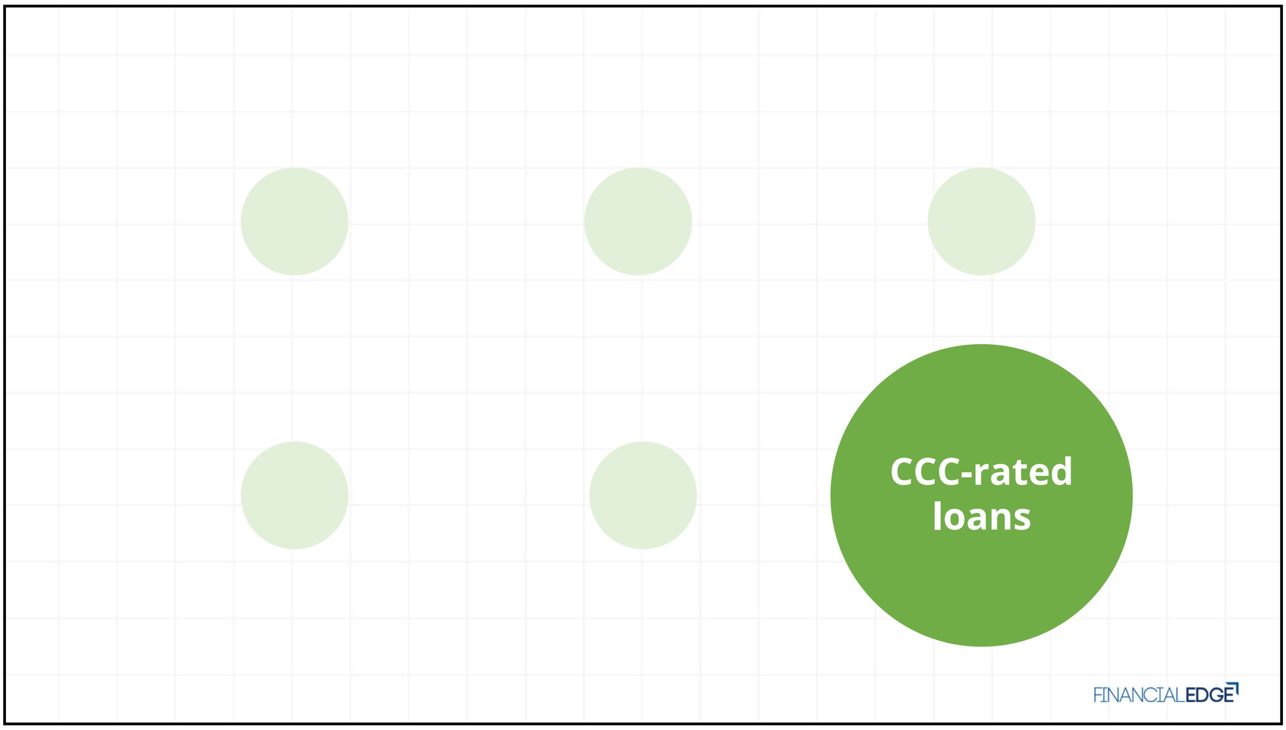

Fixed-rate assets
FINANCIALEDGE


Semi-annual payment
FINANCIALEDGE

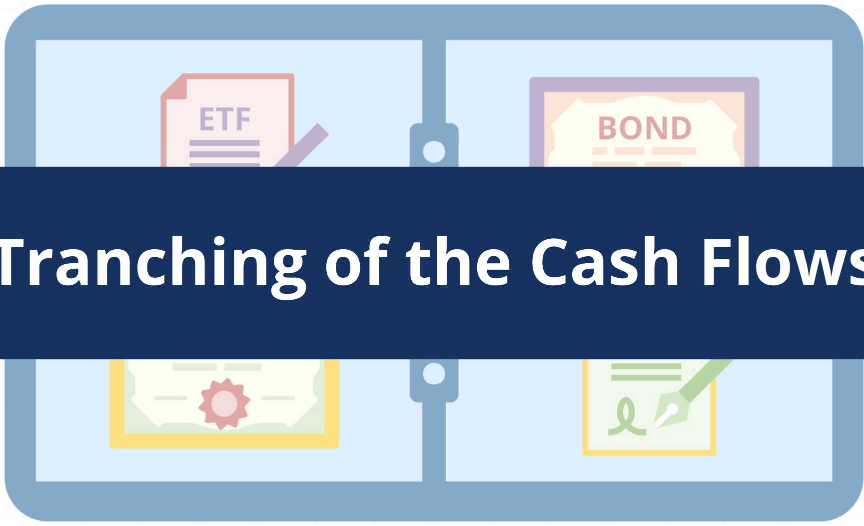

Covenant lite
(depends on sponsor)
FINANCIALEDGE

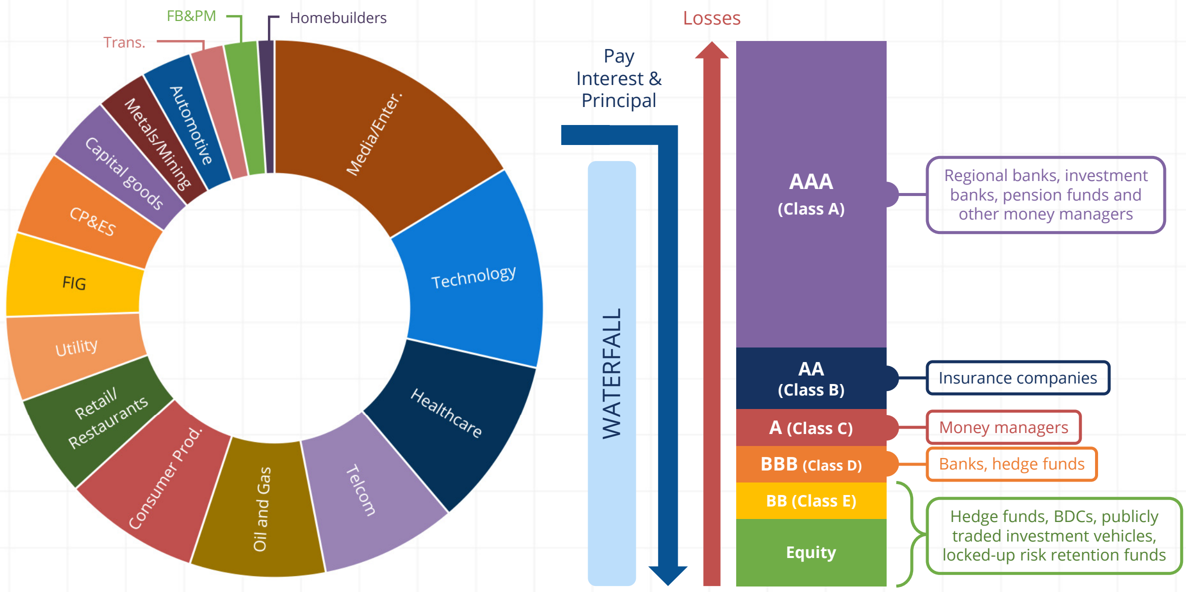

Current-pay
FINANCIALEDGE

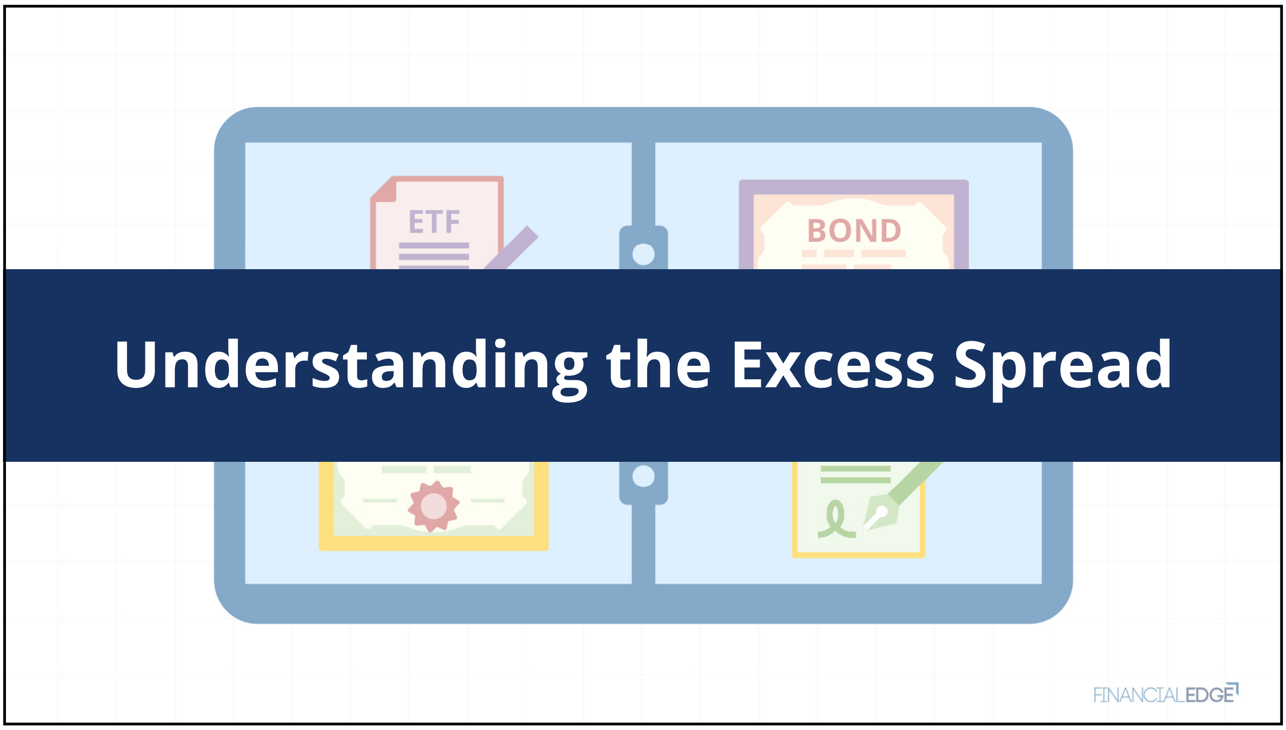

Deferrable asset
