

**INTEREST RATE BENCHMARKING
A TRANSFER PRICING GUIDE,
PART I**

DRAFT

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List of Abbreviations

The following abbreviations and symbols are used in this guide:

AAF	Annuity adjustment factor
ABL	Asset-backed lending
ac.finance.IRB	Excel/java-based interest rate benchmarking tool developed as part of this guide
ATSM	Affine term structure model
CNS	Comparable note search
CRA	Credit rating analysis
CUP	Comparable unrelated price
CUT	Comparable unrelated transaction
DCA	Debt capacity assessment
DRB	Discount rate benchmarking
EMTN	Euro Medium Term Note
FMV	Fair market value
FTE	Flow-through entity
FX	Forward exchange
ICS	Internal CUT search
IQR	Interquartile range
IRB	Interest rate benchmarking
LBMA	London Bullet Market Association
MNE	Multinational enterprise
MTN	Medium Term Note
MYCA	Market yield curve analysis
NPV	Net present value
NSM	Nelson-Siegel model
OECD Guidelines	“BEPS Actions 8 – 10, Financial Transactions”, a draft published in July – September 2018 for the purposes of public discussion
OID	Original issue discount
OID Note	Original Issue Discount Note
OLS	Ordinary least square
PIK	Pay-in-kind
PLOI	Pertinent loan or indebtedness
ROE	Return on equity
TP	Transfer pricing
VAR	Vector auto-regression

Section 1 Introduction

Transfer pricing of financial transactions can be broadly divided into the following categories:

- ▶ **Lending** transaction. This is the core type of transactions which typically represents over 90% of all engagements. The business purpose of a lending transactions is typically either to refinance existing debt; or (ii) to finance acquisition of a new company; or other, A more detailed list and description of financing structures in which lending is part of the structure is discussed in a separate guide.
- ▶ **Risk transfer** transactions. Majority of risk transfer transactions are financial guarantee or risk hedging transactions.
- ▶ **Other** transactions.

The full scope of interest rate benchmarking (**IRB**) analysis includes the following components:

- ▶ **Debt capacity** assessment. The purpose of the debt capacity assessment is to estimate the maximum quantum of debt that can be issued in the intercompany loan transaction;
- ▶ **Credit rating** analysis. Creditworthiness of the borrowing entity is one of the key factors which determines the interest rate applicable on the loan. It is often the most time intensive and complex parts of the IRB analysis.
- ▶ **Interest benchmarking** analysis. The purpose of interest benchmarking analysis is to estimate the arm's length interest rate applicable to the loan.

Technically the three components of the full IRB analysis are inter-dependent. The quantum of debt affects the credit rating, which in its turn affects the arm's length interest rate. The interest rate affects the interest coverage ratios in the debt capacity assessment. The final results of the three components of the IRB analysis must be consistent with each other.

In practice debt capacity analysis is performed first to identify which debt capacity ratios are binding for the quantum of debt. Based on the results of debt capacity analysis, credit rating of the borrowing entity is estimated. Finally based on the results of credit rating assessment, interest rate is estimated. If interest coverage ratios are binding in the debt capacity analysis, then all results are reviewed and recalibrated to ensure that the results of debt capacity, credit rating, and interest benchmarking analysis are consistent with each other.

In addition to the technical pricing analysis, which involves the components described above, the intercompany lending transaction requires a review of the lending business purpose and review of consistency between the terms selected for the tested transaction and the transaction business purpose. If the terms or the purpose of the tested transaction are not supported from the transfer pricing perspective, the transaction may be not honored as debt by tax authorities and reclassified into equity. The tax authority may not even consider the technical arm's length pricing analysis in this case. Therefore, both properly structuring and pricing the tested transaction are very important steps that must be given a very careful consideration.

This guide is presenting only the last component of the full IRB analysis: estimation of the arm's length interest rate. The debt capacity and credit rating assessments are covered in separate guides.

1.1 Scope

This guide presents interest benchmarking analysis from the transfer pricing perspective. It summarizes the OECD guidelines on treasury transactions and the key take-outs to be taken into consideration in the analysis. The OECD guidelines and other regulations are summarized in Appendix A.

The guidelines emphasize two key aspects of the analysis: proper characterization of the loan transaction and arm's length pricing. Since both elements of the analysis include an extensive discussion with significant number of details, the guide was broken down into two parts: Part I and Part II. Part I discussed in this guide is focused on discussion the terms of a loan transaction and relevant transfer pricing considerations are discussed in Section 3 and Appendix B. Part II is more technical with the focus on pricing the tested loan after the terms of the loan were selected consistently with the loan business purpose.

1.2 Terminology

The following terminology is applied throughout this guide.

- ▶ **Term premium.**
- ▶ **Risk premium.**
- ▶ **PIK provision.**
- ▶ **Toggle PIK note.**
- ▶ **Commitment fee.**
- ▶ **Stand by fee.** Same as commitment fee.
- ▶ **Facility fee.**
- ▶ **Promissory note.**
- ▶ **Term loan.**
- ▶ **Loan facility.**
- ▶ **Mezzanine debt.**
- ▶ **High yield markets.**
- ▶ **Implied commodity lease rate.**
- ▶ **Interest leakage**
- ▶ **Regulation S (REGS) and 144A offerings** refer respectively to (i) bonds issued in the Eurobond market for international investors and usually clears through firms like Euroclear and eClearstream; and (i) bonds private placement offered in the United States for U.S. investors and clears through DTCC.
- ▶ **Yield to Worst.** Yield to worst is a measure of the lowest possible yield that can be received on a bond that fully operates within the terms of its contract without defaulting. It is a type of yield that is referenced when a bond has provisions that would allow the issuer to close it out before it matures.¹

¹ <https://www.investopedia.com/terms/y/yieldtoworst.asp>

Section 2 Overview of IRB Analysis

Interest benchmarking analysis is performed after the indicative quantum of debt and respective credit rating of the transaction have been assessed.

2.1 Steps of IRB analysis

The steps of the interest benchmarking analysis can be summarized as follows.

- ▶ **Terms.** Review and summarize the terms of the covered transaction;
- ▶ **Information.** Review the information related to the borrowing entity and the covered transaction including the following items (the information is typically received either directly from the client, or from the tax team, or from public databases such as Bloomberg):
 - ▶ General context and structure of the covered transaction (see an accompanying guide for the financial structures);
 - ▶ Region and industry sector in which the borrowing entity operates;
 - ▶ Historical and projected financial statements of the borrowing entity;
 - ▶ Third-party and intercompany debt issued by the borrowing entity and the parent group;
- ▶ **DCA and CRA.** Perform debt capacity assessment and credit rating analysis to determine (i) the quantum of debt for the covered transaction and (ii) the credit rating of the borrowing entity and the covered transaction.
- ▶ **Searches.** Perform searches for samples of comparable unrelated transactions (CUTs).
- ▶ **Screening.** Screen the identified initial samples of potential comparable transactions to retain only the transactions with the terms matching closely the terms of the tested transaction. Construct the final sample of comparable transactions under each IRB approach.
- ▶ **Adjustments.** Perform adjustments to the yield rates in the final samples as described in Sections 3 and 4.² The output in this step are the samples of fully adjusted yield rates estimated for each alternative IRB approach.
- ▶ **Ranges.** Construct interquartile ranges (IQR) and full ranges based on the final samples of fully adjusted yields on comparable transactions. The compliance with full or IQR range depends on the tax jurisdiction. For example,
 - ▶ Canada: full range;
 - ▶ US and most European countries: IQR. US regulations have a specific sheet with the description of the quartile calculations. The quartile calculations on the sheet can be summarized by the following formula

$$\begin{cases} i_L = 1 + \left\lfloor \frac{n}{4} \right\rfloor, & \text{if } n \text{ is not divisible by } 4 \\ i_L = 0.5 + \frac{n}{4} & \text{if } n \text{ is divisible by } 4 \\ i_R = (n + 1) - i_L & - \end{cases}$$

² If necessary, estimate missing yield curves (for credit ratings CCC+ or lower).

where n is the number of observations in the sample, i_L is the index of the lower quartile in the sample, i_R is the index of the upper quartile in the sample, and $\lfloor \frac{n}{4} \rfloor$ is the value of $\frac{n}{4}$ rounded to the lower integer value.

Most countries with IQR range regulations assume that Excel quartile function is used. Note however that Excel has two quartile functions: QUARTILE.INC and QUARTILE.EXC, which will produce a different result. In general, there are multiple alternative rules on how to calculate quartile statistics which can produce materially different results in small samples.

2.2 IRB approaches

The objective of the search step in the IRB analysis is to identify the sample of CUTs used to estimate the market interest rate on the tested intercompany loan. This guide discusses only briefly the search strategies. The main focus of the guide is on the interest rate models assuming that the sample of CUTs used as input data in the interest rate model is given.

The search strategy is designed based on the following considerations:

- ▶ Minimize the number of adjustments to the yields of the identified CUTs sample;
- ▶ Ensure that the sample yields capture specific risk, such as entity-specific risk, industry sector risk, country risk, or other;

The CUT transactions are differentiated between external CUTs and internal CUTs where

- ▶ External CUT is a comparable debt transaction in which the price is charged between two or more unrelated parties.
- ▶ Internal CUT is a comparable debt transaction in which the price is charged between an unrelated party and one of the related parties under review.

The generic IRB approaches are listed below.

1. Market yield curve analysis (**MYCA**) approach. MYCA is based on standardized market yield curve series reported by Bloomberg. Effectively under the MYCA approach the broad industry sector is selected (industrial, financial, or banking) and the sample estimated by Bloomberg for the broad sector is used to construct the ranges.

MYCA analysis is often used as a corroborative approach to other IRB approaches. MYCA approach may not adjust properly for industry sector and may not be robust as the samples used by Bloomberg for yield series estimation are often small. On the other hand, MYCA analysis can be viewed effectively as an independent validation of yield estimation performed by Bloomberg.

2. Corporate note search (**CNS**) approach. The CNS approach is based on a search for market yield rates on external comparable bond and note transactions between unrelated parties, as reported by Bloomberg. Under the broad CNS approach narrower search strategies can be selected. Specifically, the following search strategies are typically implemented.

- ▶ **Rating-specific CNS.** Under the rating-specific CNS search strategy, the bonds/notes with the credit rating matching the credit rating of the tested transaction are searched in Bloomberg database. Conceptually the credit rating of a transaction should capture fully the transaction exposure to the credit risk. And therefore, no other risk adjustment is required to the yields of the identified CUTs. In practice the assumption is reasonable for a broad list of industry sectors. However, in certain industry sectors premium exists, which sometimes may be very material.

The results under the rating-specific approach should be consistent with the results under the MYCA approach. The difference in the two approaches is that the sample in the MYCA approach is estimated by Bloomberg while the sample in the rating-specific CNS approach is estimated by transfer pricing analyst.

- ▶ **Sector-specific CNS.** Under the sector-specific CNS search, the bonds/notes issued by companies operating in specific industry sector are searched in Bloomberg database. The objective of sector-specific search is to account for credit risk, which is specific to the industry sector in which the borrower operates. An example of industry in which industry-specific risk was estimated as very material in certain periods is Metals & Mining.
- ▶ **Country-specific CNS.** Under the country-specific CNS search, the bonds/notes issued by companies operating in specific geographic region are searched in Bloomberg database. The country-specific search is typically performed when the borrowing subsidiary operations are located outside North America or Western Europe. The objective of sector-specific search is to account for credit risk, which is specific to the country in which the borrower operates. An example of a country in which country-specific risk was estimated consistently as positive is Argentina.

Alternatively, if the credit rating of the tested borrowing entity is determined by the country ceiling rating (reported by Moody's), then the interest benchmarking analysis may be performed based on the search of the sovereign debt corporate notes issued by the respective government or central bank. The advantage of the approach is that (i) it is easy to implement, (ii) there is typically a reasonable large sample of sovereign debt instruments; (iii) there is no adjustment for rating differences and typically small adjustment for maturity term differences.

3. **Internal CUT search (ICS) approach.** The ICS approach is based on a search for market yield rates or interest rates on comparable internal CUTs. The advantage of the ICS approach is that it potentially accounts for the entity-specific risk, which may include both industry and country-specific risk. The downside of the approach is that in most cases the sample of potential internal CUTs is small to produce a robust range of market interest rates.

ICS approach is recommended in the case when the tested intercompany loan is part of a back-to-back loan transaction from bank to parent to subsidiary or target acquisition is implemented using both third-party and intercompany financing. In this case a third-party loan from the bank to the parent or directly to the borrowing entity can be viewed as a direct comparable to the tested loan.

In Canadian analysis (borrower is a Canadian company), ICS must be included as one of the methods (assuming that a sample of comparable internal CUTs exists). In US analysis, it is sufficient to perform external CUT search analysis. However, it is still recommended to either include internal CUTs as part of CNS, or as a separate ICS benchmarking approach.

Selection of the specific approach depends on specific facts and circumstances of the project. Generally, it is also recommended to review the internal comparables and under the Canadian TP rules a report should also include a section with the discussion of the internal comparable search.³ Selection between the rating-specific, sector-specific, or country-specific approaches depends on the tax jurisdiction of the borrowing entity and the sector in which it operates. For example, the notes issued by companies operating in the mining sector typically have an additional sector premium compared to the similarly rated companies operating in a broad industrial sector. In certain cases, a combination of approaches is applied. For example, a rating-specific CNS is selected by sector or country premium is added as additional premium component and is estimated using a separate complementary analysis.

³ If no or insufficient sample of internal CUTs was identified, a short section should still be included to summarize the search results and provide a rationale while the ICS search was not selected.

Section 3 Terms of a Loan Transaction

The first and the key step of the IRB analysis is to describe the terms of the tested loan transaction. The planned terms of the loan must be confirmed with the client prior to performing the IRB analysis. If the terms are modified, all components of the IRB analysis (including debt capacity and credit rating analysis) may be affected and the full analysis may have to be redone again.

3.1 Summary of intercompany loan agreement standard terms

In the exhibit below standard terms of an intercompany loan are summarized. We discuss then what impact each term may have of the results of the analysis.

Exhibit 3.1 Terms and conditions of the - Agreement

Parameter	Parameter Value
Lender	- (-)
Borrower	- (-)
Borrower's industry sector	Industry sector
Transaction format	Revolving loan facility agreement
Transaction purpose	Working capital and general corporate purpose financing
Currency and principal amount {facility credit limit}	-
Effective / closing date	-
Maturity date	-
Term to maturity (in years)	-
Seniority / Subordination	Subordinated to third-party debt or other senior liabilities of the Borrower and its subsidiaries, if any; pari passu ⁴ to the other intercompany obligations of the borrower
Security / Guarantee provisions	Unsecured / not guaranteed
Interest rate	The -'s temporary ⁵ interest rate is fixed at - a floating interest rate equal to the - (base rate) + - risk spread. The base rate is reset at the beginning of each interest payment period.
Interest payment frequency	{Annual; Semi-annual; Quarterly; Monthly} {Implied annual frequency, but the Borrower is not obligated to make regular interest payments}
Day count basis	{Actual/365; Actual/360; Actual/Actual; 30/360}

⁴ Pari-passu is a Latin phrase meaning "equal footing" that describes situations where two or more assets, securities, creditors or obligations are equally managed without preference. An example of pari-passu occurs during bankruptcy proceedings: When the court reaches a verdict, the court regards all creditors equally, and the trustee will repay them the same fractional amount as other creditors at the same time.

⁵ The permanent fixed interest rate will be set by - based on the results of this analysis, as stipulated by the -'s legal agreement.

