EthiFinance

Structured Finance Methodology -Debt Investment Funds

1. Introduction

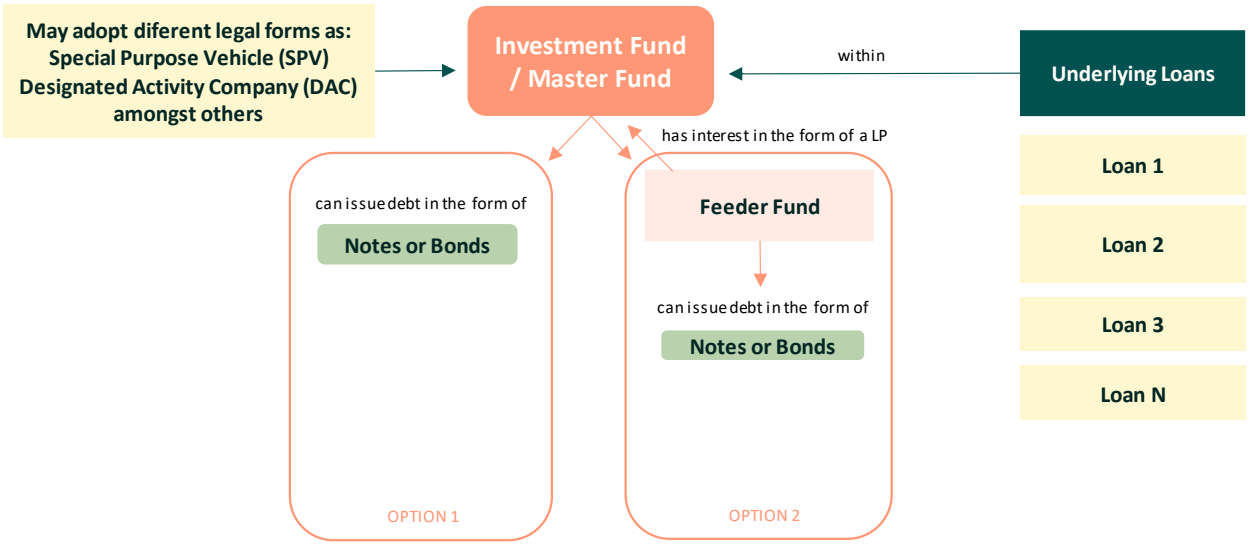
The rating for a debt investment fund (DIF) refers to the creditworthiness of the notes or loans issued by the DIF in question or an associated feeder fund. The rating is considered dynamic, under ongoing surveillance, and of a predictive nature because it is based on future default probabilities. To rate a DIF, EthiFinance uses the corporate long-term scale that can be found in the *Credit Rating Scales & Definitions* document available on EthiFinance Ratings' website.

While this methodology provides a largely prescriptive approach to evaluate the DIF's credit quality, EthiFinance's analytical process also includes judgments made by analysts. The analysts must also consider the specifics of each case as well as comparisons with similar instruments. Therefore, this methodology should be understood as a general framework that EthiFinance analysts use in tandem with their expertise to arrive at the final rating.

1.1 Executive Summary

This methodology details the process by which EthiFinance Ratings (EFR) assigns ratings to the debt issued by either the master fund (MF) which holds the underlying loans, or its corresponding feeder fund which has an interest/investment in the MF in the form of a limited partner (LP). A limited partner has an interest in an investment but does not engage in its day-to-day operations. They are not permitted to manage the business, in contrast to the general partner, who is responsible for overseeing and conducting the daily management and operational activities.

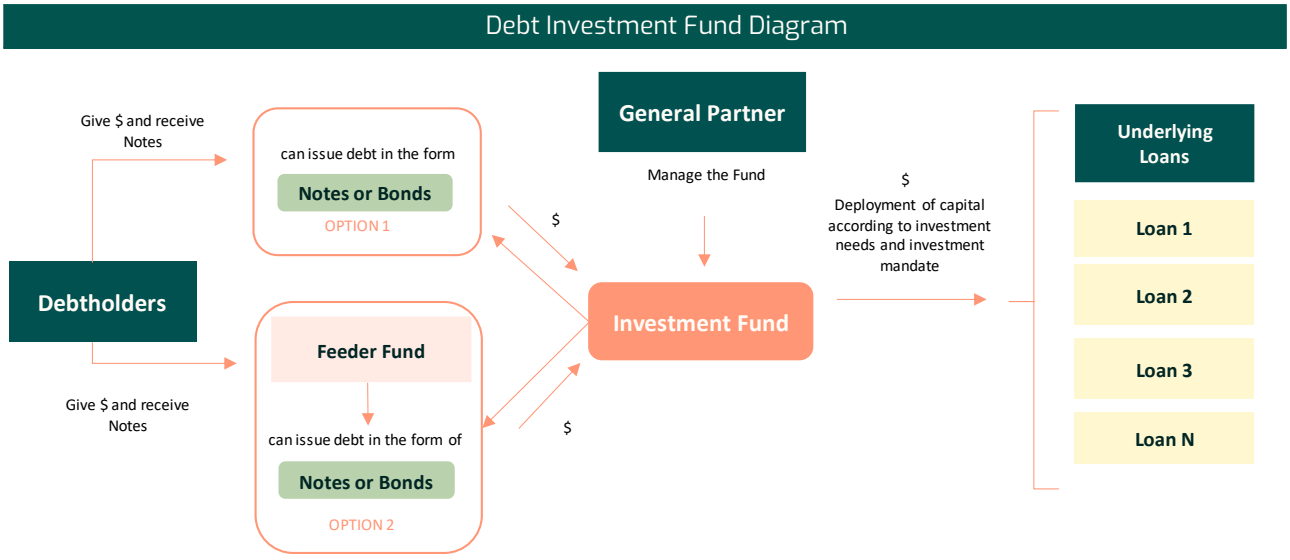
In both cases, the rated debt issued by the DIF is secured by the underlying loans held by the MF. The vehicle that issues the rated debt may adopt different legal forms such as a special purpose vehicle (SPV), a designated activity company (DAC), amongst others.



Source: EthiFinance Ratings.