FINANCIALEDGE


CCC-rated loans
FINANCIALEDGE

Tranching of the Cash Flows



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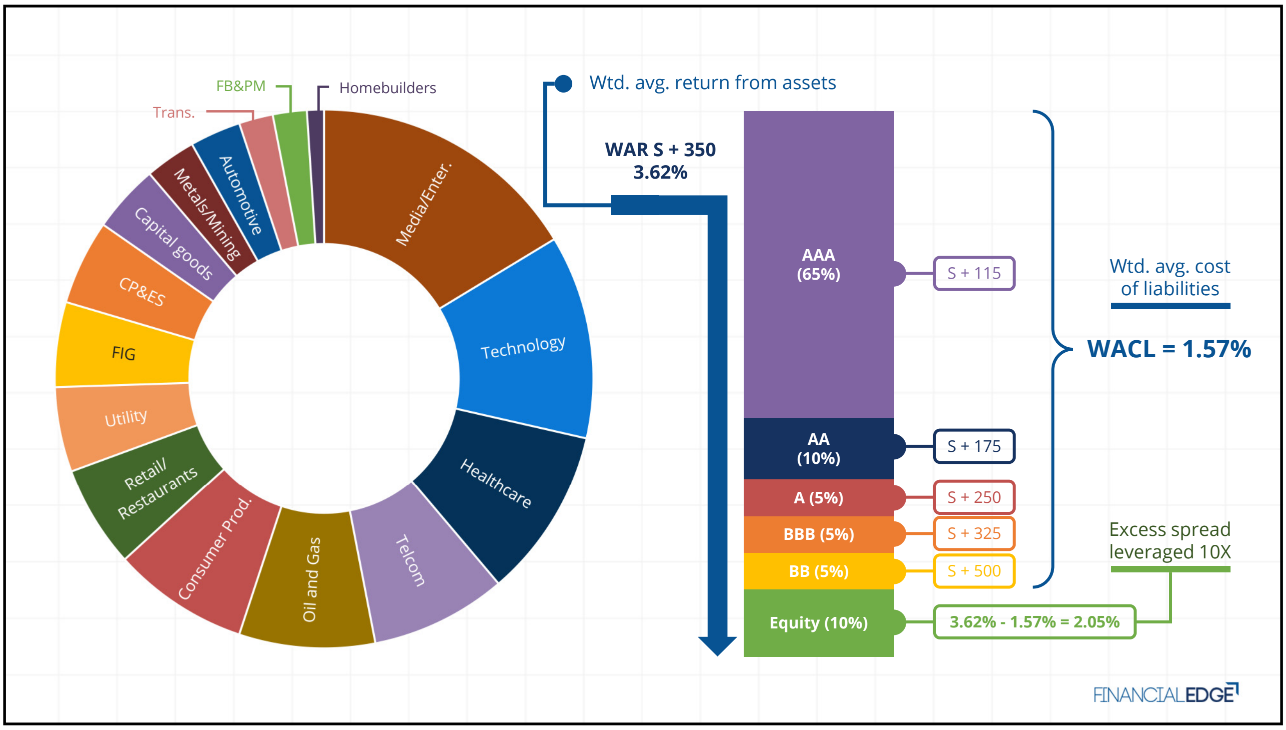
Understanding the Excess Spread
FINANCIALEDGE


FB&PM
Homebuilders
Trans.
Automotive
Metals/Mining
Capital goods
CP&ES
FIG
Utility
Retail/ Restaurants
Consumer Prod.
Oil and Gas
Telcom
Healthcare
Technology
Media/Enter.
Wtd. avg. return from assets
WAR S + 350
3.62%
AAA (65%)
S + 115
AA (10%)
S + 175
A (5%)
S + 250
BBB (5%)
S + 325
BB (5%)
S + 500
Equity (10%)
3.62% - 1.57% = 2.05%
Wtd. avg. cost of liabilities
WACL = 1.57%
Excess spread leveraged 10X
FINANCIALEDGE