Parameter	Parameter Value
Interest payment dates	March 31 st , June 30 th , September 30 th and December 31 st each year June 30 th each year Implied on July 6 th ; but the Borrower is not obligated to make interest payments until the maturity date
Prepayment (call) option	The Borrower can prepay any portion of the principal amount and accrued but unpaid interest at any time prior to the maturity date, subject to a three-business day formal notice period {add a write-up on a penalty structure}
Pay-on-demand (put) option	The Lender has an option to demand the repayment of principal and accrued interest at any time prior to the maturity date, subject to a five-business day notice period
Interest Deferral (PIK)	The Borrower can defer interest payments, with interest compounded on the last day of each calendar quarter
Advance drawdown option	The Borrower has a right to draw additional individual advances within Facility's borrowing limit during Facility's tenor term
Commitment fee	The Borrower pays a commitment fee of XX percent applied to the undrawn amount of the Loan's credit limit and calculated on an annual basis
Amortization provisions	-s outstanding principal is subject to mandatory principal amortization payments made according to the amortization schedule presented in Schedule "A" of the -. -s outstanding principal balance will be reduced by annual amortization payments beginning from 15 March 2018 to the maturity date, as summarized in Exhibit X.X below.

If existing intercompany loan is analyzed, then the terms are summarized by reviewing the intercompany loan agreement. If however a new intercompany loan agreement is drafted as part of the financing structure planning process, then the terms of the loan agreement are often discussed with the client to ensure that the IRB analysis is consistent with the final terms set in the loan agreement.

3.2 Selection of the terms for an intercompany loan agreement

The following points should be taken into consideration when discussing the terms of a new loan transaction.

- ▶ **Transaction format.** Standard formats of intercompany debt transactions include promissory note, term loan, term loan facility, and revolving loan facility. The format often depends on the business purpose of the issued debt. For example, if intercompany debt is issued as part of acquisition transaction, the debt is issued as a term loan or as a combination of a term loan and a revolving facility. The term loan is issued to fund the purchase price of the acquired target while the revolving facility is issued for working capital needs. Standard classification of loan format by business purpose is summarized below:
 - ▶ **Acquisition or Investment.** In the case of an acquisition transaction, the format of the loan financing is typically selected from the following options: (i) promissory note, (ii) term loan, (iii) term loan facility, (iv) delayed-draw term loan, (v) bridge financing.

The loan is issued for the purpose of financing the purchase price in an acquisition or investment transaction. The promissory note or term loan options are selected when the specific date when the funds will be drawn is known with high certainty and the date is selected as the loan issue

date. Other types of financing are selected when the drawdown date is not known with certainty, but the borrower needs to have the funds committed to the transaction.

In the case of the term loan facility or delayed draw loan, the agreement specifies a drawdown period and the borrower pays additional commitment fee on the undrawn balances. Unlike revolving loan facilities, the balances in the term loan facility cannot be drawn after the termination of the drawdown period and the balances cannot be redrawn in the case of early prepayment.

Bridge financing is a relatively rare structure but also observed in the intercompany transactions. Under the structure, the bridge loan is issued to finance the acquisition, and after the acquisition is completed the bridge loan is replaced with a regular term loan. Pricing of bridge financing is discussed in Appendix C.1.

- ▶ **Financing capex or working capital.** In the case of capex or working capital financing, the loan is typically issued in the form of a (i) revolving loan facility; or more generally a (ii) credit facility. The difference of a revolving from a term loan facility is that it allows to draw the funds at any time prior to the maturity date and allows to redraw the funds after early prepayment.⁶ The funds are drawn from the revolving facility to finance capex purchases, finance additional investments, or finance operating needs.

In the case of capex or additional investment financing, the loan term is specified as a medium or long-term to match the expected needs for capex or investment financing. If the business purpose is to finance short-term liquidity needs, then the term is normally set at one year and the loan is repriced on an annual basis.

- ▶ **Repo debt structures.** Under the repo structure the financing is implemented as a hybrid debt which is treated as debt at the borrower side and equity at the lender side. The debt is issued in the form of preferred shares.⁷
- ▶ **Loss utilization.** Funds cycle in a loss utilization structure normally includes a regular term loan and preferred shares with matching terms and conditions.⁸ Generally, it is recommended to perform transfer pricing analysis for both the term loan and preferred shares but in many cases the analysis is limited to the term loan only. Loss utilization structures are limited to Canada-to-Canada transactions only and are implemented for the purpose of utilizing the NOLs in a loss-making subsidiary of the group. The structure is implemented by a tax team and the term of the loan is recommended by the tax team (the term is selected to match the period required for the loss utilization).
- ▶ **Refinancing / amendments.** Refinanced or amended loans normally have the same format as the original loans.

Selection of the correct loan format is an important step due to the fact that transfer pricing regulations require consistency between the terms of the debt and the debt business purpose (see Appendix A for further details).

- ▶ **Interest/coupon rate type.** In most cases interest rate is set either a fixed or as floating (in rare cases it can be set as variable). Typically, a fixed rate will bear a premium on the issue date relative to the floating rate. The premium compensates for risk exposure in floating rate uncertainty.

In most cases the interest rate in intercompany loans is set as fixed rate. In third-party debt transactions the interest rate on the loans is typically floating and interest rate on bonds is fixed. If

⁶ Due to the difference between the advance drawdown of a term loan and the revolving loan facility, the debt size in a term loan is referred to as principal amount while the debt size in a revolving loan facility is referred to as facility credit limit.

⁷ See "FSTP_01._Financing_Structures.pdf" guide. Repo debt is an example of a hybrid debt transaction. A general trend in financial services transfer pricing is to unwind all existing hybrid structures and replace them with regular loans.

⁸ See "FSTP_01._Financing_Structures.pdf" guide for further details on loss utilization structures.

the funds for the intercompany loan are raised by the parent through the third-party debt issued to a bank, then it may be reasonable to set the terms of the intercompany debt matching the terms of the bank loan (including the interest rate type). The financing structure in this case can be described as a back-to-back loan from bank to parent to subsidiary. If there is a mismatch in the interest rate type, then the interest paid by subsidiary to the parent in the back-to-back loan may be less than the interest paid by the parent to the bank (interest **leakage**).

The estimated arm's length interest rate on the intercompany loan is expected to have a premium relative to the bank loan. If, for example, the interest rate on the intercompany loan is fixed and the interest rate on the respective bank loan is floating, then potentially, if the floating rate increases over time, the interest expense on the bank loan paid by the parent may exceed the fixed rate received by the parent in the intercompany loan. The parent will be making losses on the back-to-back loan, which may be viewed as a transfer pricing risk.⁹

In third-party loans and notes other coupon rate types can be observed, such as variable coupon rate or interest rate margin schedule. Illustration of a variable coupon rate notes is provided in Appendix E.5. A schedule of interest rate margins is often observed in a loan transaction. The schedule is set to match the increased risk premium charged by the bank in a loan transaction to the increased leverage of the borrower. In most cases the interest rate margin is linked to a borrower leverage ratio (such as for example Debt / EBITDA). For some transaction types (such as for example letters of credit) the interest rate margin is linked to the credit rating of the borrowing entity.

In intercompany debt transactions the loan pricing is performed on the loan issue date and the estimated single price is applied throughout the loan life (irrespective of the future changes in the borrower creditworthiness). Benchmarking a schedule of interest rates would be a significantly more challenging exercise from the transfer pricing perspective.¹⁰

- **Seniority / subordination ranking.** By default, an intercompany loan is assumed to be subordinated to the third-party debt obligations of the borrower. The subordination rank can be explicitly described in the intercompany loan agreement (contractual subordination). In most cases however subordination ranking is not stated explicitly either intentionally or not (structural subordination). The ranking between intercompany loans is by default at pari-passu.

In some cases, the total quantum of intercompany debt is tranching into multiple loans with additional subordination structure set between individual loan tranches. This is done, for example, when the total quantum of issued intercompany debt is not supported by the debt capacity analysis. The total debt quantum is divided into multiple tranches to differentiate between the risk and debt capacity support for different tranches. The low rank tranches are interpreted as mezzanine financing. Additional debt capacity assessment based on third-party mezzanine financing structures can be performed to support the debt characterization of the intercompany loans. The mezzanine structure of the intercompany loans is set for consistency with the third-party mezzanine debt structures.

- **Security / guarantee provisions.** By default, an intercompany loan is unsecured and non-guaranteed. In some cases, the client has certain reasons to include security provision for the loan. In practice, security provision affects the rating notching criteria applied to the tested loan.

If the loan is guaranteed by the parent company, then the parent is viewed as the effective borrower in the loan transaction. Therefore, the rating of the loan is estimated based on the parent issuer

⁹ Formally, if the transfer pricing analysis is performed correctly, then net interest expense loss of a parent in a back-to-back loan does not indicate that the interest rate on the intercompany loan is not at arm's length. However, it is recommended to discuss with the client whether a back-to-back loan should be structured in such a way so that to ensure consistency in the interest expense on the intercompany and third-party loans.

¹⁰ Similarly, debt capacity assessment of the borrowing entity is performed only as of the loan issue date. It is normally not recommended to include financial covenants in an intercompany loan agreement to avoid additional commitment to maintain leverage and debt coverage ratios throughout the life of the loan.

credit rating. Formally transfer pricing analysis of a guaranteed loan should include the analysis of a guarantee fee charged by the parent to the borrowing subsidiary. The analysis of financial guarantees is discussed in detail in the accompanying “Financial Guarantee” guide.¹¹

- ▶ **Prepayment option.** In most cases an intercompany loan includes a prepayment option, which gives the borrower the right (but not the obligation) to repay the loan prior to the loan maturity date. Most callable third-party notes identified through Bloomberg bond/note search function have a prepayment penalty provision (discussed in detail in the accompanying “Interest Rate Options” guide).¹² Intercompany loans typically do not include penalty or make-whole provisions. However, it is recommended to discuss it with the client.

The prepayment option gives flexibility for the group to unwind or refinance the loan transaction if necessary. The prepayment option also presents a benefit for the borrower and therefore results in an additional premium added to the estimated interest rate on the loan. On the other hand, including prepayment option may have a potential transfer risk. If the market rates drop significantly, the borrower will have an incentive to repay or refinance the loan. In theory, the prepayment risk must be monitored on a regular (annual) basis. If the reported interest deduction in a specific year exceed significantly the interest expense implied by the market rates observed during the year, the interest expense may be questioned and not allowed by the tax authorities. In practice however, unless the decrease in market interest rates is very significant, the tax authorities do not review in detail and question the prepayment risk of an intercompany loan.

The prepayment option should also be taken into account in the loan fair market value analysis (which is discussed in more detail in the accompanying “NPV Valuation” guide).¹³

- ▶ **Pay-on-demand option.** A pay-on-demand option is a much less typical option in an intercompany or a third-party loan. There is however a practice to issue intercompany on-demand loans which do not specify explicitly the loan maturity term. The loans are implied to be long-term with the on-demand option providing the mechanism to terminate the loan whenever it is deemed necessary.

It is strongly recommended to warn the clients not to use the on-demand loans. On-demand loans are short-term debt transactions. Even if a long-term maturity is set explicitly in the on-demand loan, the loan should be priced as a short-term debt (if estimated correctly, the pay-on-demand discount will offset the term premium). Pay-on-demand options observed in third-party notes can be exercised only in specific discrete periods (for example on an annual basis) with the first prepayment date set after certain period (e.g. five years) from the note issue date.

- ▶ **PIK provision.** A pay-in-kind (PIK) loan or bond is a type of debt that allows borrowers to pay interest by issuing additional debt rather than cash. PIK provision is equivalent to interest deferral option (with capitalized deferred interest). PIK provisions however may be set more flexibly than interest deferral option. For example, PIK provision may allow to capitalize only part of interest as additional debt and the remaining interest must be paid in cash. PIK provision also may specify an interest rate on capitalized interest expense (PIK interest), which is different from the interest rate on the loan principal amount.

PIK provision effectively implies a hybrid debt structure. With the PIK provision, the payment of interest is optional which makes it similar to dividend payments. As a result, hybrid debt structures present a transfer pricing risk that the tax authorities will not recognize the transaction as debt and will reclassify it as equity. There must be a clear business purpose for including the PIK provision. For example, PIK provision would be justifiable in new projects with uncertain date when the projects become operational.

¹¹ http://alexacomputing.com/files/other/fstp_guide/pdf/FSTP_08_Financing_Structures_v1.pdf.

¹² http://alexacomputing.com/files/other/fstp_guide/pdf/FSTP_09_Interest_Rate_Options_v1.pdf.

¹³ http://alexacomputing.com/files/other/fstp_guide/pdf/FSTP_05_NPV_Analysis_v1.pdf.

- ▶ **Advance drawdown option.** Advance drawdown option is present in the revolving loan facilities in which individual advances can be drawn and repaid flexibly to meet the capital needs of the borrowing entity. Advance drawdown option presents a benefit for the borrower and therefore results in a premium added to the estimated interest rate. In practice however, the drawdown option is priced as a separate commitment fee charged on the undrawn credit limit of the revolving facility.
- ▶ **Financial covenants.** Financial covenants are normally part of terms in 3d-party loan agreements. The objective of the financial covenants is to provide protection to the lender against excessive leverage of the borrower (and as a result against excessive credit risk exposure). However, it is normally not recommended to include similar financial covenants in intercompany agreements. The maximum quantum of debt in an intercompany agreement is determined based on debt capacity assessment. Debt capacity is performed as of debt issue date and in general does not require monitoring the borrower leverage for consistency with leverage constraints over the life of the loan. Including financial covenants as part of intercompany loan agreement creates an unnecessary commitment on part of the borrower to assess the constraints on its leverage over the life of the loan. If debt capacity constraints are violated at some future date, presence of financial covenants in the intercompany loan agreement can be viewed as a commitment to restructure the loan transaction.¹⁴
- ▶ **Convertibility.** In the context of intercompany loans, the terms of loan conversion into equity are typically different from the standard terms of bond conversion into equity observed in bonds' public issuances. The balances of the intercompany loan are typically converted into equivalent fair market value of the borrower's shares.¹⁵ Because the loan principal is converted into equity at fair market value, there is no potential upside gain from the increase in the borrower market value over time.¹⁶ Because there is no material gain to the lender from the convertibility option, no adjustment is normally performed for the presence of the option.

However, if the borrower had an option to convert the loan principal into the equivalent FMV of the shares, it would effectively provide the option to the borrower to extend the maturity term of the loan indefinitely. Therefore, the adjustment for the convertibility option in this case would be performed by adjusting the maturity term of the loan and the premium for the convertibility option would be priced as the respective term premium.

3.3 Terms of the loans and red flags

Setting proper terms of the tested transaction is an important step in transfer analysis. Inconsistency between the terms of the tested transaction and 3d-party loans or inconsistency with the intended purpose of the loan may raise a red flag for tax authority, which may disregard the transaction as a loan and disallow any interest deductions.

¹⁴ In special cases however financial covenants may be included in intercompany agreements. This may be the case for example when the borrowing limit in a credit agreement exceeds the maximum quantum supported by debt capacity assessment. Financial covenants provide in this case a commitment to limit actual drawdowns from the credit agreement based on the debt capacity ratios constraints.