The rated debt may be in the form of notes, bonds, or loans. Typically, when the debt is issued by the feeder fund, the rating may be susceptible to downward notching due to structural debt subordination,

which occurs when the MF holds material amounts of debt that has a priority of payment over the debt issued by the feeder fund. The debt subordination analysis will be assessed according to the subordination criteria established in Section 2.3.4.



Source: EthiFinance Ratings.

It is important to note that this methodology is not a collateralized loan obligation (CLO) methodology, because through this methodology the rated debt can be issued by the master fund or the feeder fund, and the rating can be impacted by the capabilities and support received from the GP.

The final rating will result from the assessment of the Anchor Rating and the Modifiers. The analysis will be split into these two phases.

I. **Anchor Rating:** The anchor rating is the result of two distinct assessments, firstly a review of the credit quality of the assets that constitute the fund and secondly a cashflow modelling:

   a. Assets Risk Profile (ARP): EFR analyses the DIF's underlying assets which consist of loans by providing an evaluation of the creditworthiness of each of the borrowers within the Fund. In cases where a full rating of each of the borrowers is not available or within the scope of the rating mandate, EFR may perform a proxy private rating[1] of the borrowers or ratings of assets from other credit rating agencies can also be used. Additionally, if the number of borrowers is too large, EFR will analyze a sample that is statistically representative, including in the sample those loans that maximize their aggregate nominal value.

      In the event that borrowers do not have a credit rating, they will be designated a CCC rating or the lowest debtor´s rating allowed in the elegibility criteria. In scenarios involving extensive portfolios and samples, where the Fund stipulates a minimum acceptable rating as part of its eligibility criteria, the originator may assign specific ratings or assessments to certain borrowers to meet this requirement. In order to potentially utilize the assessments provided by the originator, EthiFinance may conduct

[1] A proxy private rating is a scorecard-driven credit assessment that indicates at a high level the creditworthiness of the borrower.

a rigorous mapping process to verify the alignment between the originator's internal models and EthiFinance's rating methodologies. Additionally, EthiFinance will evaluate the originator's track record and assess whether their internal models are consistent with market practices and comply with applicable regulatory standards. In addition, EFR will require extensive documentation from the originator to justify, validate and thoroughly test the assessments provided. It is important to mention that the EFR rating committee retains the discretion to adopt these assessments, provided they are deemed comparable to the agency's own credit evaluations. The originator assumes full responsibility for the accuracy and validity of the assessments conducted, as well as the information provided in support of these evaluations.

Once a rating is assigned to each borrower or to the sample, the analytical team will use a Vasicek Monte Carlo simulation to determine a table that establishes, for each rating category, the maximum rate of losses (or defaults) that the structure must withstand and still pay back the issued debt. The output table produced by the Monte Carlo simulation always follows the same pattern: the higher the rating category, the higher the levels of losses (or defaults) that the structure must withstand. In other words, a higher targeted rating demands a higher level of overcollateralization. As our Monte Carlo model provides two outputs (expected losses distribution and default rate distribution), we will prioritise the expected losses outcome when analysing the ARP. We will only use the default rate distribution outcome where there are no recoveries or information is unavailable.

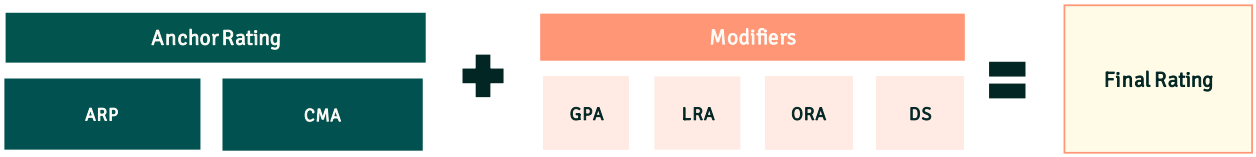
For DIFs with low portfolio diversification, EFR may decide to use the credit enhancement net of defaults approach (defined in section 2.2.1) if it believes that the rating outcome using this method better captures the risk of the underlying pool of debt instruments than the one derived from the Monte Carlo simulation. Section 2.2.1. further develops the Asset Risk Profile ARP analysis.

b. Cashflow Modeling Assessment (CMA)
    i. Investment Fund Structure: As part of our analysis of a DIF, EFR performs a review of the fund´s documentation, the debt agreements with the obligors, and the bond's term sheet, among others; the specific factors that are assessed can be found in the corresponding section below.
    ii. Cashflow Analysis: EFR will perform a standard cash flow and a sensitivity analysis, modelling the inflows and outflows of funds received and paid by the structure in a manner similar to the contractual arrangements that govern the DIF. EFR will use a standard cashflow model, and similarly adapt it to reflect the fund's documentation which, amongst other things, defines the eligibility criteria, the maximum levels of debtor concentration, the waterfall structure, and the credit enhancements that benefit the fund (loans bought at a discount, liquidity reserves, tranching, excess spread, insurance policies, etc.)

In addition, the final rating is impacted by the review of other assessments that may impact positively or negatively (modifiers) the anchor rating.

II. Modifiers

a. General Partner Qualitative Assessment (GPA): EFR assesses the past performance of the general partner (GP), who acts as the investment manager, taking into account their expertise, resources, and risk management protocols. Strong fund managers have greater access to top quality investors, strong middle management that mitigates key-person risk, and strong research capabilities that tend to ensure an optimal risk-reward level of the fund's loan portfolio.
b. Legal Risks Analysis (LRA).
c. Operational Risks Analysis (ORA).
d. Debt Subordination (DS): If the debt securities are issued through a feeder fund and debt coexists at the master fund level, the final rating can be adjusted according to the criteria described in Section 2.3.4 that deals with debt subordination.



Source: EthiFinance Ratings.

1.2 Scope of Rated Universe

This methodology is applied to debt securities or loans issued by a DIF or an associated feeder fund, which are collateralized by a pool of underlying loans or bonds (which may include real estate debt, private corporate debt, infrastructure debt, or project finance debt, among others). It is important to note that investment funds that invest in private equity, venture capital, commodities, or any other assets not associated with debt facilities are outside the scope of this methodology. We could assign a rating to a fund with debt assets and equity assets taking into account only debt assets for the analysis.