A Closer Look at the Equity Tranche

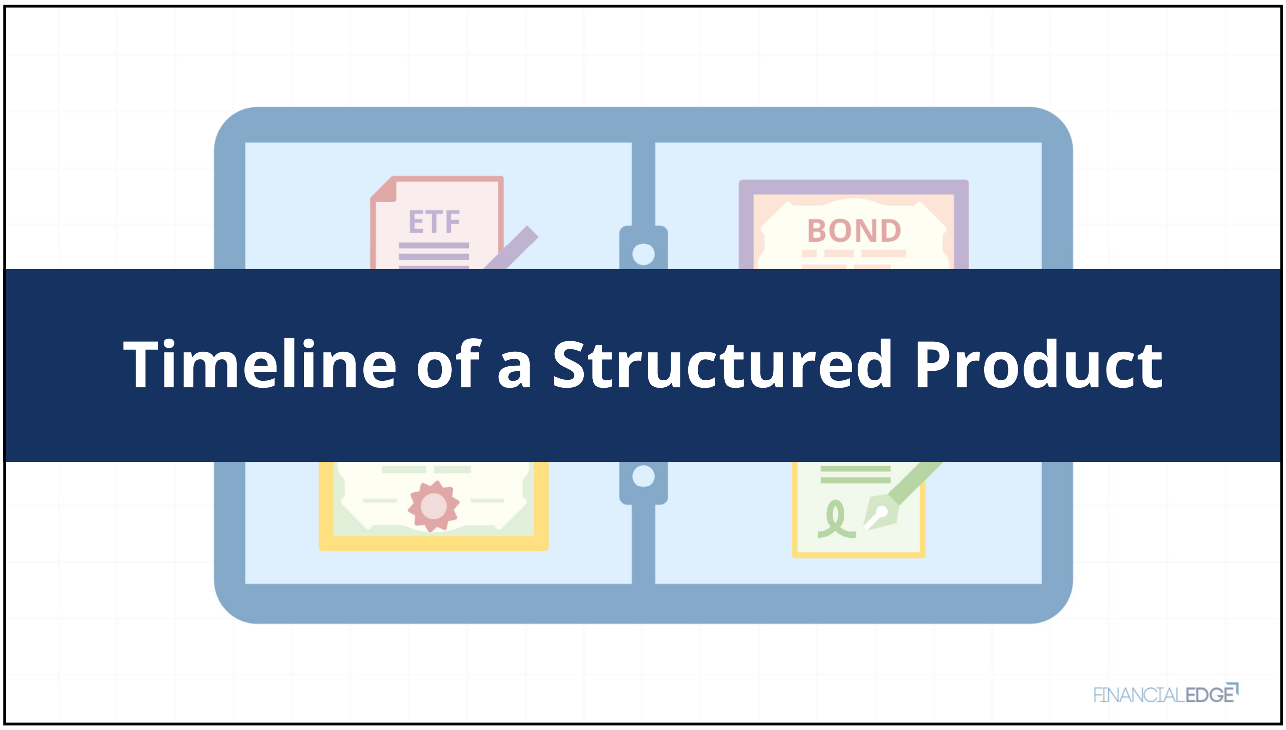
ASSUMPTIONS	
Assets	$400mm
Debt	90%
Equity	10%
SOFR	0.12%
WAR	3.62%
WACL	1.57%
Excess Spread	2.05%