¹⁵ An illustrative example of the convertibility option terms language is as follows: "*Unless otherwise agreed between the parties, at any time before full repayment, the Facility may be converted by the Lender, by written notice to the Borrower and signed by the Lender, in whole or in part, into the appropriate number of Shares of the Borrower, based on the fair market value (as agreed by the parties) of the Shares of the Borrower at the time of the conversion. Therefore, the Lender is entitled to receive Shares of the Borrower with a fair market value corresponding to the principal amount of the Facility converted.*"

¹⁶ In standard convertible bond transactions, bond principal can be converted into the number of shares based on the fixed conversion ratio. Therefore, as the borrower market value increases, the share prices increase and the value of the convertibility option respectively increases.

OECD guidelines indicate the following mandatory terms that need to be included in a loan transaction:

- (i) Fixed repayment date. A loan must have a fixed maturity date (on-demand notes violate this term).
- (ii) Obligation to pay interest. A loan must have regular interest payments (hybrid debt with interest deferral / PIK provision is a potential red flag for tax authorities).
- (iii) Right to enforce interest and principal payments.
- (iv) Business purpose of the loan. The loan format must be consistent with its business purpose (for example, a short-term loan cannot be used in an acquisition transaction).
- (v) Failure of the purported debtor to repay debt on due date. Ability of the borrower to service its debt obligations is supported by debt capacity analysis.

Other potential red flags or transfer pricing risk considerations are potentially related to the following terms of a loan.

- ▶ **Transaction format.** Consistency of a loan format with its business purpose is discussed in detail in Section 3.2.
- ▶ **Prepayment option.** Prepayment option gives the borrower a right to repay the loan obligation prior to the loan maturity date. The borrower has incentives to exercise the right to repay (and potentially refinance) the loan when the market interest rates go down. Therefore, tax authorities have a reason to disallow high interest payments on a loan due to the fact that a 3d-party borrower would refinance his debt obligations into a lower interest loan. The market interest rates need to be monitored on a regular (annual) basis to ensure that the refinancing risk is not material.

In my practice, the loan prepayment risk has not been very material from the transfer pricing perspective. The only project from my experience, which was related to the prepayment risk, involved estimation of reserves set by the client to mitigate the risk of potential interest rate reassessment. In the example, the client issued loans at high (~10%) interest based on the market rates effective as of the loans issue date. Over time, market rates dropped to ~5%. The interest rate differential created potentially material loan prepayment risk. The client opted to set reserves to offset potential losses from interest expense reassessment (as alternative to loans refinancing).

- ▶ **Interest deferral / PIK option.** Interest deferral is inconsistent with the obligation to pay interest (required under the OECD guidelines). However, interest deferrals are observed in 3d-party loans. The term should always be reviewed carefully to ensure that including it in a loan agreement has a strong support from the business purpose perspective.

Interest deferrals are often observed in specific sectors, such as for example renewable energy or mining sector. New projects in the industry sectors require initial investment and certain period to finance capex expenditures. During the period, the project typically does not provide any cash flows. Therefore, the interest expense is financed either from the issued loan funds or deferred until the project will start to generate positive cash flows. Interest deferral is normally justified in this case.

Another example, when interest deferral or PIK provision is justified in a loan agreement when the investment project has highly uncertain cash flows. To include additional support for the PIK provision, it can be formulated as a conditional provision which can be exercised by the borrower in the event if the borrower does not have sufficient funds to pay interest. Conditional PIK provision mitigates lender's risk exposure.

An example of conditional PIK in the intercompany loan agreement is as follows: "...If cash available for debt service is insufficient to pay in full the interest then payable, the Issuer may cause such unpaid interest to be deferred until the next payment day on which there is sufficient cash available for debt service to pay in full such interest (the "PIK Option"). Any payment of interest

which is deferred pursuant to the PIK Option shall be added to the outstanding principal balance of the Note”.

- ▶ **Convertibility.** Convertibility in intercompany transactions is different from the fixed price convertibility normally observed in third-party bonds. Under fixed price conversion option, debt can be replaced with equity at a fixed price. For example, if stock price is 2 and fixed conversion price is 1, then \$1 of debt is converted into \$2 of equity. In intercompany transactions, debt is converted into equity at market conversion price. For example, if debt market value is \$90 (relative to \$100 par), then \$1 of debt is converted into \$0.9 of equity.

While convertibility option in the intercompany loans (at market price) does not provide any material benefit to the lender, convertible loans are viewed as hybrid transactions with uncertainty in the terms on the loan fixed repayment date. Therefore, they can potentially be viewed by tax authority as being equity-like and recharacterized as equity. A preferred option is to replace the convertibility terms with the loan extension terms, which is conditional on the agreement from both the borrower and the lender. Conversion option may sometimes be included as part of the terms of a loan agreement but in many cases tax teams decide to remove it.

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Section 4 Summary of IRB analysis

This section presents key consideration points related to loan IRB analysis that are typically presented and discussed with the client. The related sections in the CRA and DCA guides present respectively the key consideration points related to the CRA and DCA analysis.

In the IRB analysis, the key points include the estimated range of market rates and selection of the rate for the tested loan, selection of the loan format, discussion of the terms for the loan options and provisions, estimation of any additional fees (such as for example commitment fee), estimation and discussion of spread analysis in the flow-through structures (mark-up to the 3d-party loan).

In the CRA analysis, the key discussion points typically include selection of credit rating methodology and application of halo questionnaire.

In the DCA analysis, the key discussion points typically include selection of the DCA ratios, estimation of the ranges for debt quantum and selection of the principal amount for the tested transaction, loan tranching, and loan negative financial covenants.

4.1 IRB analysis process

The interest benchmarking analysis can be summarized as follows.

Three primary IRB approaches are

- ▶ Corporate note search (CNS) approach.
- ▶ Internal CUT search (ICS) approach.
- ▶ Market yield curve approach (**MYCA**).

4.2 Transaction structure considerations

This section discusses the key consideration points that are typically raised in the IRB analysis. A more detailed discussion for each item in the list below is presented in each respective section.

1. Discussion of the estimated range of market rates and selection of the rate for the tested loan.
2. Selection of the loan format.
3. Loan commitment fee.
4. Loan PIK / interest deferral provision.
5. Loan prepayment / pay-on-demand options.
6. Loan spread in a flow-through structure.

4.3 Pricing considerations

4.4 FAQ

The section includes certain typical questions raised in the calls with clients.

1. **Instrument format.** The discussion of the debt instrument format is one of the most frequent discussion points on client calls. A general principle is that the format of the instrument should be consistent with the loan business purpose. For example, term loans would be normally recommended to finance new acquisitions. If business purpose requires flexibility in drawing loan advances, then a loan facility would be recommended. In some cases, both a term loan and a loan facility are issued as part of a new acquisition. A term loan is issued to finance the purchase price and the loan facility is issued for working capital purposes.

Another popular format is a grid note, which is a term note but has a certain commitment period which allows some flexibility for the borrower with respect to the timing of the actual borrowing. The commitment period must also be consistent with the grid note business purpose.¹⁷

2. **Internal CUT as a reference rate.** In some cases, an internal CUT is included in the final external CNS sample but the yield on the internal CUT may be low (below the IQR of the sample). In this case, an additional explanation why the yield on the internal CUT is not applied as a reference rate and the IQR is still the range applied to set the interest rate on the covered loan. The list of arguments is summarized below.
 - ▶ The internal CUT was issued by the parent group, which includes other material subsidiaries (in addition to the borrower). Therefore, the borrowers in the internal CUT and the covered transaction are different.
 - ▶ The internal CUT is guaranteed by the subsidiaries of the borrower's parent group. The debt of the guarantors (including the tested transaction) is 'expressly subordinated in right of payment' to the obligations under the internal CUT.
 - ▶ The size of the borrower is approximately x.x% of the parent group's total assets. Hence, there may be a size premium on the covered transactions as compared to the internal CUT.
3. **US vs Canadian analysis.** In some cases, a client may ask whether a preferred choice for them would be to perform the analysis from the US or Canadian perspective (and involve respective a different team and sign off partner to perform the analysis and documentation). Below are some factors which need to be taken into consideration.
 - ▶ Potentially both the CRA & IRS could challenge the rate (the work & the TP report should satisfy both the CRA & IRS requirements), but higher risks of audit & possible income adjustments are more likely to be in Canada (notwithstanding that it is an outbound interest payment from the US).
 - ▶ Analysis performed by a Canadian team is more cost effective (both on rate & our ability the leverage our experience working on client) than the analysis performed by the US colleagues. Therefore, if the US team would perform the debt capacity & rate calculation work (as opposed to just reviewing it), in total it would cost more.
 - ▶ A Canadian/OECD report would cover about 80% of what is needed for US documentation purposes, that's why the US fee review portion is rather small and therefore incremental.

¹⁷ A typical example when a grid note format would be recommended is the implementation of a financing structure for a borrowing entity in renewable energy sector for the purpose of acquiring new renewable energy projects (e.g. solar projects and wind farms), where some of the projects are still under construction and will be purchased at some future period of time. However, since there is a preliminary agreement on the future acquisition and respective purchase price, the funds need to be committed in the current period with the flexibility to borrow actual funds later.

4. **Including PIK provision.** In some cases, client would prefer to include a PIK provision for higher flexibility of interest payments. Below are the items that should be taken into consideration when advising on the PIK provision.
- ▶ The unrestricted borrower-discretionary PIK option is not a desirable feature from the debt characterization perspective since a PIK instrument effectively behaves like preferred equity with cumulative dividends.
 - ▶ A PIK feature also imposes restrictions on shareholder distributions since one cannot pay dividends unless and until all deferred interest is paid and all debt is being normally and regularly serviced.
 - ▶ to retain some flexibility in regard to interest payments in the case of unforeseen circumstances (and to avoid the unnecessary technical default), a conditional PIK can be included, which will be triggered only if the borrower is short on cash flow. The terms of the conditional PIK should include the following items: (i) a clear reference to the PIK trigger condition; (ii) the borrower's formal request to pay interest as PIK, which has to be sent in advance; (iii) a limited number of times the borrower can exercise this contingent PIK feature (2-4 times max), so that the total PIK amount is limited; (iv) a condition that the PIK interest can be repaid penalty-free after regular interest and should be repaid as soon as a positive cash flow becomes available; (v) a condition that all outstanding PIK should be repaid before any shareholder equity distributions; (vi) a description that PIK will be paid by issuing additional notes; and (vii) the adjustment to technical default provisions to allow for conditional PIK payments.

Appendix A OECD Guidelines

The section summarizes the OECD guidelines in relation to the analysis of intra-group loans. The section also includes a brief discussion on safe harbor rates.

A.1 Overview

The OECD Guidelines refer to the Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations¹⁸ issued by the Organisation for Economic Co-operation and Development (**OECD**) ([4]).

The OECD Guidelines themselves are not legislative authority. In fact, many OECD member countries, including Canada, have their own set of legislative rules pertaining to transfer pricing, but these countries are encouraged to follow the OECD Guidelines in evaluating whether their transfer pricing meets the arm's length principle for tax purposes. Furthermore, paragraph 16 of the OECD Guidelines encourages tax administrations "to take into account the taxpayer's commercial judgment about the application of the arm's length principle in their examination practices and to undertake their analyses of transfer pricing from that perspective."

OECD Guidelines provide only general principals and definitions, including definition of the arm's length principal, transaction comparability criteria, description and hierarchy of transfer pricing approaches, and other.

In February 2020, OECD issued Actions 4, 8-10 as part of the OECD Guidelines which provide a framework for the transfer pricing analysis of financial transactions ([5]). The framework includes the guidelines for the following elements of transfer pricing analysis, which are summarized in this guide.

1. Considerations when a purported loan is regarded as a loan;
2. Pricing considerations for the intra-group loans;
3. Determination of risk-free and risk-adjusted rate of return.¹⁹

(In addition, the framework covers financial guarantees, cash pools, hedging, and captive insurance topics).

A.2 Excerpts from OECD Guidelines

This section provides a list of excerpts from the guidelines and their relevance for the interest benchmarking analysis.

A.2.1 Determination of a financial transaction

The conditions which need to be met to recognize the transaction as a proper loan transaction are listed in sections B1 – B3 of [5]. The sections cover the relevance of the (i) debt capacity assessment of the borrower; (ii) the terms of the tested transaction; and (iii) the relevance of the transaction business purpose. The conditions in these sections are tested prior to any pricing of the loan transaction is performed.

¹⁸ OECD, Paris 1995-2010.

¹⁹ Risk-free and risk-adjusted rates of return are typically estimated for the purpose of valuation analysis. A more detailed discussion of discount factor term structure estimation is discussed in the "NPV Analysis" guide. The estimation of the rate of return is referred to as the discount rate benchmarking (**DRB**) analysis.

The excerpts in this section follow the same order as they are listed in the guidelines. In front of each excerpt we add the label ('debt capacity', 'terms of the loan', 'business purpose' or 'functional analysis') to which it refers.²⁰

Debt capacity (consistent with arm's length). "10.4. It may be the case that the balance of debt and equity funding of a borrowing entity that is part of an MNE group differs from that which would exist if it were an independent entity operating under the same or similar circumstances. This situation may affect the amount of interest payable by the borrowing entity and so may affect the profits accruing in a given jurisdiction".

Debt capacity. "Commentary to Article 9 of the OECD Model Tax Convention notes at paragraph 3(b) that Article 9 is relevant "not only in determining whether the rate of interest provided for in a loan contract is an arm's length rate, but also whether a prima facie loan can be regarded as a loan or should be regarded as some other kind of payment, in particular a contribution to equity capital".

Debt capacity (debt-to-equity balance). "10.6. In the context of the preceding paragraphs, this subsection elaborates on how the concepts of Chapter I, in particular the **accurate delineation** of the actual transaction under Section D.1, may relate to the **balance of debt and equity funding** of an entity within an MNE group".

Debt capacity (country-specific legislation). "10.9. Accordingly, this guidance is not intended to prevent countries from implementing approaches to address the balance of debt and equity funding of an entity and interest deductibility under domestic legislation, nor does it seek to mandate accurate delineation under Chapter I as the only approach for determining whether purported debt should be respected as debt".

Terms of the loan. "10.12. In accurately delineating an advance of funds, the following economically relevant characteristics may be useful indicators, depending on the facts and circumstances: the presence or absence of a **fixed repayment date**; the **obligation to pay interest**; the right to enforce payment of principal and interest; the status of the funder in comparison to regular corporate creditors; the existence of financial covenants and security; the **source of interest payments**; the ability of the recipient of the funds to obtain loans from unrelated lending institutions; the extent to which the advance is used to acquire capital assets; and the **failure of the purported debtor to repay** on the due date or to seek a postponement".

Debt capacity example (maximum capacity assessment). "10.13. For example, consider a situation in which Company B, a member of an MNE group, needs additional funding for its business activities. In this scenario, Company B receives an advance of funds from related Company C, which is denominated as a loan with a term of 10 years. Assume that, in light of all good-faith financial projections of Company B for the next 10 years, it is clear that Company B would be unable to service a loan of such an amount. Based on facts and circumstances, it can be concluded that an unrelated party would not be willing to provide such a loan to Company B due to its inability to repay the advance. Accordingly, the accurately delineated amount of Company C's loan to Company B for transfer pricing purposes would be a function of the **maximum amount that an unrelated lender would have been willing to advance** to Company B, and the **maximum amount that an unrelated borrower in comparable circumstances would have been willing to borrow** from Company C, including the possibilities of not lending or borrowing any amount (see comments upon "The lender's and borrower's perspectives" in Section C.1.1.1 of this chapter). Consequently, the remainder of Company C's advance to Company B would not be delineated as a loan".

²⁰ Some of the items in the guidelines are repetitive. We included selective the excerpts which are the most relevant for the transaction assessment.