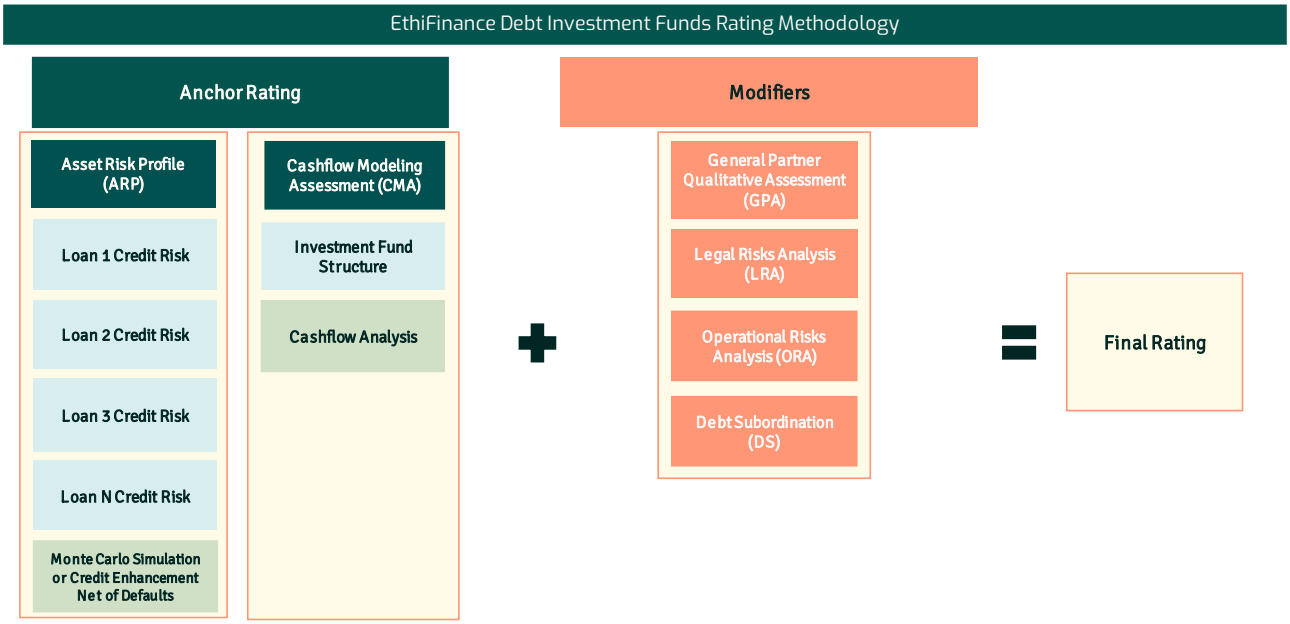
DIFs serve as vehicles for consolidating capital from specialized investors and deploying it across various assets. They are typically managed by a professional investment manager, the GP. The GP assumes responsibility for resource allocation in accordance with the pre-established investment strategy or mandate. Its duties encompass the origination of the loan portfolio and the generation of returns for investors. In return for these services, the GP receives compensation in the form of a fee, which may comprise both fixed and variable components contingent on performance.

It is important to note that if the DIF is not fully invested or a rating is being requested before the launch of the fund, the analysis team will construct a theoretical portfolio that incorporates the highest risk profile allowed by the investment eligibility criteria, and it will be rated using the same procedure and methodology.

2. Analytical Approach

2.1. Overall Approach

The final rating determined by EFR is based on the anchor rating - (asset risk profile (ARP) + cashflow modeling assessment (CMA)) - and then is adjusted by the modifiers.



Source: EthiFinance Ratings.

2.2. Anchor Rating

2.2.1. Asset Risk Profile

The credit quality of the underlying pool of loans is assessed using credit ratings, or proxy private ratings of the borrowers performed by EFR. Additionally, if the number of borrowers is too large, EFR will analyze a sample that is statistically representative, including in the sample those loans that maximize their aggregate nominal value. Where needed, ratings of assets from other credit rating agencies can also be used as long as an equivalence of their rating scales with EthiFinance Ratings can be established using the latest final report on the mapping of ECAI´s credit assessment published by the Joint Committee of the European Supervisory Authorities (ESAs). The Joint Committee is a forum formed by the European Banking Authority (EBA), the European Insurance and Occupational Pensions Authority (EIOPA) and the European Securities and Markets Authority (ESMA), collectively known as the three European Supervisory Authorities (ESAs).

In the event that borrowers do not have a credit rating, they will be designated a CCC rating. In scenarios involving extensive portfolios and samples, where the Fund stipulates a minimum acceptable rating as part of its eligibility criteria, the originator may assign specific ratings or assessments to certain borrowers to meet this requirement. The EFR rating committee retains the discretion to adopt these assessments, provided they are deemed comparable to the agency's own credit evaluations.

Moreover, EFR requires comprehensive documentation from the originator to validate such assessments. The originator assumes full responsibility for the accuracy and validity of the assessments conducted, as well as the information provided in support of these evaluations.

As an example, if the assets of the DIF are project finance transactions, EFR will assign a rating or a private proxy rating to each project debt or to a sample using our Project Finance Methodology; for other asset classes, the agency will use the corresponding methodology.

From the rating or internal assessment of each asset, the probability of default will be obtained taking into consideration the "global corporate cumulative default probabilities" elaborated by EFR. Then each probability of default will be used as an input in the Monte Carlo Simulation.

In cases where the portfolio is not diversified, mainly when the portfolio has less than 10 obligors or less than 8 industries, the analyst will, in addition to the Monte Carlo Simulation, perform the credit enhancement net of defaults approach.

In a second step, the analyst based on his/her own judgement will choose which of the two methods leads to the rating outcome that best captures the risk of the underlying pool of loans, in any case, the analyst will present to the rating committee the results of both approaches and will explain why he/she chose one of the rating outcomes over the other. The rating committee will analyze both outcomes and decide which of the ratings best captures the creditworthiness of the fund's debt issuance. Even though in our experience the credit enhancement net of defaults is a better approach when the portfolio is not diversified, the Monte Carlo approach will be performed to corroborate this.

EthiFinance Ratings considers that a portfolio is diversified when:

- There are more than 10 obligors; or
- There are more than 8 industries
- Amortization profiles (monthly, semestral or annual payments) and maturities are not equally distributed and are not the same in all the underlying assets, they are heterogeneous.