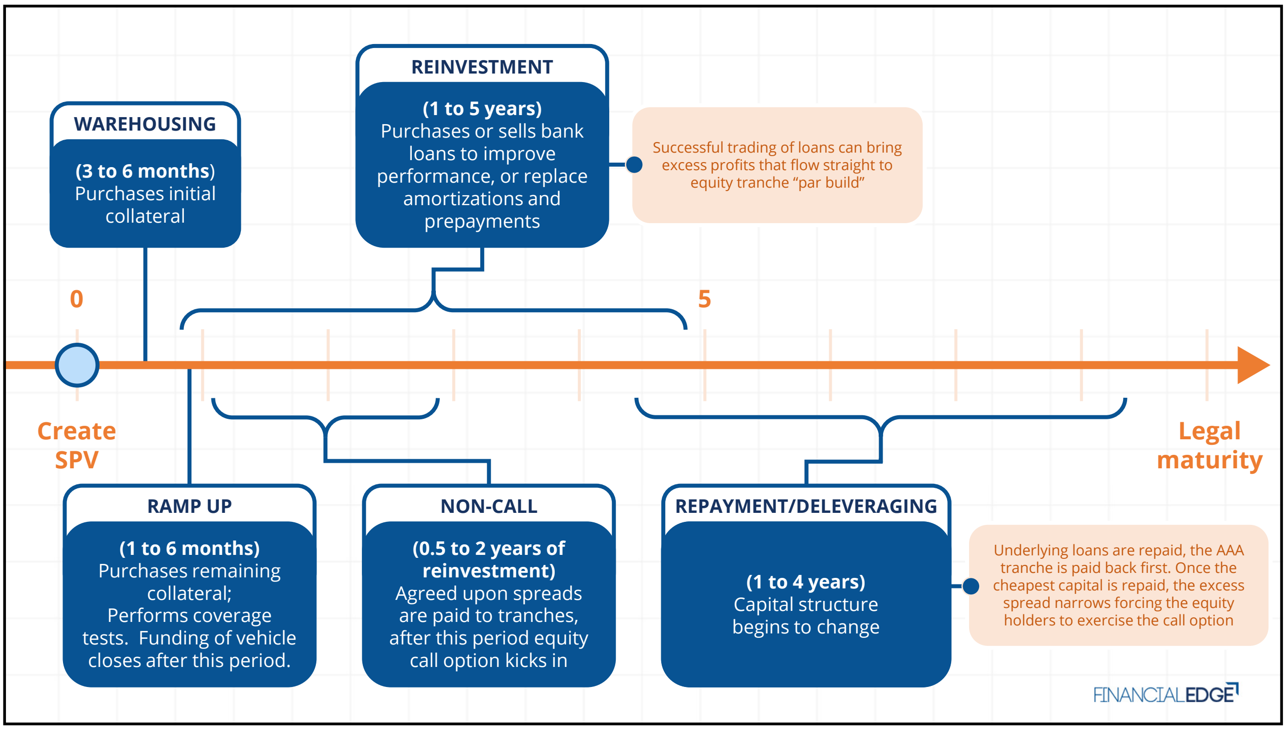
10% of $400mm vehicle

Excess spread is calculated on the 90% debt

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Cash Flows to Equity	($40)	$7.4	$7.4	$7.4	$7.4	$7.4	$7.4	$7.4	$7.4	$47.4
IRR	**18%**									

In most cases, majority of value will come from the **excess spread**, especially if **par value is returned**


ETF
BOND
Timeline of a Structured Product


WAREHOUSING
(3 to 6 months) Purchases initial collateral
REINVESTMENT
(1 to 5 years) Purchases or sells bank loans to improve performance, or replace amortizations and prepayments
Successful trading of loans can bring excess profits that flow straight to equity tranche "par build"
0
5
Create SPV
Legal maturity
RAMP UP
(1 to 6 months) Purchases remaining collateral; Performs coverage tests. Funding of vehicle closes after this period.
NON-CALL
(0.5 to 2 years of reinvestment) Agreed upon spreads are paid to tranches, after this period equity call option kicks in
REPAYMENT/DELEVERAGING
(1 to 4 years) Capital structure begins to change
Underlying loans are repaid, the AAA tranche is paid back first. Once the cheapest capital is repaid, the excess spread narrows forcing the equity holders to exercise the call option

Equity Return with "Par Build"

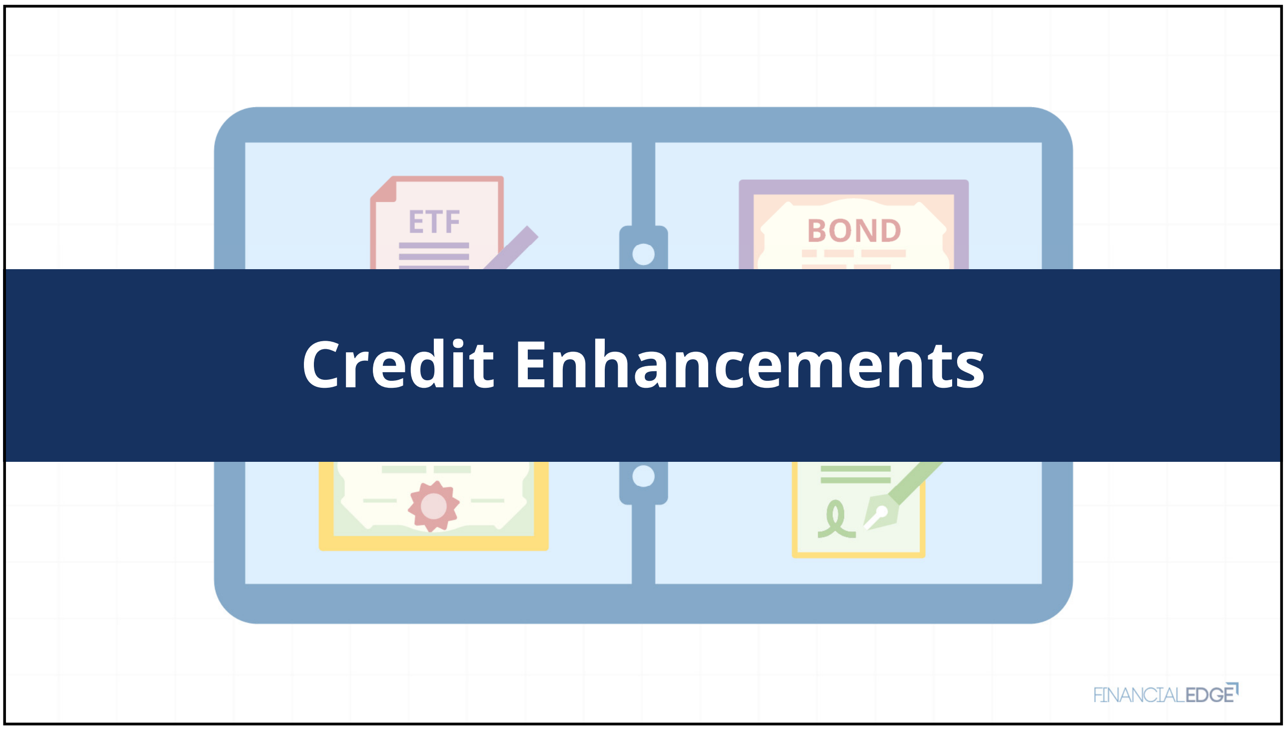
ASSUMPTIONS	
Assets	$400mm
Debt	90%
Equity	10%
SOFR	0.12%
WAR	3.62%
WACL	1.57%
Excess Spread	2.05%
Par Build	110