Terms of the loan (consistency with the terms on 3d-party loans). “10.18. In common with the analysis of any other transaction between associated enterprises, in applying the **arm's length principle** to a financial transaction it is necessary to consider the conditions that independent parties would have agreed to in comparable circumstances”.

Business purpose (incentive to enter into the transaction). “10.19. Independent enterprises, when considering whether to enter into a particular financial transaction, will consider all other options realistically available to them, and will only enter into the transaction if they see no alternative that offers a clearly more attractive opportunity to meet their commercial objectives (see paragraph 1.38 of Chapter I). In considering the options realistically available, the perspective of each of the parties to the transaction must be considered. For instance, in the case of an entity that advances funds, other investment opportunities may be contemplated, taking account of the specific business objectives of the lender and the context in which the transaction takes place. From the borrower's perspective, the options realistically available will include broader considerations than the entity's ability to service its debt, for example, the funds it actually needs to meet its operational requirements. In some instances, although an entity may have the capacity to borrow and service an additional amount of debt, it may choose not to do so to avoid placing negative pressure on its credit rating and increasing its cost of capital, and jeopardising its access to capital markets and its market reputation (see comments upon “**The lender's and borrower's perspectives**” in Section C.1.1.1 of this chapter).

Terms of the loan (search strategy and yield adjustments). “10.20. In an ideal scenario, a comparability analysis would enable the identification of financial transactions between independent parties which **match the tested transaction in all respects**. With the many variables involved, it is more likely that potential comparables will differ from the tested transaction. Where differences exist between the tested transaction and any proposed comparable, it will be necessary to consider whether such differences will have a material impact on the price. If so, it may be possible, where appropriate, to **make comparability adjustments** to improve the reliability of a comparable. This is more likely to be achievable where the adjustment is based on a quantitative factor and there is good quality data easily available (e.g. on currency differences) than, for instance, in trying to compare loans to borrowers with qualitative differences or where data is not so readily available (e.g. borrowers with different business strategies)”.

Terms of the loan (legal agreement and fact pattern). “10.22. The terms and conditions of a financial transaction between independent enterprises are usually explicitly stated in a written agreement. However, between associated enterprises the contractual arrangements may not always provide information in sufficient detail or may be inconsistent with the actual conduct of the parties or other facts and circumstances. It is therefore necessary to look to other documents, the actual conduct of the parties – notwithstanding that such consideration may ultimately result in the conclusion that the contractual form and actual conduct are in alignment – and the economic principles that generally govern relationships between independent enterprises in comparable circumstances in order to accurately delineate the actual transaction in accordance with Section D.1.1 of Chapter I.”

Functional analysis (functions performed by counterparties). “10.23. In accurately delineating the actual financial transaction, a functional analysis is necessary. This analysis seeks to identify the functions performed, the assets used and the risks assumed by the parties to that controlled transaction”.

Functional analysis (risk considerations). “10.25. When, under accurate delineation, the lender is not exercising control over the risks associated to an advance of funds, or does not have the financial capacity to assume the risks, such risks should be allocated to the enterprise exercising control and having the financial capacity to assume the risk (see paragraph 1.98 of Chapter I). For instance, consider a situation where Company A advances funds to Company B. Consider further that the accurate delineation of the

actual transaction indicates that Company A does not exercise control functions related to the advance of funds but that Company P, the parent company of the MNE group, is exercising control over those risks, and has the financial capacity to assume such risks. Under Chapter I analysis, Company P will bear the consequences of the playing out of such risks and Company A will be entitled to no more than a risk-free return (see Section D.1.2.1 in Chapter I)".

Terms of the loan (review of the material terms of the loan) "10.29. For instance in the case of a loan, those characteristics may include but are not limited to: the amount of the loan; its maturity; the schedule of repayment; the nature or purpose of the loan (trade credit, merger/acquisition, mortgage, etc.); level of seniority and subordination, geographical location of the borrower; currency; collateral provided; presence and quality of any guarantee; and whether the interest rate is fixed or floating."

Terms of the loan (consistency between the terms of the loan and loan business purpose). "10.35. For example, independent lenders may be prepared to lend on terms and conditions to an enterprise undertaking a merger or acquisition which might otherwise not be acceptable to the lender for the same business if it were in a steady state. In this kind of scenario, the lender may take a view over the term of the loan and consider the borrower's business plans and forecasts, effectively acknowledging that there will be temporary changes in the financial metrics of the business for a period as it undergoes changes. Section D.1.5 of Chapter I gives other examples of business strategies that must be examined in accurately delineating the actual transaction and determining comparability".

Terms of the loan (example of consistency between loan business purpose and loan maturity term). "10.37. For example, consider that Company A, a member of AB Group, advances funds with a term of 10 years to an associated enterprise, Company B, which will use the funding for short-term working capital purposes. This advance is the only loan in Company B's balance sheet. AB Group's policy and practices demonstrate that the MNE group uses a one-year revolving loan to manage short-term working capital. In this scenario, under the prevailing facts and circumstances, the accurate delineation of the actual transaction may conclude that an unrelated borrower under the same conditions of Company B would not enter into a 10-year loan agreement to manage its short-term working capital needs and the transaction would be accurately delineated as a one-year revolving loan rather than a 10-year loan. The consequences of this delineation would be that assuming the working capital requirements continue to exist, the pricing approach would be to price a series of refreshed one-year revolver loans."

A.2.2 Loan pricing and refinancing

The guidelines for intra-group loans are discussed in section C.1 of [5]. The guidelines cover credit rating assessment, using internal comparables, application of CUP methods, loan refinancing, and other considerations. The guidelines explicitly differentiate 'issuer credit rating' of the MNE group and 'transaction-specific rating' of the issued debt transaction.

Credit rating (necessity of credit rating assessment). "10.54. An independent lender will carry out a thorough credit assessment of the potential borrower to enable the lender to identify and evaluate the risks involved and to consider methods of monitoring and managing these risks. That credit assessment will include understanding the business itself as well as the purpose of the loan, how it is to be structured and the source of its repayment which may include analysis of the borrower's cash flow forecasts and the strength of the borrower's balance sheet."

Loan refinancing (monitoring market conditions for loan refinancing option). "10.60. Macroeconomic circumstances may lead to changes in the financing costs in the market. In such a context, a transfer pricing analysis with regard to the possibilities of the borrower or the lender to renegotiate the terms of the loan to

benefit from better conditions will be informed by the options realistically available to both the borrower and the lender”.

Credit rating (issuer credit rating of the MNE group). “10.64. The credit rating of an MNE or MNE group (usually referred to as the “issuer credit rating”) is an opinion about its general creditworthiness. Such an opinion is usually premised on the MNE or MNE group’s capacity and willingness to meet its financial obligations in accordance with the terms of those obligations. The credit rating of an MNE or MNE group is effectively a form of relative ranking of the creditworthiness in comparison to other borrowers. In general, a lower credit rating will indicate a greater risk of default and be expected to result in a higher rate of return for lenders”.

Internal comparables (review of 3d-party debt within the MNE). “10.65. Information is readily available in many lending markets on the different rates of interest charged for differently rated enterprises and such information may usefully contribute to performing comparability analyses. Financing transactions that the borrowing MNE or another MNE within the group has with external lenders may also be reliable comparables for interest rates charged by associated enterprises (see paragraphs 10.94 and 10.95). Financing transactions undertaken by the borrowing MNE or another entity in the MNE group, for example the MNE group parent, will be reliable comparables only where the differences between the controlled and uncontrolled transactions do not materially affect the interest rate or reasonably accurate adjustments can be made”.

Credit rating (using sector-specific rating models). “10.66. As a credit rating depends on a combination of quantitative and qualitative factors, there is still likely to be some variance in creditworthiness between borrowers with the same credit rating. In addition, when making comparisons between borrowers using the kind of financial metrics typically seen as important to lenders, such as debt-earnings or debt-equity ratios, it is important to note that the same financial metrics will not necessarily result in the same credit rating if there are other differences between the rated parties. For example, it may require stronger financial metrics to obtain a given rating in some industries than to obtain the same rating for a borrower in other industries. More intrinsically risky industries and those with less stable revenue streams tend to require better financial ratios in order to obtain the same rating”.

Credit rating (issue credit rating of the intercompany loan) “10.69. The credit rating of a particular debt issuance (“issue rating”) is an opinion about the creditworthiness of the issuer with respect to a specific financial instrument. The issue rating considers specific features of the financial instrument, for instance, guarantees, securities and level of seniority”.

Credit rating (modelling tools). “10.72. Publicly available financial tools are designed to calculate credit ratings. Broadly, these tools depend on approaches such as calculating the probability of default and of the likely loss should default occur to arrive at an implied rating for the borrowing. This can then be compared to a market database in a search for comparables to arrive at a price or price range for the borrowing. In considering whether the application of these tools results in a reliable assessment of the credit rating of controlled transactions, potential issues that need to be borne in mind include that the results are not based on a direct comparison with transactions between independent parties but are subject to the accuracy of the input parameters, a tendency to rely more on quantitative inputs at the expense of qualitative factors, and a lack of clarity in the processes (i.e. the workings of the underlying algorithms and processes may not be transparent).”

Credit rating (consistency with public ratings). “10.74. For these reasons, the reliability of credit rating results derived from the use of publicly available financial tools may be improved to the extent the analysis can

reproducibly demonstrate consistency of ratings using such tools with those provided by independent credit rating agencies”.

Credit rating (halo effect). “10.77. In the context of intra-group loans, this incidental benefit that the MNE is assumed to receive solely by virtue of group affiliation, is referred to as implicit support. The effect of potential group support on the credit rating of an entity and any effect on that entity’s ability to borrow or the interest rate paid on those borrowings would not require any payment or comparability adjustment. See Example 1 at paragraphs 1.164 - 1.166 of Chapter I and Section D.3”.

Credit rating (credit rating assessment based on parent group rating). “10.82. Where this is the case, the credit rating of the MNE group may also be used for the purpose of pricing the accurately delineated loan where the facts so indicate, particularly in situations such as where the MNE is important to the group as described in paragraphs 10.78 and 10.79 and where the MNE’s indicators of creditworthiness do not differ significantly from those of the group. An MNE group credit rating is unaffected by controlled transactions and reflects the actual basis on which the group seeks external funding from independent lenders. In situations where an MNE group does not have an external credit rating, consideration may be given to conducting the credit rating analysis at the MNE group level for assessing the controlled transaction. In all cases, the MNE group credit rating, like any other credit rating, will be appropriate only if it is determined to be the most reliable indicator of the MNE credit rating in light of all the facts and circumstances”.

Credit rating (financial covenants). “10.86. There may be less information asymmetry between entities (that is, better visibility) in the intra-group context than in situations involving unrelated parties. Intra-group lenders may choose not to have covenants on loans to associated enterprises, partly because they are less likely to suffer information asymmetry and because it is less likely that one part of an MNE group would seek to take the same kind of action as an independent lender in the event of a covenant breach, nor would it usually seek to impose the same kind of restrictions. Where there is an absence of covenants in any written agreement between the parties, it will be appropriate to consider under Chapter I guidance whether there is, in practice, the equivalent of a maintenance covenant between the parties and the consequential impact upon the pricing of the loan”.

Credit rating (financial guarantee). “10.87. A guarantee from another party may be used to support the borrower’s credit. A lender placing reliance on a guarantee or guarantees would need to evaluate the guarantor(s) in a similar way to that in which it evaluates the original borrower. For the lender to take a guarantee into account in setting or adjusting the terms and conditions of a loan, it would need to be reasonably satisfied that the guarantor(s) would be able to meet any shortfall resulting from the borrower being unable to meet its obligations in full in the event of a default. Guarantees are discussed in more detail in Section D”.

Loan pricing (application of CUP methods). “10.90. The widespread existence of markets for borrowing and lending money and the frequency of such transactions between independent borrowers and lenders, coupled with the widespread availability of information and analysis of loan markets may make it easier to apply the CUP method to financial transactions than may be the case for other types of transactions. Information available often includes details on the characteristics of the loan and the credit rating of the borrower or the rating of the specific issuance. Characteristics which will usually increase the risk for the lender, such as long maturity dates, absence of security, subordination, or application of the loan to a risky project, will tend to increase the interest rate. Characteristics which limit the lender’s risk, such as strong collateral, a high-quality guarantee, or restrictions on future behaviour of the borrower, will tend to result in a lower interest rate”.

Loan pricing (interest rate adjustments). “10.93. Arm’s length interest rates can also be based on the return of realistic alternative transactions with comparable economic characteristics. Depending on the facts and circumstances, realistic alternatives to intra-group loans could be, for instance, bond issuances, loans which are uncontrolled transactions, deposits, convertible debentures, commercial papers, etc. In the evaluation of those alternatives as potential comparables it is important to bear in mind that, based on facts and circumstances, comparability adjustments may be required to eliminate the material effects of differences between the controlled intra-group loan and the selected alternative in terms of, for instance, liquidity, maturity, existence of collateral or currency”.

Internal comparables (review of 3d-party debt within the MNE). “10.94. When considering issues of comparability, the possibility of internal CUPs should not be overlooked”.

Loan pricing (additional fees). “10.96. In considering arm’s length pricing of loans, the issue of fees and charges in relation to the loan may arise. Independent commercial lenders will sometimes charge fees as part of the terms and conditions of the loan, for example arrangement fees or commitment fees in relation to an undrawn facility. If such charges are seen in a loan between associated enterprises, they should be evaluated in the same way as any other intra-group transaction. In doing so, it must be borne in mind that independent lenders’ charges will in part reflect costs incurred in the process of raising capital and in satisfying regulatory requirements, which associated enterprises might not incur”.

Loan pricing (cost of funds approach). “10.97. In the absence of comparable uncontrolled transactions, the cost of funds approach could be used as an alternative to price intra-group loans in some circumstances. The cost of funds will reflect the borrowing costs incurred by the lender in raising the funds to lend. To this would be added the expenses of arranging the loan and the relevant costs incurred in servicing the loan, a risk premium to reflect the various economic factors inherent in the proposed loan, plus a profit margin, which will generally include the lender’s incremental cost of the equity required to support the loan”.

Loan pricing (back-to-back loans). “10.100. In some intra-group transactions, the cost of funds approach may be used to price loans where capital is borrowed from an unrelated party which passes from the original borrower through one or more associated intermediary enterprises, as a series of loans, until it reaches the ultimate borrower. In such cases, where only agency or intermediary functions are being performed, as noted at paragraph 7.34, “it may not be appropriate to determine the arm’s length pricing as a mark-up on the costs of the services but rather on the costs of the agency function itself.”

Loan pricing (economic modelling). “10.104. Certain industries rely on economic models to price intra-group loans by constructing an interest rate as a proxy to an arm’s length interest rate”.

Loan pricing (bank quotes). “10.107. In some circumstances taxpayers may seek to evidence the arm’s length rate of interest on an intra-group loan by producing written opinions from independent banks, sometimes referred to as a “bankability” opinion, stating what interest rate the bank would apply were it to make a comparable loan to that particular enterprise.”

Loan pricing (bank quotes). “10.108. Such an approach would represent a departure from an arm’s length approach based on comparability since it is not based on comparison of actual transactions. Furthermore, it is also important to bear in mind the fact that such letters do not constitute an actual offer to lend. Before proceeding to make a loan, a commercial lender will undertake the relevant due diligence and approval processes that would precede a formal loan offer. Such letters would not therefore generally be regarded as providing evidence of arm’s length terms and conditions”

A.2.3 Risk-free and risk-adjusted rates

The guidelines for intra-group loans are discussed in section F of [5]. The guidelines cover the topics related to estimation of risk-free and risk-adjusted rates of return.