When the portfolio shows sufficient diversification (typically more than 10 obligors), its loans are heterogenous in terms of amortization and maturity profiles, then the ARP will be analyzed using the Monte Carlo Simulation (an example can be seen in Annex I), but also, the CE net of defaults approach will be performed as a sanity check, in order to see if the Fund supports the default of the worst rated loan.

Monte Carlo Simulation

After analyzing the fund's assets individually, EFR performs a simulation of the defaults of the assets to obtain the portfolio expected loss or default distribution curve for each rating level through a Monte Carlo Simulation[2].

As our Monte Carlo model provides two outputs (expected losses distribution and default rate distribution), we will prioritise the expected losses outcome when analysing the ARP. We will only use the default rate distribution outcome where there are no recoveries or information is unavailable.

The most important inputs needed for the simulation are:

- **Asset's PD at 1 yr**: risk of the collateral measured through the probability of default in year 1.

[2] More information on the Monte Carlo simulation in Annex III.

- Outstanding balance of the assigned loan.
- Tenor: term of each loan.
- Recovery rate: the percentage of the loan expected to be recovered in case of default. If we don't have it, we can use an historical rate, EFR's custom recovery table by rating levels or EthiFinance Ratings can determine a historical recovery rate using similar assets or a proxy portfolio.

After performing the Monte Carlo simulation, the main output is a table that distributes, for each rating level, the maximum loss (or default rate) that the structure must withstand to meet its financial obligations.

In parallel, EFR uses a cash flow model (see the next section) to determine the maximum loss (or default rate) that the structure can withstand and still pay back its financing without generating a cash deficit; this maximum loss expressed as a percentage of the total portfolio amount will be mapped onto the table generated by the Monte Carlo simulation in order to determine what rating corresponds to that acceptable maximum loss, being this the anchor rating of the DIF instrument.

CE Net of Defaults (DIF Model)

In specific cases in which the underlying portfolio is not diversified (per the definition above) and the credit enhancement (CE) can be totally depleted with the default of a few of the worst credits of the pool, a CE net of defaults approach will be used to calculate the rating of the portfolio. This approach is based on the weakest link and consists of defaulting the lowest rated exposures in the portfolio until the accumulated nominal values of the defaulted credits (considering recoveries) fully depletes the credit enhancement present in the fund. The rating of the last loan that depletes the CE will be the rating assigned to all of the pool of assets. Ultimately, the analyst must compare the two outcomes (MC and CE, net of defaults) and use their analytical judgement, but the final decision about which approach to use and which rating best captures the risks of the underlying pool of loans will be taken by the rating committee.

In this second approach CE net of defaults, the first step is to assign a rating to each loan, then the probability of default (PD) of each loan will be calculated by applying its rating and tenor using EFR´s idealized corporate PD curve. After this, we will use our "DIF Model" to start defaulting the lowest-rated loans, EFR will consider the losses after recoveries, until the accumulated nominal of the defaulted credits considering recoveries depletes the CE.

Accumulated amount of losses over the total nominal amount (%) > Credit Enhancement (%)

An example of this approach can be seen in Annex II.

For clarity—and without altering or superseding any of the preceding sections—this general approach shall apply when no historical data is available owing to the fund's recent establishment: if the DIF is not yet fully invested or a rating is sought prior to the fund's launch, the analysis team will first construct a theoretical pool reflecting the highest-risk profile permissible under the investment eligibility criteria (in terms of diversification, default thresholds, and all other specified risk factors), leveraging the CRA's proprietary internal analytical tools. Once this theoretical pool has been analyzed, the team will apply exactly the same methodology outlined above.

Complementary Obligor Test

As an additional test, the obligor concentration test should be performed. In order to measure the capacity of the Credit Enhancement to absorb losses, the CE should be compared with the main top debtors in the transaction. The following matrix indicates the number of main debtors that the CE should absorb, for a higher rating of the transaction the CE should withstand a higher number of top debtors. This part of the analysis will be done in order to avoid some cases in where the CE does not cover any of the main debtors.

	DIF Rating		
Debtor Rating	**AAA/AA**	**A/BBB**	**BB/B**
Investment Grade (AAA to lowest)	3	2	1
High Yield (BB+ to lowest)	7	3	2
Distressed (B+ to lowest)	10	6	3

2.2.2. Cashflow Modelling Assessment

EFR will use a standard cash flow model that simulates the structure's inflow and outflow of funds and will adapt it according to the DIF's deed or term sheet. Hence the first step is to thoroughly review this document.

2.2.2.1. Investment Fund Structure

The structure of the DIF and its inner mechanics should be defined in a specific document. This can be a deed or a term sheet, where all the characteristics and conditions of the investment fund are detailed. EFR expects to have:

a) Transaction overview.
b) Parties to the transaction.
c) Relevant dates of the issued debt: inception date, maturity date, assignment, reinvestment, and amortization periods (if defined), payment dates, among others.
d) Issued debt characteristics (amount, dates, interest, payment frequency).
e) Portfolio characteristics.
f) Eligibility criteria.
g) Transfer price or acquisition price of the underlying assets (if applicable).
h) Expenses of the fund.
i) Reserves.
j) Credit enhancements in the form of tranches, excess spreads and cash reserves
k) Definition of available funds.
l) Priority of payments/waterfall of payments.
m) Credit insurance (if any).

2.2.2.2. Cashflow Analysis

The main purpose of a cashflow model is to determine the maximum credit losses (or defaults) the fund can withstand and still repay the bonds. EFR will use a standard cash flow model and similarly adapt it

to reflect the structure of the DIF as defined in the deed or term sheet. The cashflow model translates the previous section's list of structural features defined in the DIF's documentation into a systematic simulation of inflows and outflows of funds received and paid by the structure. To model the inflows, EFR will rely on the financial terms and conditions that govern the underlying loan contracts.

The model is then used to perform scenario analysis including interest rate risk, market risk, FX risks, interest rate mismatches, hedging risk, expected prepayments and recovery scenarios, and ultimately to calculate the maximum loss that the fund can bear and still service the notes / bonds. This maximum loss, which is expressed as a percentage of the fund's total assets, will be mapped onto the table generated by the Monte Carlo simulation in order to determine what rating corresponds to that maximum loss.

2.3. Modifiers

Once the Anchor Rating is determined, EFR analyses other risk factors that will act as modifiers: general partner qualitative assessment, legal risks, operational risks and debt subordination.