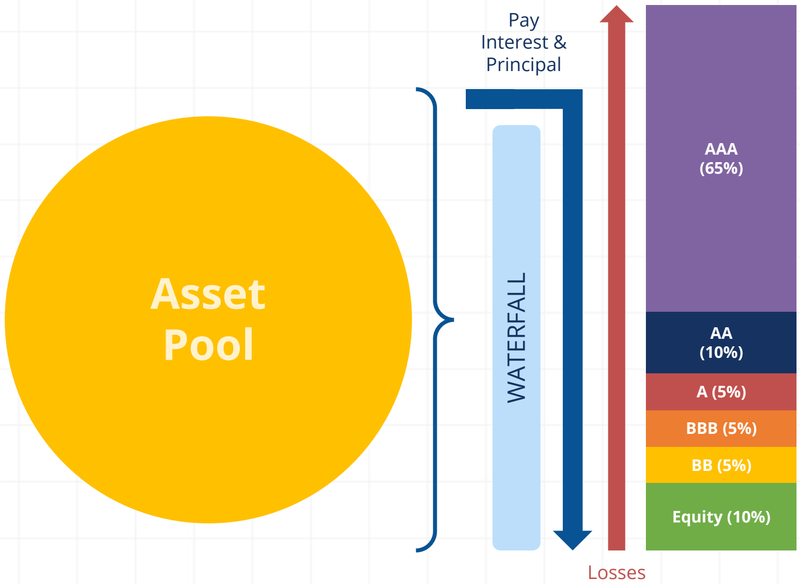
10% of $400mm vehicle

Excess spread is calculated on the 90% debt

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Cash Flows to Equity	($40)	$7.4	$7.4	$7.4	$7.4	$7.4	$7.4	$7.4	$7.4	$51.4
IRR	**19%**									

Equity return enhanced by **profits from par building**, i.e., trading loans at a profit. Also, prepayment fees will **flow through to this tranche** as well





1. SUBORDINATION
Requires cash flows from collateral pool to be paid out from top to bottom.

2. OVERCOLLATERALIZATION
The par value of the loans is greater than the debt on the balance sheet of SPV.

3. EXCESS SPREAD
There is a cushion of cash flow for the senior tranches to take comfort.

4. INTEREST TEST
Interest available / Interest due.

5. INTEREST DIVERSION
Collateral par / outstanding balance of debt (during reinvestment).

6. OVERCOLLATERALIZATION TEST
Collateral par / outstanding balance of cumulative rated debt at target rating level.

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Overcollateralization

$$\frac{\text{Par Value}}{\text{Tranche collateral + collateral from more senior tranches}}$$

ASSUMPTIONS	
Total par value	400.0
Senior tranche (Class A/B or AAA/AA)	300.0
Class C (A)	30.0
Class D (BBB)	20.0
Class E (BB)	20.0

100%

92.5%

Set by the agreement

If below this, triggers default

OVERCOLLATERALIZATION	TEST	TRIGGER	CUSHION
Senior tranche (400/300)	133%	123%	10%
Class C (400/(300+30))	121%	113%	8%
Class D (400/(300+30+20))	114%	108%	6%
Class E (400/(300+30+20+20))	108%	104%	4%