“1.109. A risk-free rate of return is the hypothetical return which would be expected on an investment with no risk of loss. Ultimately, there is no investment with zero risk, and the reliability of available proxies for approximating a risk-free rate of return will depend on prevailing facts and circumstances.”

Risk-free rate (sovereign debt approach). “1.110. An approach which is widely used in practice is to treat the interest rate on certain government issued securities as a reference rate for a risk-free return, as these securities are generally considered by market practitioners not to carry significant default risk. The intention of the guidance in this section is to outline an approach for reference purposes without suggesting that a particular government security should always be used to determine a risk-free rate”.

Risk-adjusted rate (CUP approach). “1.123. It may be possible to find a reasonable indicator of a risk-adjusted rate of return from comparable uncontrolled transactions or by considering realistically available alternative investments reflecting the same risk profile. Depending on the facts and circumstances, realistic alternatives to an intra-group loan could be bond issuances or loans which are uncontrolled transactions (see paragraph 10.93)”.

A.3 Comments to the guidelines

At a high-level, the guidelines can be interpreted as follows.

A.3.1 Comments on debt capacity assessment

The following general principals should be taken into consideration when performing debt capacity assessment.

- (i) As part of a tested transaction ‘accurate delineation’, a **balance of debt and equity** financing must be estimated (10.6).
- (ii) Debt capacity is performed to estimate **maximum quantum** of debt the borrower agrees to issue, and lender agrees to lend (10.13).
- (iii) Debt capacity assessment must be consistent with **arm’s length principal** (need to show that similar financing structure would have been selected by an unrelated party) (10.4).
- (iv) Debt capacity assessment rules may be **specific to each tax jurisdiction** (10.9).

A.3.2 Comments on the terms of the loans and its business purpose

The following general principals should be taken into consideration when selecting the terms of an intercompany loan.

- (i) To be honored as a loan, the transaction must include **standard terms** such as fixed maturity, regular interest payments, and other (10.12).
- (ii) **Arm’s length principle** applies not only to the price but also to the terms of the intercompany loan which must be consistent with those of 3d-parties (10.18).
- (iii) Both the borrower and the lender must have incentives to enter into the financial transaction (consideration of **lender’s and borrower’s incentives**) (10.19).

- (iv) The **search strategy** should be designed to match the terms of the tested transaction as close as possible. The yields on the identified comparable loans should be adjusted for any remaining material differences (10.20).
- (v) A legal **loan agreement** is required to be issued between the loan counterparties, which covers the terms of the tested transaction. If certain terms are not included in the legal agreement, which may have a material impact on the loan price, the actual **fact pattern** is reviewed to infer the implied terms of the transaction (10.22).
- (vi) **Functional analysis** must be performed and documented for a financial transaction (10.23).²¹
- (vii) As part of functional analysis, **risks born** by each counterparty must be assessed (10.25).²²
- (viii) The terms of the tested loan agreement must be carefully reviewed to **identify all terms** that can potentially impact the results of the loan pricing analysis (10.29). The reviewed terms and economic factors include (i) business sector; (ii) geographical location; (iii) currency; and (iv) valuation date (10.30 – 10.33).
- (ix) The terms of the loan must be consistent with the intended loan business purpose (10.35). An example of consistency between the loan selected term and loan business purpose is illustrated in item (10.37)

A.3.3 Comments to loan pricing and loan refinancing

The following principals should be taken into consideration when performing loan pricing or considering loan refinancing.

- (i) **Credit rating assessment** is an integral part of loan pricing. The assessment includes ‘issuer credit rating’ (10.64) and ‘transaction-specific credit rating’²³ analysis (10.69).
- (ii) **Sector-specific rating models**. Due to differences between different sectors, it is generally recommended to use sector-specific models (10.66).
- (iii) Credit rating assessment is normally performed using publicly available **financial tools**. The tools may have lack of clarity in the valuation process and rely more heavily on quantitative rather than qualitative factors (10.72). It is important to show that to the extent possible the tools can **reproducibly demonstrate consistency** of estimated ratings with publicly available ratings (for example for the MNE parent group) (10.74).
- (iv) In certain cases, when the MNE’s indicators of creditworthiness do not differ significantly from those of the group, the **parent group rating** can be applied to derive the MNE’s issuer rating.
- (v) Financial covenants are generally not mandatory in the intra-group loan agreements (due to lower information asymmetry and because a lender in the intra-group loan is less likely to take the same action as the 3d-party lender in the case of the covenants breach) (10.86).
- (vi) In the presence of a **loan guarantee**, the impact of the guarantee on the borrower’s credit rating must be taken into account (10.87).

²¹ For a standard loan transaction, functional analysis includes a standard list of items which are applied uniformly for most loans (such as loan origination, loan monitoring, principal and interest repayment, and other functions). For other types of financial transactions, such as financial guarantees or other hedging transactions, an accurate functional analysis is important to support the applied pricing methods.

²² In the context of loan transactions, risk assessment must be performed in the case of guaranteed loans or flow-through structures. In the context of other types of financial transactions, a careful risk assessment must be performed as it may have a material impact on the price valuation.

²³ Transaction-specific rating is alternatively referred to as issue rating.

- (vii) **Halo-effect** considerations must be taken into considerations in credit rating assessment (10.76) – (10.80).
- (viii) Die to high liquidity in capital markets, **CUP method** is a preferred method to price a loan (10.90).
- (ix) **Internal comparables** should be reviewed as part of pricing analysis, conditionally on performing adjustments for material differences (10.65, 10.94 – 10.95).
- (x) Yield rates on comparable transactions must be **adjusted for material differences** (10.93).
- (xi) Any **additional applicable fees**, such as arrangement or commitment fees, must also be taken into consideration as part of loan pricing (10.96)
- (xii) In the absence of comparable transactions, the pricing can be performed based on the '**cost of funds**' approach (10.97 – 10.100). Spread analysis in the **back-to-back loans** can be viewed as an example of the approach (10.100).
- (xiii) In certain cases, loan pricing is performed based on **economic modelling**, which estimates applicable interest rates as a combination of risk-free rate and a number of premiums, such as default risk, liquidity risk, inflation, term premium, and other (10.104 – 10.106).
- (xiv) Using **bank quotes** is usually not recommended as a loan pricing approach as it departs from an arm's length approach (10.107 – 10.108).
- (xv) If the market conditions change, the borrower or the lender may have incentive to **refinance the loan** (conditionally on the loan agreement including the option for loan termination and potential refinancing) (10.60).

A.4 Safe harbour rates

Safe harbors can work for manufacturing, outsourcing, non-core services, and inter-company financing. Safe harbor rate specifies a (country-specific) cost-plus mark-up to the provided services. Generally, a management fee of 2% or less should be acceptable and built-in as a safe harbor.

The advantages of safe harbors are as follows. They reduce administrative burdens, they offer predictability for both taxpayers and the revenue authorities, they reduce or eliminate the possibility of litigation, and they can help boost foreign direct investment. These safe harbors are already common practices in many advanced countries as well as in some developing countries.

A.4.1 US, applicable federal rate

In the US, for inter-company financing, a company can apply the US Government AFR (Applicable Federal Rate), which is published by the IRS every month.²⁴ Applying the AFR rates is an alternative to performing transfer pricing analysis. Note however that because the rates are low, there may be a TP risk from the lender's tax jurisdiction side.

The AFR rates are reported separately for the short-term medium-term and long-term loans and for different interest compounding frequency (ranging from monthly to annual). An example of the AFR table is illustrated below.

²⁴ <https://apps.irs.gov/app/picklist/list/federalRates.html>.

Exhibit A.1 Example of the AFR rates table

Applicable Federal Rates (AFR) for June 2021				
	<u>Annual</u>	<u>Period for Compounding</u>		<u>Monthly</u>
		<u>Semiannual</u>	<u>Quarterly</u>	
	<u>Short-term</u>			
AFR	0.13%	0.13%	0.13%	0.13%
110% AFR	0.14%	0.14%	0.14%	0.14%
120% AFR	0.16%	0.16%	0.16%	0.16%
130% AFR	0.17%	0.17%	0.17%	0.17%

Short-term rates are applicable to loans with the maturity ranging from one month to three years; medium-term rates apply to loans with maturity term between three and nine years, and long term rates apply to loans with maturity term exceeding nine years.²⁵

A.4.2 Canada, PLOI rate

PLOI (pertinent loan or indebtedness) equals to regular prescribed rate + 4%.²⁶ The PLOI rates can be obtained from CRA website.²⁷

Prescribed rate definition²⁸: The prescribed rates are set by the Canada Revenue Agency (CRA) quarterly and are tied directly to the yield on Government of Canada three-month Treasury bills, albeit with a lag. The calculation is based on a formula in the Income Tax Regulations that takes the simple average of three-month Treasury bills for the first month of the preceding quarter, rounded up to the next highest whole percentage point. As a result, the prescribed rate can never be zero — 1% is the lowest possible rate.

PLOI rate is set on a quarterly basis as average GCAN3m rate + 4% premium, where GCAN3m is the yield series on Canadian government 3-month bonds, and average GCAN3m is estimated based on the previous quarter first month rates (e.g. the PLOI rate for Q3 is estimated based on the average of the GCAN3m rates in April).

The PLOI rate is applied in intercompany transactions in the Canadian outbound loans as the minimum rate, which would be accepted by CRA without the requirement to perform transfer pricing analysis. However, there is a risk from the borrower's tax jurisdiction side if the rates are too high. (Typically, the rates may not be supported from the borrower's side if the borrower has a high credit rating and the loan has a short maturity term).

²⁵ <https://resources.evans-legal.com/?p=2591>.

²⁶ <https://www.canada.ca/en/revenue-agency/services/tax/businesses/topics/corporations/corporation-payments/understanding-interest.html#lns>.

²⁷ <https://www.canada.ca/en/revenue-agency/services/tax/prescribed-interest-rates.html>

²⁸ <https://www.advisor.ca/tax/tax-news/prescribed-rate-scheduled-to-drop-for-q3/#:~:text=The%20average%20is%200.27%25%20but,%25%20on%20April%201%2C%202018>

Appendix B Terms in Third-Party Loan / Note Agreements

Selection of the terms for the Covered Transaction is an important step of transfer pricing analysis, which should be discussed with the client to ensure that the terms of the loan are consistent with the loan business purpose. The proper structure of the loan transaction is discussed in the OECD Guidelines, which emphasize that proper structure is assessed prior to performing loan pricing analysis. An intercompany loan transaction can be not honored as debt, if the terms are inconsistent with the terms expected in a 3rd-party loan transaction.

Key terms include (i) debt amount (estimated in a separate debt capacity analysis), (ii) maturity term; (iii) format; and (iv) presence of options and provisions, such as prepayment and pay-on-demand options, interest deferral option, PIK provision, and other.

B.1 Maturity term and loan format

Maturity term of the loan is normally assessed consistently with the loan format and loan business purpose. Distinction is typically made between (i) term loans, which provide fixed financing term and quantum issued for the purpose of acquisition financing; and (ii) revolving loans, which provide flexible financing terms and quantum issued for the purpose of capex or working capital financing, or for general corporate business purpose.

B.1.1 Term loans and acquisition financing

To estimate the maturity terms normally observed in the term loans issued for the purpose of acquisition financing, we performed a search for loan transactions, which indicate 'Acquisition Financing' in the business purpose field description. The objective of the search is to assess the range of maturity terms normally selected in the 3rd-party loan agreements issued to finance acquisition of new companies. Specifically, we assess what is the shortest maturity of the acquisition term loans, which could be observed in the 3rd-party loan agreements (excluding a small number of transactions that can be viewed as outliers).



Field	Boundaries	Selected Criteria	Matches
31) Security Status	Include	Loans: Active	106,827
32) And Loan Type	Include	(Term)	47,157
33) And Use of Proceeds	Include	(Acquisition Financing)	5,340
34) And Issue Date	>=	12/30/2020	75
35) And Country of Domicile	Include	(United States of America)	55
36) And Original Deal Amount	>=	100MM (USD)	54
37) And		Fields	

The results are illustrated in the exhibit below. The diagram shows that most maturities range from 5 to 8 years. However, the maturity term can go as low as 3-4 years. The sample below also shows that if the date of the acquisition is not known exactly and certain flexibility is required in drawing the funds, the delayed-draw term loan format is normally observed in the 3rd-party loans and can be recommended to client.