2.3.1. General Partner Qualitative Assessment

EFR's methodology includes an assessment of potential modifiers of the anchor rating of the investment fund. In this part of the process, EFR assesses the GP's investment management expertise and historical performance. To evaluate the GP, EFR considers several criteria. The final assessment is based on the average score of each factor shown below.

General Partner Qualitative Assessment		
General Partner	**Resources**	*Resources*
		Total AUM
		Investment Guidelines
	Risk Management Process	*Credit Process*
		Risk Management and Compliance
	Fundraising	*Alternative Investment AUM*
		Traction
		Pacing
	Historical Performance	*Historical performance*

Source: EthiFinance Ratings.

The analysis is based on the GP's historical performance as an investment manager, its track record, its risk management governance, and its fund-raising capabilities, so the result will be a qualitative evaluation based on these characteristics. It is mapped on a scale of 1 to 7 with the result of 1 being the best qualitative evaluation and 7 the worst. The final score is obtained as an arithmetic average of the sub-scores.

Based on this qualitative analysis, EFR can raise the anchor rating by up to 1 notch if the assessment of the GP is in the [1,3[range and can lower it by up to 2 notches, or even cap it at the BB+. Capping will

usually occur when the GP's assessment is in the riskier range i.e., [5.68 – 6.33[. If the GP's score is in the [6.34 – 7] which indicates severe risks, EFR will abstain from rating the Investment Fund.

General Partner Qualitative Assessment	[1 - 3[	[3 - 4[	[4 - 5[	[5 - 5.67[	[5.68 - 6.33[	[6.34 - 7]
Rating Modifiers	+1	+0,5	0	-2	Cap BB+	Discontinue rating

Source: EthiFinance Ratings.

2.3.1.1. Resources

The assessment relies on the historical performance of the GP. This is a key input to form an opinion regarding the future performance of the fund.

Those managers who have a long track record of experience and are larger in terms of assets under management (AUM) are considered more likely to show effective management, financial stability, and sophisticated processes and procedures. In the following table, we show the main characteristics that define the manager's quality.

GP	1	2	3	4	5	6	7
Resources	Operating across multiple strategies and geographies and a strong market penetration. Very large staff, no key person risk. Experience of the administration commitee and team members greater than 25 years of experience.	Operating across multiple strategies or geographies. Large staff, limited key person risk. Experience of the administration commitee and team members from 21 to 25 years of experience.	Operating across multiple strategies or geographies and adequate market penetration. Large staff, limited key person risk. Experience of the administration commitee and team members from 16 to 20 years of experience.	Operating across multiple strategies or geographies or strong franchise in flagship strategy. Adequate staff, moderate key person risk. Experience of the administration commitee and team members from 9 to 15 years of experience.	Low track record operating across multiple strategies or geographies. Small staff, elevated key person risk, limited number of strategies or funds. Experience of the administration commitee and team members from 5 to 8 years of experience.	Low track record operating across multiple strategies or geographies and a low market penetration. Small staff, elevated key person risk, limited number of strategies or funds. Experience of the administration commitee and team members from 1 to 4 years of experience.	No track record operating across multiple strategies or geographies. Very small staff, high key person risk and very limited strategies or funds. Very limited experience of the administration commitee and team members .
Total AUM € Billion	Greater than 100 €	From 45 € to 100 €	From 30 € to 45 €	From 15 € to 30 €	From 5 € to 15 €	From 3 € to 5 €	Less than 3 €

2.3.1.2. Risk Management Process

A deep understanding of internal governance and risk management practices is also necessary for EFR to determine a final credit rating. EFR will typically visit the fund management company, and we expect their managers to make a presentation on their investment guidelines to make sure that they are clear and precise; their credit process involves a clear delimitation between the credit analysis team and the fund managers and the existence of an independent investment committee; and on their risk management and compliance procedures. In this process, follow-up documentation will be requested if necessary.

GP	1	2	3	4	5	6	7
Investment Guidelines	Comprehensive documentation with precise details, thorough information disclosure, and strict adherence to regulations, encompassing specific concentration limits, leverage usage, and clear definitions of qualifying assets	Clarity in the documentation, accompanying level of information, and application of regulations, including but not limited to, use of leverage, specific concentration limitations, and descriptions of eligible assets.	Transparent documentation, detailed information, and adherence to regulations, covering aspects like leverage use, concentration limits, and eligible asset definitions	Adequate documentation, the corresponding amount of detail, and following rules.	Slightly low level of documentation, amount of information, and guidelines implementation.	Unclear documentation, reduced amount of information, and guidelines implementation.	Very low level of documentation associated, not enough amount of information, or guidelines execution.
Credit Process	The role and degree of separation of the credit or investment selection team from the portfolio management team is extremely clear, as well as the presence of clearly defined tasks and responsibilities.	The role and degree of separation of the credit or investment selection team from the portfolio management team is clear, as well as the presence of clearly defined tasks and responsibilities.	There is a more than adequate separation between the credit selection team and the portfolio management team. Both teams have their tasks defined.	An adequate credit selection team´s role and degree of separation from the portfolio manager team, as well as the presence of adequately defined roles and accountability.	The role and degree of separation of the credit or investment selection team from the portfolio management team is slightly weak.	The role and degree of separation of the credit or investment selection team from the portfolio management team is weak.	There is a very weak mention of the function or level of separation between the portfolio management team and the investment selection team.
Risk Management and Compliance	Risk management and compliance procedures are being implemented with great clarity and in great detail. Strong systems for monitoring, tracking, and reporting, with scalability and customization for the manager.	Clear documentation, a high level of specificity, and the use of compliance and risk management procedures. Additionally, there must be effective mechanisms in place for monitoring, tracking, and reporting that are scalable and customizable for the manager.	More than adequate documentation, a high level of specificity, and the use of compliance and risk management procedures. Additionally, there must be sufficient mechanisms in place for monitoring, tracking, and reporting that are scalable and customizable for the manager.	Application of risk management and compliance standards, as well as adequate documentation and level of detail. Additionally, there must be suitable mechanisms in place for monitoring, tracking and reporting that can be scaled and customized for the manager.	Low detail, risk management, compliance policy execution, and documentation. Additionally, there are deficient solutions for monitoring, tracking, and reporting that also lack scalability and manager-specific customization.	There is weak documentation and compliance policies. Also weak systems for monitoring, tracking, and reporting.	There is very weak documentation and compliance policies. Also very weak systems for monitoring, tracking, and reporting.