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A Closer Look at the Waterfall
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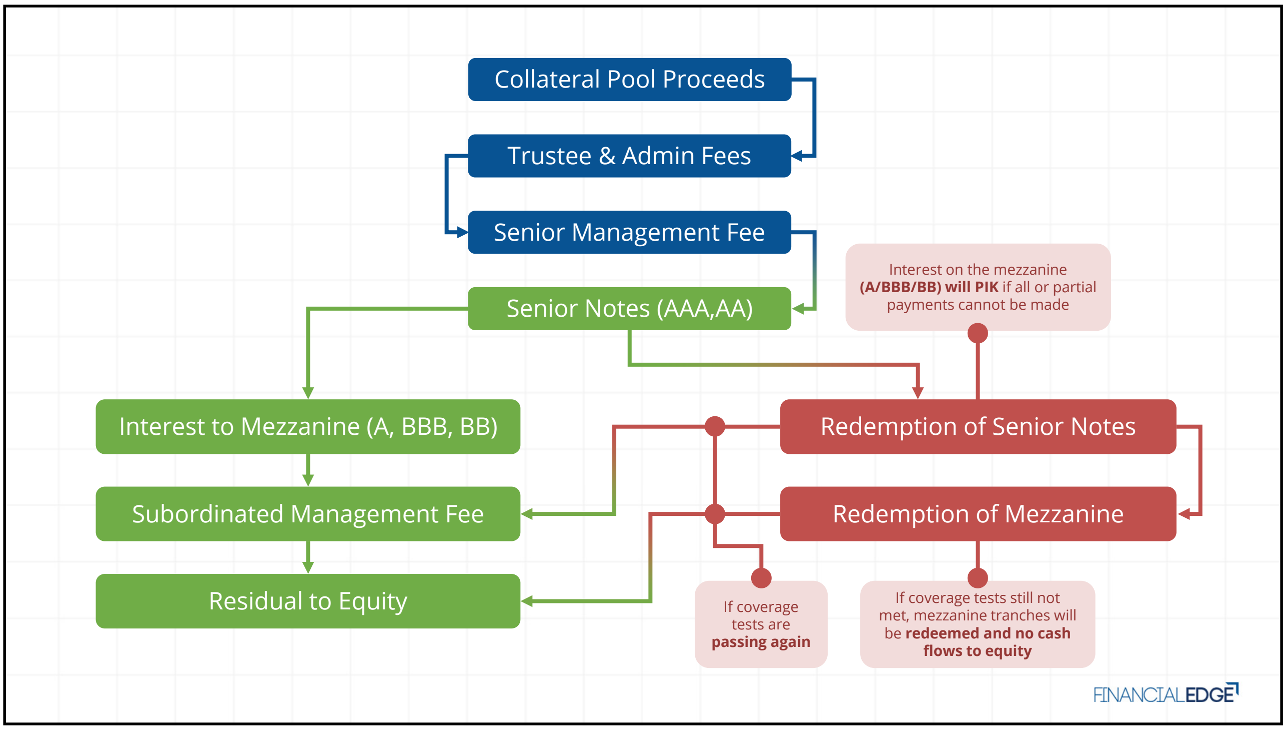
Collateral Pool Proceeds
Trustee & Admin Fees
Senior Management Fee
Senior Notes (AAA,AA)
Interest on the mezzanine (A/BBB/BB) will PIK if all or partial payments cannot be made
Interest to Mezzanine (A, BBB, BB)
Redemption of Senior Notes
Subordinated Management Fee
Redemption of Mezzanine
Residual to Equity
If coverage tests are passing again
If coverage tests still not met, mezzanine tranches will be redeemed and no cash flows to equity
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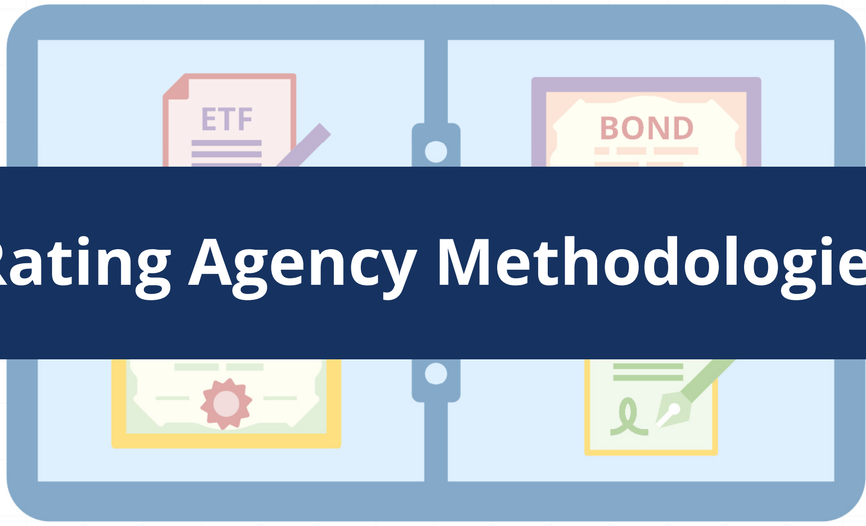


Rating Agency Methodologies

FITCH

1. ASSET CREDIT QUALITY
Drives default probability

2. ASSET SECURITY
Seniority of originating loans; drives recovery rates

3. PORTFOLIO COMPOSITION
Volatility of fund; driven by diversity in fund

4. PORTFOLIO MANAGEMENT
Evolving risk of fund, rules of fund

5. CASH FLOW ANALYSIS
Timing of defaults/recoveries

S&P

1. Credit quality of the securitized assets

2. Legal and regulatory risks

3. Payment structure and cash flow mechanics

4. Operational/admin risks

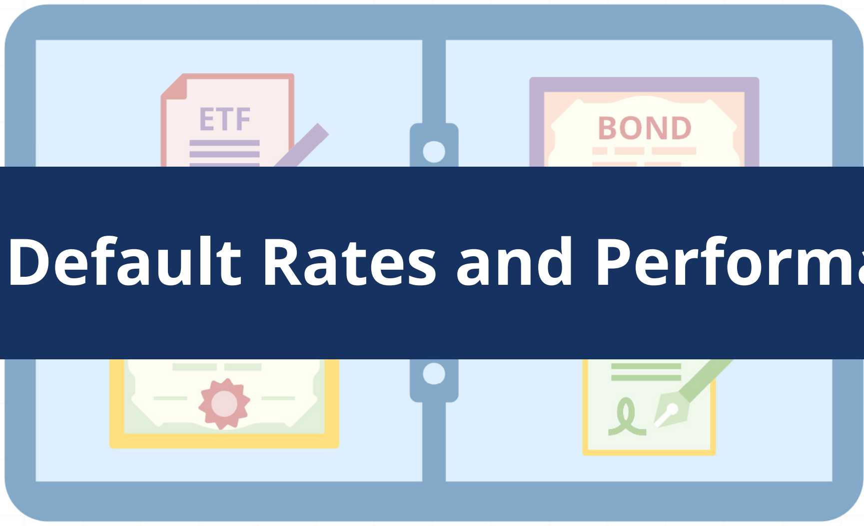
5. Counterparty risk

Scenario default rate at CLO tranche rating level < breakeven default rate for CLO tranche