Sec Short Desc	Issuer Name	Original Deal A...	Issue Date	Loan Ty...	Maturity	Loan Tranche ...	Amt Out
Average		791,282,238				344.5MM	282.32MM
STAPAR TL 2L U...	New Trojan Parent Inc	110,000,000	01/07/2021	TERM	01/22/2025	110.0MM	--
WOMENC TL B 2L...	Women's Care Holdings Inc	120,000,000	12/30/2020	TERM	01/15/2025	120.0MM	120.00MM
NAINCO TL 2L U...	NIC Acquisition Corp	225,000,000	01/04/2021	TERM	01/14/2025	225.0MM	--
PROINP TL 2L U...	Protective Industrial Products Inc	160,000,000	01/06/2021	TERM	01/06/2025	160.0MM	160.00MM
MEDSOF TL 2L U...	MedAssets Software Intermediate ...	120,000,000	01/04/2021	TERM	01/04/2025	120.0MM	--
MILACO TL 2L U...	Gainwell Acquisition Corp	1,459,000,000	02/01/2021	TERM	10/01/2025	659.0MM	--
OCHMSYS TL B 1L...	OCH System One Buyer GTB LLC	335,000,000	01/13/2021	TERM	02/28/2025	290.0MM	--
ERT TL 2L USD	eResearchTechnology Inc	695,000,000	01/04/2021	TERM	02/04/2025	150.0MM	--
ERT TL DD 2L US...	eResearchTechnology Inc	695,000,000	01/04/2021	DELAY-D...	02/04/2025	50.0MM	--
MUSA TL B 1L U...	Murphy USA Inc	750,000,000	01/29/2021	TERM	01/29/2025	400.0MM	400.00MM
KRAIND TL 1L U...	TricorBraun Holdings Inc	1,307,000,000	01/22/2021	TERM	01/29/2025	1,070MM	--
KRAIND TL DD 1...	TricorBraun Holdings Inc	1,307,000,000	01/22/2021	DELAY-D...	01/29/2025	240.0MM	--
FBM TL 1L USD	Foundation Building Materials Inc	1,310,000,000	01/29/2021	TERM	01/29/2025	830.0MM	830.00MM
FBM TL ODTL 1L...	Foundation Building Materials Inc	1,310,000,000	01/29/2021	DELAY-D...	01/29/2025	480.0MM	--
RVRETL TL B 1L...	RV Retailer LLC	420,000,000	01/14/2021	TERM	01/28/2025	420.0MM	--
EIGI TL B 1L USD	Endure Digital Inc	2,675,000,000	01/20/2021	TERM	01/27/2025	1,940MM	--
EIGI TL B-DD 1L...	Endure Digital Inc	2,675,000,000	01/20/2021	DELAY-D...	01/27/2025	465.0MM	--
LEWHOL TL 1L U...	Rather Outdoors Corp	305,000,000	01/26/2021	TERM	01/26/2025	305.0MM	--
STAPAR TL 1L U...	New Trojan Parent Inc	705,000,000	01/07/2021	TERM	01/22/2025	605.0MM	--
TRUK TL 3L USD	Truck Hero Inc	1,550,000,000	01/08/2021	TERM	01/20/2025	1,550MM	--
MEDSOF TL B 1L...	MedAssets Software Intermediate ...	175,000,000	01/04/2021	TERM	01/15/2025	500.0MM	--
WOMENC TL B 1L...	Women's Care Holdings Inc	430,000,000	12/30/2020	TERM	01/15/2025	360.0MM	360.00MM
NAINCO TL 1L U...	NIC Acquisition Corp	950,000,000	01/04/2021	TERM	01/14/2025	825.0MM	--
PANPUR TL 1L U...	Panther Purchaser LP	650,000,000	01/11/2021	TERM	01/11/2025	575.0MM	575.00MM
SSP TL B3 3L U...	BW Scripps Co/The	2,252,680,000	01/07/2021	TERM	01/07/2025	800.0MM	--
PROINP TL 1L U...	Protective Industrial Products Inc	510,000,000	01/06/2021	TERM	01/06/2025	435.0MM	435.00MM
CHESTR TL 1L U...	Cop Home Services TopOo IV Inc	386,400,000	12/31/2020	TERM	12/31/2027	291.4MM	291.40MM
CHESTR TL DD 1...	Cop Home Services Topco IV Inc	386,400,000	12/31/2020	DELAY-D...	12/31/2027	60.0MM	--
GEMHDP TL B 1L...	Gemini HDPE LLC	600,000,000	12/31/2020	TERM	12/31/2027	600.0MM	600.00MM
SYMPSO TL 2L U...	Sympir Software Inc	265,000,000	01/25/2021	TERM	12/22/2027	15.0MM	--
SYMPSO TL 1L U...	Sympir Software Inc	860,000,000	01/25/2021	TERM	12/22/2027	80.0MM	--
ERT TL DD 2L US...	eResearchTechnology Inc	2,155,000,000	01/04/2021	DELAY-D...	02/04/2027	750.0MM	--
ERT TL 1L USD	eResearchTechnology Inc	2,155,000,000	01/04/2021	TERM	02/04/2027	750.0MM	--
OAKBRI TL DD 1...	Oakbridge Insurance Agency LLC	111,000,000	12/31/2020	DELAY-D...	12/31/2026	50.0MM	--
OAKBRI TL 1L U...	Oakbridge Insurance Agency LLC	111,000,000	12/31/2020	TERM	12/31/2026	51.0MM	51.00MM
HELPSY TL 1L U...	HS Purchaser LLC	1,165,000,000	02/03/2021	TERM	11/30/2026	40.0MM	--
AXIGLO TL B 1L...	Axiom Global Inc	327,000,000	01/28/2021	TERM	10/01/2026	92.0MM	--
WALSUR TL 1L U...	WST USA Holdco Inc	174,000,000	12/31/2020	TERM	09/17/2026	42.8MM	42.80MM
BPHHHD TL 1L U...	BPH Holdings LLC	237,500,000	12/30/2020	TERM	09/06/2026	12.3MM	12.30MM
APESER TL DD 1...	Apex Service Partners LLC	192,500,000	12/30/2020	DELAY-D...	07/31/2026	15.0MM	--
APESER TL 1L U...	Apex Service Partners LLC	192,500,000	12/30/2020	TERM	07/31/2026	18.0MM	18.00MM
KPAPAR TL 1L U...	KPA Parent Holdings Inc	205,000,000	12/31/2020	TERM	07/19/2026	15.0MM	15.00MM
FILGRO TL B 1L...	Filtration Group Corp	2,437,729,736	03/29/2021	TERM	03/29/2026	214.43MM	--
ENTMSO TL DD 1...	ENT MSO LLC	142,500,000	12/31/2020	DELAY-D...	03/04/2026	25.0MM	--
ENTMSO TL 1L U...	ENT MSO LLC	142,500,000	12/31/2020	TERM	03/04/2026	18.5MM	18.50MM
MEDW TL 2L USD	Project Ruby Ultimate Parent Corp	398,000,000	12/31/2020	TERM	02/10/2026	150.0MM	150.00MM
RESLIF TL DD 1L...	Resolution Life US Holdings Inc	345,000,000	01/04/2021	DELAY-D...	01/03/2026	320.0MM	--
PTGIRS TL DD 1L...	Patriot Growth Insurance Services...	484,860,762	01/07/2021	DELAY-D...	01/01/2026	150.0MM	--
MEDW TL B 1L U...	Project Ruby Ultimate Parent Corp	1,094,773,000	12/31/2020	TERM	09/09/2024	335.0MM	335.00MM
TMS TL B 1L USD	TMS International Corp/DE	613,800,000	12/31/2020	TERM	08/14/2024	350.0MM	150.00MM
MATHAN TL B2 1...	Deliver Buyer Inc	1,065,000,000	01/22/2021	TERM	05/01/2024	140.0MM	--
JEC TL DD 1L USD	Jacobs Engineering Group Inc	1,087,770,000	01/20/2021	DELAY-D...	01/20/2024	200.0MM	--
JEC TL DD 1L GBP	Jacobs Engineering Group Inc	1,086,527,341	01/20/2021	DELAY-D...	01/20/2024	886.75MM	--
HAE TL GUAR USD	Haemonetics Corp	700,000,000	01/20/2021	TERM	--	150.0MM	--

In addition, we checked whether we can identify loans with the maturity term below 3 years. A search, illustrated below, shows that only very few loans are issued with the short-term maturity.

Build with Criterion		Build by Merging Saved Searches		As of	02/03/2021
1. Select Universe				Fuller - Acquisition financing term - chk	
1) Asset Classes		Loan (Deals & Tranches)		411,583 securities	
12) Sources		All Securities			
2. Select Search Criteria					
	Field	Boundaries	Selected Criteria	Matches	
31)	Security Status	Include	Loans: Active	106,827	⊗
32) And	Loan Type	Include	(Term) and not (Bridge)	46,886	⊗
33) And	Use of Proceeds	Include	(Acquisition Financing)	5,247	⊗
34) And	Issue Date	>=	01/01/2020	1,079	⊗
35) And	Country of Domicile	Include	(United States of America)	514	⊗
36) And	Original Deal Amount	>=	100MM (USD)	468	⊗
37) And	Maturity	<=	01/11/2022	4	⊗
38) And					

Only four out of 468 loans had maturity below three years (in most cases equal to one year). Based on the search results, it is not recommended to set the maturity in the acquisition term loans **less than three years**.

B.1.2 Revolving loan facility

The search for revolving loans was performed for two objectives:

- (i) To identify business purpose of revolving loan facilities
- (ii) Assess the range of maturity terms normally observed in revolving loans.

The search for revolving loans was performed using the following search parameters.

Build with Criterion		Build by Merging Saved Searches		As of 03/23/2021	
1. Select Universe		11) Asset Classes		Loan (Deals & Tranches)	
		12) Sources		All Securities	
				413,608 securities	
2. Select Search Criteria					
Field	Boundaries	Selected Criteria	Matches		
31) Security Status	Include	Loans: Active	106,819		
32) And Loan Type	Include	(Revolver)	15,443		
33) And Issue Date	>=	12/30/2020	353		
34) And Country of Domicile	Include	(United States of America)	185		
35) And Original Deal Amount	>=	100M (USD)	185		
36) And		Fields			

The search showed the following results:

- (i) Revolving loans are issued for different business purposes including: (i) acquisition financing, LBO financing; (ii) general corporate purposes; (iii) project finance; (iv) refinancing; (v) working capital / capex financing.
- (ii) The maturity term normally observed in the revolving loans is **3-5 years**.

The above sample included 35 loans with the working capital included in the 'use of proceeds' filed description. The sub-sample of loans is shown below.

Actions		Export		Settings		Fixed Income Search: Res				
Search Name		Unsaved Search		Currency USD		(As of Issue Date)				
Results	Matrix	Rank	Holders	Holders Matrix						
All (35)	Bonds (0)	Loans (35)	Preferreds (0)	Municipals (0)	Mortgages (0)					
Add column	Edit Columns			Group by	None					
R	Issuer Name	Sec Short Desc	Original Deal Amount	Loan Type	Issue Date	Maturity	Loan Tra.	Use of Proceeds	Amt Out	Loan S.
Average			651,544,048				400.79MM		42.15MM	234.677
1	Backyard Products LLC	BACPRO REV 3L USD	170,000,000	REV	01/28/2021	01/21/2028	35.0MM	Working Capital,Refinance,General Corporate Purposes	--	300,000
2	Owens & Minor Distrib	OHI REV 3L USD	300,000,000	REV	03/10/2021	03/10/2026	300.0MM	Working Capital,Refinance,General Corporate Purposes,Capital Expenditures	--	250,000
3	Blumina Inc	BLMN REV SR USD	750,000,000	REV	03/08/2021	03/08/2026	750.0MM	Working Capital,General Corporate Purposes	--	110,000
4	Pelco Health & Wellne	HPGF REV 3L USD	800,000,000	ASSET-BAS.	03/04/2021	03/04/2026	500.0MM	Working Capital,Refinance,General Corporate Purposes	--	325,000
5	Trinet USA Inc	TRNET REV 3L USD	800,000,000	REV	02/26/2021	02/26/2026	500.0MM	Working Capital,Refinance,General Corporate Purposes	--	129,000
6	Big S Corp	BGFV REV 3L USD	350,000,000	REV	02/24/2021	02/24/2026	150.0MM	Working Capital,Refinance,General Corporate Purposes,Capital Expenditures	--	137,500
7	Limbach Facility Servi	LIFASE REV 3L USD	55,000,000	REV	02/24/2021	02/24/2026	55.0MM	Working Capital,Refinance,General Corporate Purposes	--	350,000
8	LD Lower Holdings Inc	KLDI REV 3L USD	390,000,000	REV	02/08/2021	02/08/2026	40.0MM	Working Capital,Refinance,General Corporate Purposes	--	400,000
9	Whole Earth Brands Inc	FRIE REV 3L USD	450,000,000	REV	02/05/2021	02/05/2026	75.0MM	Working Capital,Acquisition Financing,Refinance,General Corporate Purposes	--	375,000
10	Ezopen LLC	EDPN REV 3L USD	600,000,000	REV	02/04/2021	02/04/2026	75.0MM	Working Capital,General Corporate Purposes,Recapitalization,Dividend Payment	--	300,000
11	Hawk Parent Holdings	HAWPAR REV 3L USD	125,000,000	REV	02/03/2021	02/03/2026	325.0MM	Working Capital,Refinance,General Corporate Purposes,Capital Expenditures	--	300,000
12	Epic School Staffing H	EPSCST REV 3L USD	205,000,000	REV	01/20/2021	02/02/2026	20.0MM	Working Capital,General Corporate Purposes,Capital Expenditures	--	475,000
13	SHRS Payments LLC	HARPAV REV 3L USD	100,000,000	REV	01/29/2021	01/29/2026	100.0MM	Working Capital,Refinance,General Corporate Purposes	--	300,000
14	Track Hero Inc	TRUK REV 3L USD	200,000,000	ASSET-BAS.	01/29/2021	01/29/2026	200.0MM	Working Capital,Acquisition Financing,LBO Financing,Secondary Buyout	--	--
15	Murphy USA Inc	MUSA REV 3L USD	750,000,000	REV	01/29/2021	01/29/2026	350.0MM	Working Capital,General Corporate Purposes	--	200,000
16	AdaptHealth LLC	MOAHE REV 3L USD	950,000,000	REV	01/29/2021	01/29/2026	250.0MM	Working Capital,Acquisition Financing,General Corporate Purposes,Capital Expenditures	--	200,000
17	DocuSign Inc	DOCU REV 3L USD	500,000,000	REV	01/11/2021	01/11/2026	500.0MM	Working Capital,General Corporate Purposes,Capital Expenditures	--	150,000
18	Ries Ltd	RELV REV GUAR USD	2,000,000,000	REV	01/07/2021	01/07/2026	2.0MM	Working Capital,Refinance,General Corporate Purposes,Capital Expenditures	--	137,500
19	Avid Technology Inc	AVDU REV 3L USD	250,000,000	REV	01/06/2021	01/06/2026	70.0MM	Working Capital,Refinance,General Corporate Purposes	--	300,000
20	Marzone Vehicle Light	DEFAUT REV A GUA	150,000,000	REV	12/31/2020	12/31/2025	32.51MM	Working Capital,Refinance	--	--
21	Ventas Realty LP	VTR REV GUAR USD	2,750,000,000	REV	01/29/2021	01/29/2026	300.0MM	Working Capital,Refinance,General Corporate Purposes,Capital Expenditures	--	82,500
22	Ventas Realty LP	VTR REV GUAR USD	2,750,000,000	REV	01/29/2021	01/29/2026	1.75MM	Working Capital,Refinance,General Corporate Purposes,Capital Expenditures	--	82,500
23	Ventas Realty LP	VTR REV GUAR USD	2,750,000,000	REV	01/29/2021	01/29/2026	700.0MM	Working Capital,Refinance,General Corporate Purposes,Capital Expenditures	--	150,000
24	AssetMark Financial H	ASMHFD REV 3L USD	250,000,000	REV	12/30/2020	12/30/2024	250.0MM	Working Capital,Refinance,General Corporate Purposes	--	75,00MM
25	SEI LLC	SEI REV 3L USD	130,000,000	ASSET-BAS.	02/02/2021	12/09/2024	130.0MM	Working Capital,General Corporate Purposes	--	325,000
26	Extraction Oil & Gas I	KOG RBL-REV EXIT	1,000,000,000	RESERVE-B.	01/20/2021	07/20/2024	1.0MM	Working Capital,Refinance,General Corporate Purposes,Bankruptcy Exit Financing	--	265,000
27	Ohio Valley Electric C	OHVAL REV 3L USD	185,000,000	REV	02/26/2021	02/26/2024	185.0MM	Working Capital,General Corporate Purposes	--	--
28	Chesapeake Energy C	CHK RBL-REV A-EXL	1,970,541,667	RESERVE-B.	02/09/2021	02/09/2024	1.75MM	Working Capital,Refinance,Capital Expenditures,Bankruptcy Exit Financing	--	50,00MM
29	SAGE Publications Inc	SAGEPB REV 3L USD	75,000,000	REV	02/04/2021	02/04/2024	75.0MM	Working Capital,General Corporate Purposes	--	200,000
30	Digital Turbine Inc	DTURS REV 3L USD	300,000,000	REV	02/03/2021	02/03/2024	100.0MM	Working Capital,General Corporate Purposes	--	150,000
31	Semrush Holdings Inc	SEMRSH REV 3L USD	45,000,000	REV	01/12/2021	01/12/2024	45.0MM	Working Capital	--	350,000
32	Tuesday Morning Inc	TURS REV EXIT 3L	110,000,000	ASSET-BAS.	12/31/2020	12/31/2023	110.0MM	Working Capital,General Corporate Purposes,Bankruptcy Exit Financing	--	275,000
33	NIKE Inc	NKE REV SR USD	1,500,000,000	REV	03/15/2021	03/14/2022	1.5MM	Working Capital	--	47,500
34	JBD Holding Co	JBHCO REV 3L USD	63,500,000	REV	12/31/2020	--	5.0MM	Working Capital,Refinance,General Corporate Purposes	--	285,000
35	Lipsey Communication	LIPREV REV 3L USD	40,000,000	REV	01/29/2021	--	40.0MM	Working Capital,General Corporate Purposes	--	235,000

The exhibit above shows that revolvers are issued for multiple purposes and may be used for both working capital, general corporate purposes, and acquisition financing.