2.3.1.3. Fundraising and Historical Performance

The GP's expertise is typically reflected in its AUM, and also the consistency in its operations over time. Fund managers who have been launching increasingly larger funds and in a recurrent fashion may be considered to have earned the trust that the debtholders have in them. In addition to the total AUM of the GP, the alternative investment AUM will be taken into consideration.

The historical performance of the funds that are managed or were managed by the GP is important. A strong past performance is an indicator that the GP has conducted an adequate risk evaluation and has had adequate capabilities to mitigate a downside risk.

GP	1	2	3	4	5	6	7
Alternative Investment AUM € Billion	Greater than 50 €	From 15 € to 50 €	From 10 € to 15 €	From 5 € to 10 €	From 3 € to 5 €	From 1 € to 3 €	Less than 1 €
Traction	Recent funds are much larger than previous ones in the series	Recent funds are larger than previous ones in the series	Recent funds are slightly larger than previous ones in the series	Recent funds are similar in size to previous ones in the series	Recent funds are slightly smaller than previous ones in the series	Recent funds are smaller than previous ones in the series	Recent funds are much smaller than previous ones in the series
Pacing	Fund-raising cycles are very predicable, and they occur frequently across different tactics	Recurring fund-raising cycles and frequent market presence across strategies	Ocassional fund-raising cycles and slightly frequent market presence across strategies	Some fund-raising for key strategies. Adequate market presence across strategies	Some fund-raising for key strategies. Weak market presence across strategies	Weak or no recent fund-raising process	Very Inconsistent or no recent fund-raising at all in recent periods
Historical Performance	Consistently strong, including through down markets or high volatility	Very strong, including through down markets	Strong including through down markets	Moderate performance in downturns of the market	Usually moderate, sometimes weak	Slightly weak performance	Consistently weak performance

2.3.2. Legal Risks Analysis

In this step, a legal review is necessary and will be made based on third party legal opinions or the analysis team´s criteria. The main key points that should be reviewed are:

a) Confirmation that the fund is bankruptcy remote and that the transfer of the assigned assets from the originator to the fund constitute a true sale.

b) Confirmation that the debtor has been notified that his debt may be assigned to the DIF (if applicable).

To see more detail about the Legal Analysis, including compensation risk and commingling risk among others, please consult our Structured Finance Rating Methodology – General.

As a general rule, all structured transactions have a standard legal framework. If the legal set-up of the transaction materially departs from the generally acceptable legal standards and EFR requirements, the analysis team may decide to downgrade the anchor rating by one or more notches depending on how severe the legal risks are, EFR may also refrain from rating the transaction if it does not meet the generally acceptable standards.

2.3.3. Operational Risks Analysis

Regarding operational risk, the review of EFR is designed to understand the policies, processes, and practices of the originator, the trustee and the other counterparties to form an opinion on their strengths and capabilities. For more detail about the operational risk please consult the Structured Finance Rating Methodology – General.

If from EFR's operational due diligence, material operational risks are identified, EFR may decide to downgrade the anchor rating in one or more notches, depending on how severe the risks are, EFR may also refrain from rating the transaction if it does not meet the generally acceptable standards.

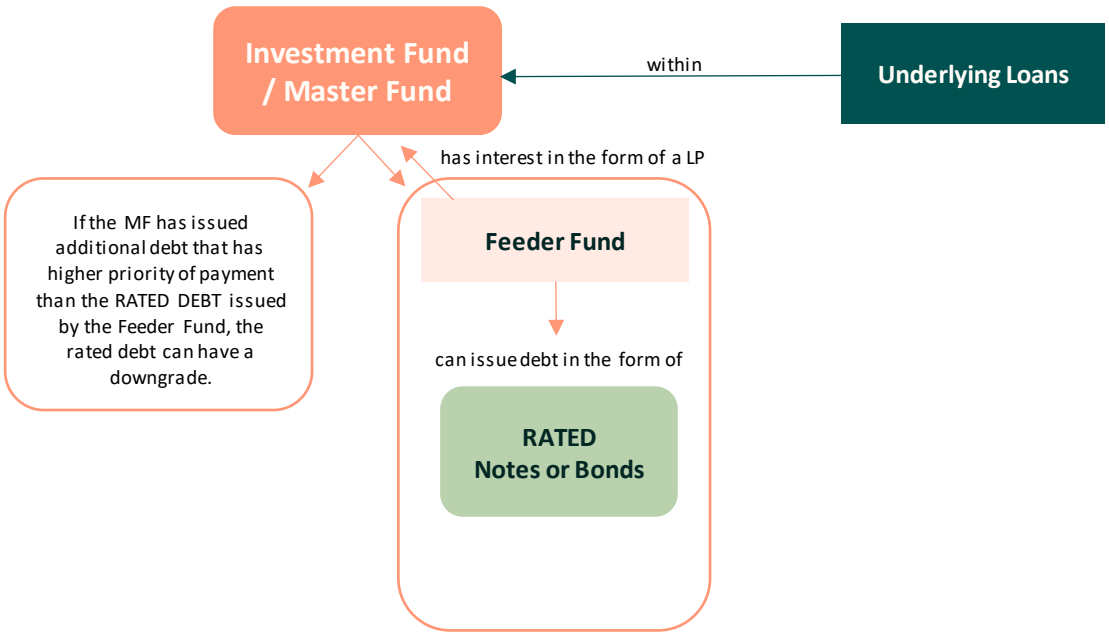
2.3.4. Debt Subordination

The rated debt securities may be in the form of notes or bonds, but they could also be financing lines, all of which are backed by a pool of loans. These debt securities can be issued by the master fund (the investment fund which holds the underlying loans) or by a feeder fund.

Feeder funds are investment vehicles that pool capital from investors and channel it into another investment fund, the MF, providing access to specialized investment strategies or opportunities. They enable investors to diversify, benefit from professional management, and potentially gain exposure to otherwise inaccessible assets because of the minimum investment required or because they are funds that are only accessible to very specialized fund managers.