MOODYS

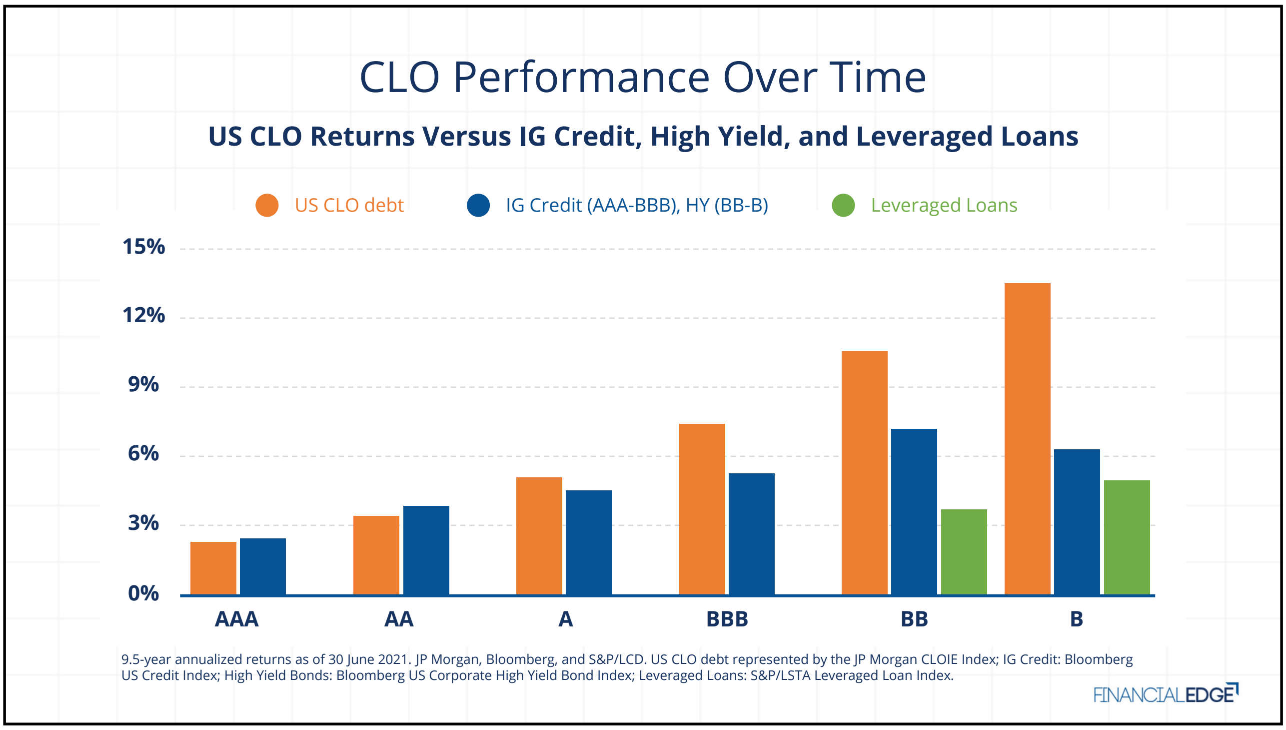
"We base our rating of a CLO tranche on its **expected loss (EL)**. We estimate EL using a cash flow model that consists of two primary components: **(a)** a mechanism for **associating asset default scenarios** with the likelihood of each scenario (a default distribution) and **(b)** a cash flow component that **relates each asset default scenario** to the cash flows that the rated tranche receives in that scenario."

CLO Default Rates and Performance



RATING	CUMULATIVE DEFAULTS: BY RATING LEVELS	
	CLO	**CORPORATES**
AAA	0.0%	0.9%
AA	0.1%	1.1%
A	0.3%	2.1%
BBB	0.5%	5.1%
BB	1.5%	15.8%
B	1.1%	28.3%

SOURCE: S&P Global Fixed Income Research


CLO Performance Over Time
US CLO Returns Versus IG Credit, High Yield, and Leveraged Loans
US CLO debt
IG Credit (AAA-BBB), HY (BB-B)
Leveraged Loans
15%
12%
9%
6%
3%
0%
AAA
AA
A
BBB
BB
B
9.5-year annualized returns as of 30 June 2021. JP Morgan, Bloomberg, and S&P/LCD. US CLO debt represented by the JP Morgan CLOIE Index; IG Credit: Bloomberg US Credit Index; High Yield Bonds: Bloomberg US Corporate High Yield Bond Index; Leveraged Loans: S&P/LSTA Leveraged Loan Index.
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