In addition, we performed a search, which included 'use of proceeds = working capital' criterion and dropped the 'loan type = revolver' criterion. The search identified 105 loans with the majority of loans having the loan type either not specified or revolver. However, approximately 20 loans in the sample were also term loans. Normally, we would still recommend using a revolving loan format for the working capital / capex financing as it provides flexible financing terms and is consistent with the loan format observed in the 3rd-party loan agreements.

B.2 Prepayment option

B.3 Pay-on-demand option

To verify, whether the on-demand (put option) term of an intercompany note can be supported by referencing to similar terms in the 3d-party notes, we reviewed the put option terms observed in third-party agreements. A search for puttable note transactions is illustrated below.

Build with Criterion		Build by Merging Saved Searches		As of 02/03/2021	
1. Select Universe		Corporates		2,163,844 securities	
1) Asset Classes		Corporates			
12) Sources		All Securities			
2. Criteria		Ask a Question			
Field	Boundaries	Selected Criteria	Matches		
32) And Issue Date	>=	01/01/2020	117,742		
33) And Country of Domicile	Include	(United States of America)	10,650		
34) And Amount Issued	>=	100MM (USD)	4,818		
35) And Maturity Type	Include	(Puttable) and not (Convertible or Sinkable)	17		
36) And		Fields			

The search results illustrate that puttable notes are rarely observed in the samples of 3d-party notes.

RI	Issuer Name	Ticker	Cntr	Series	Cpn	Coupon Type	Collateral Type	Issue Date	Maturity	Maturity Type	Curr	Amount Issued
	Average				0.296							227.53MM
1	Prologis Euro Finance LLC	PLD	US			FLOATING	COMPANY GUAR.	12/23/2020	12/23/2022	CALL/PUT	EUR	365.61MM
2	General Mills Inc	GIS	US	EMTN		FIXED	SR UNSECURED	08/21/2020	08/20/2021	PUTABLE	EUR	588.63MM
3	Prime Notes LLC	PRMNTS	US	M-1	0.670	VARIABLE	SECURED	02/13/2020	02/16/2023	CALL/PUT	USD	252.87MM
4	Prime Notes LLC	PRMNTS	US	MIG1	0.860	VARIABLE	SECURED	10/15/2020	10/16/2023	CALL/PUT	USD	110.00MM
5	Prime Notes LLC	PRMNTS	US	M1-1	0.600	VARIABLE	SECURED	09/03/2020	09/29/2023	CALL/PUT	USD	230.00MM
6	Prime Notes LLC	PRMNTS	US	Q1-1	1.100	VARIABLE	SECURED	04/16/2020	04/13/2023	CALL/PUT	USD	140.00MM
7	Florida Power & Light Co	NEE	US			FLOATING	SR UNSECURED	08/24/2020	08/24/2070	CALL/PUT	USD	145.11MM
8	Nuveen Floating Rate Income F...	JFR	US			VARIABLE	JR SUBORDINAT...	12/04/2020	01/01/2031	CALL/PUT	USD	100.00MM
9	USG Assets LLC	USGAST	US	M-4	0.220	VARIABLE	SECURED	06/11/2020	01/13/2022	CALL/PUT	USD	138.00MM
10	Procter & Gamble Co/The	PG	US		-0.255	FLOATING	SR UNSECURED	11/16/2020	11/16/2070	CALL/PUT	USD	197.07MM
11	Cellmark Inc	CELMRK	US			VARIABLE	SECURED	06/25/2020	06/01/2038	CALL/PUT	USD	150.00MM
12	Consumers Energy Co	CMS	US			FLOATING	1ST MORTGAGE	10/07/2020	10/07/2070	CALL/PUT	USD	126.50MM
13	Florida Power & Light Co	NEE	US			FLOATING	SR UNSECURED	03/13/2020	03/13/2070	CALL/PUT	USD	174.66MM
14	Part D Receivable Trust 2020-1	PTDRTR	US	B		FIXED	SECURED	11/12/2020	01/01/2024	PUTABLE	USD	429.58MM
15	Torrance Memorial Medical Cent...	TORMED	US	2020	1.100	FLOATING	UNSECURED	08/25/2020	09/01/2040	CALL/PUT	USD	124.66MM
16	International Bank for Reconstr...	IBRD	US	EMTN	0.138	FLOATING	SR UNSECURED	04/01/2020	01/09/2024	PUTABLE	USD	461.00MM
17	Consumers Energy Co	CMS	US			FLOATING	1ST MORTGAGE	05/20/2020	05/20/2070	CALL/PUT	USD	134.35MM

Most of the identified puttable transactions include both put and call options. A couple of put option terms typically observed in 3d-party notes are illustrated below.

Put option schedule (International bank for recovery and development)

Date	Price
07/01/2020	100.000
10/01/2020	100.000
01/01/2021	100.000
04/01/2021	100.000
07/01/2021	100.000
10/01/2021	100.000
01/01/2022	100.000
04/01/2022	100.000
07/01/2022	100.000
10/01/2022	100.000
01/01/2023	100.000
04/01/2023	100.000
07/01/2023	100.000
10/01/2023	100.000

Put option schedule (Cellmark Inc.)

Date	Price
11/30/2022	100.000

Unlike call options, put options in 3d-party notes can be typically exercised only at specific discrete dates.

B.4 Security / collateral provisions

B.5 Guarantees

B.6 PIK Loans

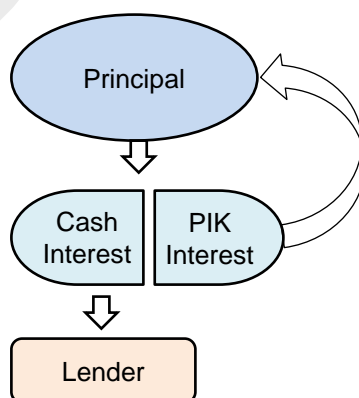
A PIK provision in a loan transaction can be structured in several different ways listed below. PIK loans can be often observed in mezzanine / subordinate debt searches. Due to relatively complex PIK structure in loans and unavailability of loan agreements, it is recommended to exclude PIK loans from the sample and apply adjustment for PIK / interest deferral provision as described in the previous section.

- **Interest split structure.** PIK provision is set as the portion of the total interest expense that can be deferred and capitalized. An example of PIK interest structure is presented in a loan agreement issued by US Rental Care (24 May 2010, Bloomberg ticker = BL610815 Corp). The structure is described as follows: *“Applicable Rate means a percentage per annum equal to 13.25% (of which up to 2.0% per annum shall be made as PIK Interest... The Borrower shall pay the interest accrued pursuant to Section 2.07(a) and (b) by capitalizing and adding the amount thereof in excess of 11.25% per annum of the unpaid principal amount of the Loans to the outstanding principal amount of the Loans (“PIK Interest”) on each Interest Payment Date and paying the remaining portion of such interest in cash”.*

The PIK interest with the above structure may be reported by Bloomberg using two alternative descriptions.

- Interest represents total interest and PIK interest represents the portion of interest that can be deferred and capitalized. Bloomberg shows total interest in the ‘Idx + Margin’ field and PIK interest in the ‘PIK’ field (this is how Bloomberg reports the loan information for the loan issued by US Rental Care);
- Interest represents cash interest and PIK interest represents the portion of interest that can be deferred and capitalized. Total interest equals to the sum of PIK and cash interest. Bloomberg shows cash interest in the ‘Idx + Margin’ field and PIK interest in the ‘PIK’ field.

The structure is illustrated in the diagram below.

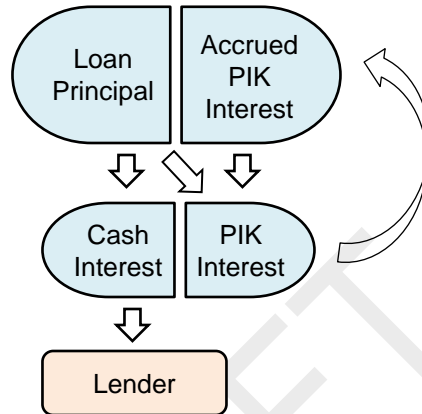


Formally, the yield rate equals to the sum of cash and PIK interest.

- **Principal split structure.** Total outstanding balances of a term loan are divided into (i) initial balances of a term loan and (ii) accumulated PIK interest of the term loan. The cash interest applied to the term loan initial balance only. The PIK interest is applied to the sum of initial loan balance and PIK interest. The total accumulated PIK interest is repaid on the loan maturity date. An example of PIK interest structure is presented in a loan agreement issued by Universal Truckload (10 August

2018, BL = BL2903021]. The structure is described as follows: “In addition to the interest on the unpaid principal balance of the Term Loan payable in cash under Section 3.1, from and after the Closing Date, an additional amount of interest shall be payable in kind on the last day of each month, which shall accrue daily at a rate equal to two and one-half percent (2.5%) per annum and shall be compounded monthly (“PIK Interest”) on an amount equal to the sum of (i) the aggregate principal amount of the Term Loan as of the last day of the preceding month and (ii) the aggregate sum of all PIK Interest... On the earlier to occur of a Term Loan Refinancing Event or the Term Loan Maturity Date, all then accrued PIK Interest shall be capitalized and added to the principal outstanding under the Term Loan and shall be due and payable in full”.

The structure is illustrated in the diagram below.



The yield rate on the loan with the PIK interest structure is less than the sum of cash and PIK interests. An example of yield estimation for the example is provided in Appendix G.1.1.

Appendix C Special Types of Debt Financing

The section discussed some specific types of debt instruments that may require additional considerations in the IRB analysis.

C.1 Bridge loans

A bridge loan is a type of short-term loan, typically taken out for a period of 2 weeks to 3 years pending the arrangement of larger or longer-term financing. It is usually called a bridging loan in the United Kingdom, also known as a "caveat loan," and also known in some applications as a swing loan.

A bridge loan is interim financing for an individual or business until permanent financing or the next stage of financing is obtained. Money from the new financing is generally used to "take out" (i.e. to pay back) the bridge loan, as well as other capitalization needs.

Bridge loans are typically more expensive than conventional financing, to compensate for the additional risk. Bridge loans typically have a higher interest rate and other costs compared to other short-term debt transactions.²⁹

There are two alternative approaches to bridge loan valuation.

- ▶ Under the first approach, bridge loans are viewed independently from the overall financing structure put in place for target acquisition purposes. The benchmarking analysis is performed assuming short-term maturity of the bridge loan transaction. The interest rate under the approach is typically lower than the interest rate on the long-term financing which is put in place to replace the bridge loan. As discussed above, low interest rates on the bridge loan are inconsistent with the observed market data.
- ▶ Under alternative approach, bridge loan is benchmarked in combination with the following long-term financing. No separate analysis is performed for the bridge loans and the same interest rate is set on both the bridge loan and the following long-term loan. The benchmarking analysis is performed for the long-term only.

As a support for the second approach, a single extended search for bridge loans and related financing structures should be performed and referred to in a transfer pricing documentation. An illustration of the search results is provided below.

The search for bridge loans was performed using the following search parameters.

²⁹ https://en.wikipedia.org/wiki/Bridge_loan

Build with Criterion		Build by Merging Saved Searches		As of 02/03/2021	
1. Select Universe		11) Asset Classes Loan (Deals & Tranches)		411,586 securities	
		12) Sources All Securities			
2. Select Search Criteria					
	Field	Boundaries	Selected Criteria	Matches	
31)	Security Status	Include	Loans: All	411,586	✕
32) And	Loan Type	Include	(Bridge)	4,432	✕
33) And	Issue Date	In the range	01/01/2019 – 12/31/2019	256	✕
34) And	Use of Proceeds	Include	(Acquisition Financing)	147	✕
35) And	Country of Domicile	Include	(United States of America)	46	✕
36) And	Loan Spread at Close	>=	1	27	✕
37) And	Currency	Include	(United States Dollar)	25	✕
38) And	Maturity	<=	12/31/2020	17	✕
39) And			Fields		

The search produced the following sample

Exhibit C.1 Sample of Term Bridge loans

#	Company name	Issue date	Maturity	Amount	Spread on bridge loan	Term loan issue date	Spread on term loan	Term loan tenor (years)
1	AbbVie Inc	25-Jun-19	23-Jun-20	38.0MMM	112.5	12-Jul-19	125 / 137.5	5
2	Assured Partners Inc	3-May-19	3-May-20	500.0MMM	575	13-May-19	N/A	
3	Berry Global Inc	8-Mar-19	8-Mar-20	1.27MMM	375	8-Mar-19	250	5
4	Bristol Myers Squibb Co	3-Jan-19	2-Jan-20	25.5MMM	75	18-Jan-19	100	5
5	Del Frisco's Restaurant	25-Sep-19	25-Sep-20	325.0MMM	550		N/A	
6	Fidelity National Inform	17-Mar-19	16-Mar-20	2.0MMM	125		N/A	
7	Fidelity National Inform	17-Mar-19	16-Mar-20	7.5MMM	125		N/A	
8	Fiserv Inc	16-Jan-19	15-Jan-20	12.0MMM	125	15-Feb-19	125	3
9	Fiserv Inc	16-Jan-19	15-Jan-20	5.0MMM	125	15-Feb-19	125	5
10	Genworth Holdings Inc	12-Dec-19	12-Dec-20	850.0MMM	450		N/A	
11	HealthEquity Inc	26-Jun-19	26-Jun-20	300.0MMM	450	30-Aug-19	200	5
12	Marvell Technology Grou	4-Nov-19	3-Feb-20	600.0MMM	90		N/A	
13	Pagani Holding III Ltd	21-Jun-19	21-Dec-19	50.0MMM	200	21-Jun-19	350	5
14	REIT II Operating Partn	11-Apr-19	11-Apr-20	475.0MMM	225		N/A	
15	Service Properties Trus	2-Jun-19	11-Sep-20	2.0MMM	145		N/A	
16	WP CityMD Bidco LLC	13-Aug-19	13-Aug-20	105.0MMM	450	13-Aug-19	450	7
17	Walt Disney Co/The	15-Mar-19	13-Mar-20	20.7MMM	87.5		N/A	

The sample shows that in some cases the same rate is applied to both the bridge loan and the term loan issued at the same time. In some cases, the margin on the term loan is slightly higher and, in some cases, it is lower than on the bridge loan. Overall, assumption that bridge loan and the related term loan should be viewed as part of the same structure and priced together.

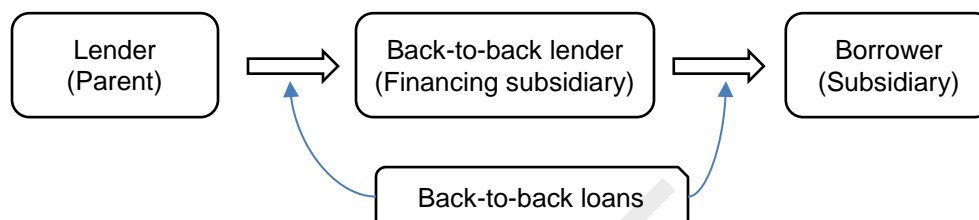
The exhibit also shows that some bridge loans are not followed by the acquisition term loan and the information on the term loan is not available.

C.2 Back-to-back loans

A back-to-back loan is a traditional structure of an intercompany loan transaction in which the loan financing transaction is implemented as a two back-to-back loans from the lender (parent) to a financing subsidiary (flow-through entity) and finally to the borrower.³⁰

C.2.1 Back-to-back loan structure

The structure is illustrated by the diagram below.