Typically, when the debt is issued by the feeder fund, the rating may be susceptible to downward notching due to structural debt subordination, which occurs when the MF holds material amounts of debt that has a priority of payment over the debt issued by the feeder fund. In these cases, the notes issued by the feeder fund will be downgraded by one or more notches relative to the rating obtained had all the debt been issued by the MF. These circumstances can be avoided if the MF is bound by a covenant preventing it from holding or issuing new debt in the future.

To determine how the debt at the MF level affects the rating of the debt issued by the feeder fund, EFR includes the MF debt in its cashflow analysis and gives it priority of payment. Following the procedure mentioned in Section 2.2.2, EFR will calculate the highest level of losses at which the feeder fund still pays back its debt and will assign the rating that corresponds to that level of losses as defined by the table generated by the Monte Carlo simulation. In the event of additional debt issued at a later date, the current rating will be reviewed by EFR.



Source: EthiFinance Ratings.

Once EFR has concluded the analysis of the factors mentioned above, the final rating of the notes issued by the feeder fund will be determined. An example of how we calculate our anchor rating using Monte Carlo simulation and the modifiers is shown in Annex I.

Annex I. Monte Carlo Rating Example

The following is an example of the process for determining the rating of the notes issued by a debt investment fund: ***Atlantic Fund 1***. As an introduction to this process, the Atlantic Fund 1 invests in project finance and is fully funded.

- **Step 1 - Asset Risk Profile (ARP):** Determine the individual credit rating or credit assessment of the project finance transactions that form part of the underlying assets of the fund. In this example the portfolio is heterogenous and diversified, because of this, the Monte Carlo Simulation is used, taking as inputs what is indicated in the following table.

Montecarlo Simulation Input			
Projects	**Rating**	**Tenor**	**Nominal / Par**
Project 1	BBB+	1 year	50.000 €
Project 2	BBB	1 year	50.000 €
Project 3	BBB	1 year	50.000 €
Project 4	BBB-	1 year	50.000 €
Project 5	BBB-	1 year	50.000 €
Project 6	BB+	1 year	50.000 €
Project 7	BB	1 year	50.000 €
Project 8	BB	1 year	50.000 €
Project 9	BB	1 year	50.000 €
Project 10	BB	1 year	50.000 €
Project 100 ...			

Source: EthiFinance Ratings example.

After running the Monte Carlo Simulation, an "output table" is generated that shows the losses that each rating level should be able to withstand. To clarify, the Monte Carlo output table is not an input to the cash flow analysis, it is generated through a separate process and will subsequently be compared to the cash flow analysis.

Montecarlo Simulation "Output Table"	
Rating	Maximum losses for each rating
AAA	22,0%
AA+	21,0%
AA	20,6%
AA-	20,0%
A+	19,0%
A	18,0%
A-	17,0%
BBB+	15,0%
BBB	13,0%
BBB-	12,0%
BB+	11,0%
BB	10,0%
BB-	9,0%
B+	8,0%
B	7,0%
B-	6,0%
CCC+	5,0%
CCC	4,0%
CCC-	2,0%
CC	1,0%
C	0,0%

Source: EthiFinance Ratings example.

- **Step 2 - Cashflow Modeling Assessment (CMA):** EFR employs a standard cash flow model and adjusts it to capture the cash flow waterfall and reflects the additional risks identified by EFR such as FX risk, interest rate mismatches, hedging risk, credit enhancements, among others. The maximum losses will be calculated using a goal-seek method, where the final balance is targeted to be zero. The objective of this cash flow model analysis is to determine the maximum amount of losses (or break-even default rate) that the Fund can incur while still being able to pay the principal, interest, and other expenses, thereby achieving breakeven. After all these factors are incorporated into the cashflow model, EFR derives the cashflow model output shown below.

Cashflow Model Output	
Expected Revenues	5.000.000 €
Defaults	700.000 €
Net Revenues	4.300.000 €
Recoveries	100.000 €
Revenues post recoveries	4.400.000 €
Initial Balance	150.000 €
Reserves	137.500 €
Fund Expenses	250.000 €
Amortization	4.000.000 €
Interest Payments	437.500 €
Final Balance	0 €

Source: EthiFinance Ratings example.

From the previous table, EFR will calculate the losses that the MF or feeder fund can withstand expressed as a percentage (or called break-even expected losses rate or BELR).

Maximum Losses as a percentage	
Expected Revenues	5.000.000,0 €
Defaults	700.000,0 €
Recoveries	100.000,0 €
BELR	**12,0%**

Source: EthiFinance Ratings example.

- **Step 3 - Determine the Anchor Rating:** Once the cash flow model has been constructed and EFR has calculated the maximum losses that the structure can withstand and still pay the debt, the percentage of losses net of recoveries (12.0%) will be mapped to the Monte Carlo Simulation output table to determine the rating that is assigned to that percentage of losses. In this case, it will be a rating of **BBB-**.

- **Step 4 - Modifiers:** Based on the criteria described in Section 2.3 of this methodology, the analyst will assess the general partner qualitative profile, legal risks, operational risks and debt subordination. In our example, it is assumed that the legal and operational risks are standard, and that the GP's fund management capabilities range from 1 to 7.

		Qualitative Rating		
Section	**Factors**	**Primary Considerations**	**Scores**	**GP Performance**
General Partner	Resources	*Resources*	1	Overperformance
		Total AUM	1	Overperformance
	Risk Management	*Investment Guidelines*	1	Overperformance
		Credit Process	1	Overperformance
		Risk Management and Compliance	1	Overperformance
	Fundraising	*Alternative Investment AUM*	2	Above Average Performance
		Traction	2	Above Average Performance
		Pacing	1	Overperformance
	Historical Performance	*Historical performance*	1	Overperformance
Final Outcome			**1,2**	**Overperformance**

Source: EthiFinance Ratings.

Also, the analyst will review based on legal documentation and legal opinion if the debt issued by the feeder fund is structurally subordinated to existing debt at the level of the MF as well as if going forward if there are covenants that limit new debt at the MF level. If subordination exists,

EFR will include the MF debt in the cashflow analysis and give it priority of payment over the debt in the feeder fund, as explained in Section 2.3.4 of this methodology.

- **Final Step - Deriving the Final Credit Rating:** Once the anchor rating has been established and the credit rating modifiers have been applied, EFR determines the final rating that the notes issued by Atlantic Fund 1 would have.

Scorecard Debt Investment Funds		
Anchor Rating	BBB-	
Modifiers		
General Partner Qualitative Assessment	Overperformance	+1
Resources	Overperformance	
Risk Management	Overperformance	
Fundraising	Overperformance	
Historical Performance	Overperformance	
Legal Risk Analysis	Neutral	
Operational Risk Analysis	Neutral	
Debt Subordination	No	
Final Credit Rating	BBB	

Source: EthiFinance Ratings example.

Annex II: Credit Enhancement Net of Defaults

The following is an example of the process for determining the anchor rating of a non-diversified portfolio. The following table recaps the portfolio characteristics of the fund, the industry codes, the region code, the rating, the nominal of each loan, and the tenor.

- **Step 1 - Getting the portfolio characteristics**

Rating	Obligor	Security	Industry Code	Region Code	Nominal €	% Nominal over the total	Probability of default according to Tenor	Tenor
AA+	1	1	1	2	100.000	12,5%	0,40%	7
AA+	2	2	2	1	100.000	12,5%	0,40%	7
AA-	3	3	3	6	100.000	12,5%	0,74%	7
AA-	4	4	4	5	100.000	12,5%	0,74%	7
A	5	5	5	4	100.000	12,5%	1,40%	7
A	6	6	6	3	100.000	12,5%	1,40%	7
BBB	7	7	1	2	100.000	12,5%	3,58%	7
BBB-	8	8	2	1	100.000	12,5%	4,91%	7

The loans are then sorted in descending order of rating.

- **Step 2 - Start defaulting the lower rated loans**

								35,0% Recovery			Credit Enhancement 10,0%
Rating	Security	Nominal €	% Nominal over the total	Probability of default according to Tenor	Default (Y/N)	Loss without recovery (€) considering 100% default	Loss with recovery (€) considering 100% default	Loss with recovery in percentage (%)	Amount of Losses in % over total	Accumulated Amount of Losses in % over total	CE > ACCUMULATED LOSSES
AA+	1	100.000	12,5%	0,40%	0,0%	-	-	0,00%	0,00%	**8,13%**	
AA+	2	100.000	12,5%	0,40%	0,0%	-	-	0,00%	0,00%	8,13%	
AA-	3	100.000	12,5%	0,74%	0,0%	-	-	0,00%	0,00%	8,13%	
AA-	4	100.000	12,5%	0,74%	0,0%	-	-	0,00%	0,00%	8,13%	
A	5	100.000	12,5%	1,40%	0,0%	-	-	0,00%	0,00%	8,13%	
A	6	100.000	12,5%	1,40%	0,0%	-	-	0,00%	0,00%	8,13%	
BBB	7	100.000	12,5%	3,58%	0,0%	-	-	0,00%	0,00%	8,13%	
BBB-	8	100.000	12,5%	4,91%	100,0%	100.000	65.000	65,00%	8,13%	8,13%	withstands
		800.000				**100.000**	**65.000**	**8,13%**			

This step consists of starting to default on the loan with the lowest rating, in this case a BBB- loan. The nominal is €100,000, but we will consider in most cases a recovery of 35% of the nominal amount. Because of this, the loss considering recoveries will be €65,000. The €65,000 amount in percentage over the total amount of all the portfolio €800,000 will be in this case 8.13%. This percentage will be

compared to the CE of 10.0%, where the CE is greater than the 8.13%; as this is the case, the fund will withstand the losses of the lowest rated loan.

Each loan in the portfolio follows the same default process.

								35,0% Recovery			Credit Enhancement 10,0%
Rating	Security	Nominal €	% Nominal over the total	Probability of default according to Tenor	Default (Y/N)	Loss without recovery (€) considering 100% default	Loss with recovery (€) considering 100% default	Loss with recovery in percentage (%)	Amount of Losses in % over total	Accumulated Amount of Losses in % over total	CE > ACCUMULATED LOSSES
AA+	1	100.000	12,5%	0,40%	0,0%	-	-	0,00%	0,00%	**16,25%**	
AA+	2	100.000	12,5%	0,40%	0,0%	-	-	0,00%	0,00%	16,25%	
AA-	3	100.000	12,5%	0,74%	0,0%	-	-	0,00%	0,00%	16,25%	
AA-	4	100.000	12,5%	0,74%	0,0%	-	-	0,00%	0,00%	16,25%	
A	5	100.000	12,5%	1,40%	0,0%	-	-	0,00%	0,00%	16,25%	
A	6	100.000	12,5%	1,40%	0,0%	-	-	0,00%	0,00%	16,25%	
BBB	7	100.000	12,5%	3,58%	100,0%	100.000	65.000	65,00%	8,13%	16,25%	does not withstands
BBB-	8	100.000	12,5%	4,91%	100,0%	100.000	65.000	65,00%	8,13%	8,13%	withstands
		800.000				**200.000**	**130.000**	**16,25%**			

In this case, we suppose that the BBB loan will default, in this case the accumulated amount of losses in % over the total nominal amount (AALON) will be the sum of the amount of losses in % of the two defaulted loans. The AALON will be 16.25%, in this situation the CE of 10% is lower than the AALON. In this case, the stress of the last loan depletes the credit enhancement, the rating of the pool will be capped at the level of the lowest credit. The rating assigned to all the pool of assets, in this case is the BBB rating. The ARP will have a BBB rating.

Annex III: Monte Carlo Simulation Analysis

EFR has developed a tool, the "*Monte Carlo Model*", which is based on Monte Carlo simulation that allows the analysis of portfolios with a diversity of loans, both for large and small portfolios with at least 10 borrowers or 8 industries but less than 200 obligors (in cases where we have information about all the obligors we could use the Monte Carlo for larger portfolios).

The "*Monte Carlo Model*" is developed by EFR to be able to analyze loan portfolios where each loan has different characteristics (maturity, amortization profile, etc.). This tool has the same objectives as the granular model, allowing us to obtain the expected losses or default curve by rating level. This model is based on a Merton-Vasicek factor model.

The difference between the granular model and the Monte Carlo Model is that the latter is based on information on each loan in the portfolio, in addition to a series of options that make it a more complete and versatile tool.

The "*Monte Carlo Model*" uses these items as inputs:

I. One single correlation factor.
II. Idealized curve corporate default rates.
III. Portfolio details of each loan. Obligor, default rate at 1 year, par (loan nominal), recovery rate, tenor.