The terms of the two loans in a back-to-back loan transaction match exactly with the exception of an additional small fee charged by a flow-through entity for the functions performed in a back-to-back loan. The back-to-back lender is also referred to as an intermediary or a flow-through entity (FTE)³¹ to emphasize that the principal and interest payments from the borrower to the FTE flow through directly to the lender entity.

In most cases a back-to-back loan is benchmarked as a single loan transaction from back-to-back lender to the borrower. The loan from the back-to-back lender to the borrower typically represents the main asset and respective risk of the back-to-back lender. Therefore, the risk of a lender in the first leg of a back-to-back loan is effectively the same as the risk of the back-to-back lender in the second leg of the loan. If the loan is just one of many assets of the back-to-back lender and the creditworthiness of the back-to-back lender may be materially different from the borrower's credit rating, the two loans in the back-to-back loan structure must be benchmarked separately. In the latter case, the back-to-back lender also performs as a guarantor in the back-to-back loan.

In some cases, the Borrower can be included as a co-borrower in the third-party loan. In this case, the rationale for the intercompany financing structure should be considered since the Borrower could borrow the funds directly from the third-party loan. The issue may be a red flag if there is a material premium in the intercompany financing compared to the interest rate on the third-party loan.

C.2.2 Back-to-back loans with variable interest rate schedule

In some cases, the interest rate in the 3d-party loan may be specified as a schedule which relates a specific leverage ratio to the applicable margin. Illustration of the applicable margin schedule is shown below.

Net Debt / EBITDA	Applicable margin
≤ 1.0	200bps

³⁰ A back-to-back financing structure can also be applied as a conceptual argument for the arbitrage-free pricing of intercompany financial guarantee transactions (see the guide on financial guarantees valuation methods).

³¹ An FTE entity is sometimes also referred to as a pass-through entity.

Net Debt / EBITDA	Applicable margin
≤ 2.0	250bps
≤ 4.5	400bps

From the tax perspective, it may be preferable to retain only a small spread in the back-to-back lender. Therefore, the client may discuss whether the margin schedule can be mirrored in the intercompany loan. There are several arguments why this may not be easy to accomplish.

1. The benchmarking analysis is typically performed to construct a range for a specific interest rate (or interest rate margin). It is not clear how to modify the standard IRB analysis to estimate the ranges for the interest rate schedules.
2. In addition to the interest rate schedule, 3d-party agreements often include financial covenants, which constraint the borrower leverage ratio. For example, the financial covenants can require that the Net Debt / EBITDA ratio does not exceed 4.5. The interest margin schedule provides an incentive to the borrower to maintain a low leverage to reduce the borrowing cost but also protects the lender from taking excess risk through the financial covenants. Therefore, to fully mirror the terms of the 3d-party agreement (and respective incentives to the borrower), the intercompany agreement should also include both the interest rate margin and the financial covenants. However, it is normally not recommended to include financial covenants in the intercompany agreement as it provides unnecessary commitment for the borrower and requires the borrower monitoring the financial covenants over the life of the loan and potentially refinance the loan and do additional transfer pricing analysis if the financial covenants are violated. Therefore, the financial covenants are viewed as an unnecessary transfer pricing risk and is normally not recommended to be part of the agreement. The debt quantum is supported by the debt capacity analysis which is performed as of the loan issue date.

To address the above issues, it can be recommended to set a fixed (highest or most likely) interest rate margin on the intercompany loan, which is supported by the arm's length range of interest rates and include a penalty-free prepayment option in the agreement. If the interest rate on the intercompany loan needs to be matched more accurately to the interest rate on the 3d-party loan in the future, the intercompany loan will be refinanced, and the interest rate will be amended. The amended interest rate will be supported by the updated interest benchmarking analysis. Note that the amendment will likely be triggered by lower leverage or higher than projected earnings of the borrower, it is highly likely that the amended interest rate will be supportable.

C.2.3 Back-to-back lender interest spread

A back-to-back loan analysis often includes benchmarking of the interest rate spread charged by the back-to-back lender. In most cases the fee is small and is set in the range between 5 to 30bps. The following considerations should be taken into account when estimating the fee.

1. If the FTE does not perform any functions and bears no risk (i.e. loss on the receivable would be 100% off-set with reduction in liability), a 5-30bps fee is supportable. This is what traditionally tax authorities claim for intermediaries in other countries.
2. If the FTE entity bears the default risk on the back-to-back loan, it would be entitled to the spread between the interest rate on the loan to the borrower and the rate on the loan from Canada, each evaluated on a stand-alone basis. The FTE should not make a loss on this transaction, though, otherwise they wouldn't enter the arrangement.
3. An alternative would be to assume 100% group support throughout and apply on inbound and outbound loans the external funding rate. Tax authorities tend to favor this approach, at least when it is to their advantage.

The components of the interest spread analysis are described below.

C.2.4 Service (handling) fee

The service fee is charged by the back-to-back lender for the standard treasury functions performed in a back-to-back loan transaction such as contract origination/management/monitoring activities, loan support function, and other administrative/support function. The benchmarking of the handling fee is performed by searching for the corporate notes with the 'total gross fee' reported by Bloomberg. The 'total gross fee' is formally defined by Bloomberg as follows:

The 'total gross fee' (FEE_TOTAL_GROSS) is defined as "*The percentage difference between the price an underwriter pays an issuer and the price at which the underwriter sells the securities*".

Effectively the 'total gross fee' is the fixed (non-recurring) fee (determined as a percentage of the issued principal amount) that the underwriter retains for the provided services of assisting in the security issuance. The fee can also be interpreted as the 'origination fee'.³²

The service fee estimation procedure is summarized as follows.

- ▶ **Search.** A Bloomberg search is performed for a sample of notes comparable to the tested transaction with non-zero total fee;
- ▶ **Adjustments.** The 'total gross fees' reported by Bloomberg in the sample of identified notes are converted into equivalent annual premiums estimated as a percentage of the note yield rates.³³ Since the admin fees are set at the issue date of each note, the respective yield rates and maturity terms are also estimated as of respective note issue date;
- ▶ **Median Fee.** Estimate the median normalized admin fee based on the steps above and multiply it by the median interest rate to estimate the absolute value of the median service fee.

A range of estimated service fees depends on the identified sample of notes with the reported 'total gross fee' field but normally it ranges between 5bps and 20bps. A ballpark number that can be used for a back-to-back loan spread reference is 10-15bps.

C.2.5 Equity at risk premium (Dutch analysis)

For the non-Dutch tax jurisdictions of the back-to-back lender, service fee is typically the only component included in the estimated interest rate spread. In many cases no TP analysis is performed and default 5-10bps are assumed as an interest rate spread.

In Dutch tax jurisdiction TP analysis of the interest rate spread must include two components: (i) the service fee benchmarking and the (ii) equity at risk premium analysis.

³² When a company decides it wants to issue stock, bonds or other publicly traded securities, it hires an underwriter. After determining the offering structure, the underwriter usually assembles a group of other investment banks and brokerage firms that commit to sell a certain percentage of the offering.

The issuer and the underwriter work closely together to determine the price of the offering. Once the underwriter is sure it will sell all of the shares in the offering, it closes the offering. Then it purchases all the shares from the company (if the offering is a guaranteed offering), and the issuer receives the proceeds minus the underwriting fees, which are typically 3% to 7% of the amount of capital being raised. The fees compensate the underwriter and syndicate for three things: negotiating and managing the offering, assuming the risk of buying the securities if nobody else will, and managing the sale of the shares. (<https://investinganswers.com/dictionary/u/underwriting-fees>).

³³ Conversion of a fixed upfront fee into a periodic premium is discussed in the accompanying NPV Valuation guide: http://alexacomputing.com/files/other/fstp_guide/pdf/FSTP_05_NPV_Analysis_v1.pdf.

The Dutch tax policy requires for Dutch finance and holding companies, which bear economic and financial risks in financing transactions, to maintain a certain minimum amount of equity to cover its capital at risk exposure. The equity at risk value was estimated in compliance with local Dutch tax regulations by following the steps below:

- ▶ **Equity at risk.** At the first step, the equity at risk is estimated on consolidated basis as the minimum of (i) 1% of back-to-back lender's total loans receivable that were outstanding in covered fiscal year and (ii) the fixed EUR 2 million threshold amount. The equity at risk in the tested transaction is estimated as follows:
 - ▶ If the 1% of total loans receivable is below the EUR 2 million threshold, then equity at risk equals to back-to-back loan principal amount.³⁴
 - ▶ Otherwise equity at risk equals EUR 2 million threshold times the proportion of the back-to-back loan principal to the total loans receivable.
- ▶ **Risk premium.** At the second step, the risk premium is estimated as the equity at risk value times the return on equity (ROE). The ROE metrics is benchmarked by performing a search and estimating historical ROE values for a sample of companies comparable to the back-to-back lender.

Based on the steps described above, the risk premium equals or is below 1% of the ROE value (depending on whether the total loans receivable are below or above the EUR 2 million threshold value). If for example ROE = 10%, then 1% of the ROE value equals 10bps. The 10bps value should be viewed as a high-level proxy value for risk premium that can be used as a reference prior to performing formal interest spread analysis.

C.3 Flexible debt instruments

Discussion of flexible debt financing instruments in this section excludes cash pools and factoring arrangements which are covered in a separate guide. The structures should be considered in the case when a company has a large number of short- or medium-term debt transactions over a specific period. In many cases no formal legal agreement is issued for the transactions. The information on the transaction is typically available in the form of a list of borrowed and repaid balances and the interest expense paid on the balances.

The individual transactions are typically benchmarked under the assumption that they all are issued as individual advances covered by a single agreement. Standard types of financial instruments that are used for the flexible debt financing structures are described below.

C.3.1 Commercial paper

Commercial paper, in the global financial market, is an unsecured promissory note with a fixed maturity of not more than 270 days.

Commercial paper is a money-market security issued (sold) by large corporations to obtain funds to meet short-term debt obligations (for example, payroll), and is backed only by an issuing bank or company promise to pay the face amount on the maturity date specified on the note. Since it is not backed by collateral, only firms with excellent credit ratings from a recognized credit rating agency will be able to sell their commercial paper at a reasonable price. Commercial paper is usually sold at a discount from face

³⁴ <https://www.tax-consultants-international.com/read/dutch-transfer-pricing-rules-for-financial-service-companies?submenu=3570&sublist=3686&subsublist=3274>

value, and generally carries lower interest repayment rates than bonds due to the shorter maturities of commercial paper. Interest rates fluctuate with market conditions but are typically lower than banks' rates.

Commercial paper is issued as part of a continuous rolling program, which is either a number of years long (as in Europe), or open-ended (as in the U.S.).

C.3.2 Medium term note (MTN) program

MTN program (traded within US and Canada) and Euro medium term note (EMTN) program are standardized documents that are used as a master agreement for the individual notes issued directly to the market. A high proportion of the notes sales is typically done through a predetermined syndication of buyers. The maturity term of each individual note is under five years. Each individual note may have different terms such as principal amount, currency, maturity term, and other. A more detailed discussion of the MTN programs is available at <https://media2.mofo.com/documents/080818faqsmtn.pdf>.

C.3.3 Line of credit or revolving loans

Commercial paper is a lower-cost alternative to a line of credit with a bank. Once a business becomes established, and builds a high credit rating, it is often cheaper to draw on a commercial paper than on a bank line of credit. Nevertheless, many companies still maintain bank lines of credit as a "backup". Banks often charge fees for the amount of the line of the credit that does not have a balance, because under the capital regulatory regimes set out by the Basel Accords, banks must anticipate that such unused lines of credit will be drawn upon if a company gets into financial distress. They must therefore put aside equity capital to account for potential loan losses also on the currently unused part of lines of credit and will usually charge a fee for the cost of this equity capital.

C.3.4 Benchmarking analysis

The assumptions on the terms of the flexible debt instrument and the respective interest benchmarking analysis can be summarized as follows.

- ▶ **Covered period.** The analysis of the short-term financing structures is typically performed on per fiscal year basis. An explicit assumption is made that the agreement with the terms of the financing is rolled-over on an annual basis.
- ▶ **Interest rate.** The fixed interest rate (floating spread over the base rate) is set at the beginning of the fiscal year and is applied throughout the year (alternatively the interest rate may be reset on a monthly basis). The floating interest rate can use overnight rates as a base rate so that the actual interest rates on the advances will vary depending on each advance issue date.
- ▶ **Maturity term.** Average maturity term and interest rate (interest rate spread) of the issued advances is estimated for the covered fiscal year.
- ▶ **Currency.** Different advances can be denominated in different currencies. The total list of individual advances must be grouped by currencies and the IRB analysis must be performed for each specific currency.
- ▶ **IRB.** The interest benchmarking analysis is performed using the following approaches.
 - ▶ Standard IRB approaches including CNS, ICS, or MYCA analysis. Standard approach is applied as discussed in this guide. The only difference from a regular loan IRB analysis is the terms assumed for the flexible debt instrument (including debt effective date, average maturity term, interest rate type (fixed, floating), interest reset frequency, average interest rate (interest rate spread)).

- ▶ IRB based on commercial paper indices. The analysis based on commercial paper indices is performed for the debt instruments with investment grade and short-term maturities. Commercial paper indices are reported by Bloomberg for group ratings only (equivalents of (BBB), (A), and (AA) group ratings. Notch-specific ratings can be estimated using uniform or weighted-average interpolation of the rates with group rating. In the weighted-average interpolation the weights are estimated based on short-term notch-specific market yield curves reported by Bloomberg.

C.4 Mezzanine debt

Intercompany debt is assumed by default to be subordinated (contractually or structurally) to third-party obligations of the borrowing entity. Therefore, it is recommended to review in some cases the IRB approach based on the searches for mezzanine debt transactions. If the borrower does not have any other material obligations except for the tested intercompany loan transaction, application of the mezzanine debt approach will be difficult to support. However, in the cases of highly leveraged acquisitions which raise financing both from third-party and internally the mezzanine debt approach can be included to support the analysis.

Implementation of the mezzanine debt approach is technically difficult. Mezzanine financing is usually private placement used by small companies and therefore public information on the transactions can be limited. In many cases neither the issuer nor the mezzanine debt transaction is rated by a recognized rating agency such as Moody's or S&P. As a result, it may be difficult to make reliable adjustments to the sample of mezzanine debt transactions to ensure comparability with the tested transaction.

Due to potentially high premiums observed in mezzanine debt comparables (compared to yields observed in high-yield market), the interest benchmarking analysis based on a search for mezzanine loans is more likely to support high interest rates on tested transactions. However due to technical difficulties in implementation of the search method, the practice of applying the method is very limited.

C.4.1 Overview³⁵

In finance, mezzanine capital is any subordinated debt or preferred equity instrument that represents a claim on a company's assets which is senior only to that of the common shares. Mezzanine financings can be structured either as debt (typically an unsecured and **subordinated note**) or **preferred stock**.

Mezzanine capital is often a more expensive financing source for a company than secured debt or senior debt. The higher cost of capital associated with mezzanine financings is the result of its being an unsecured, subordinated (or junior) obligation in a company's capital structure (i.e., in the event of default, the mezzanine financing is only repaid after all senior obligations have been satisfied). Additionally, mezzanine financings, which are usually **private placements**, are often used by smaller companies and may involve greater overall levels of leverage than issues in the high-yield market; they thus involve additional risk. In compensation for the increased risk, mezzanine debt holders require a higher return for their investment than secured or more senior lenders.

Mezzanine financings can be completed through a variety of different structures based on the specific objectives of the transaction and the existing capital structure in place at the company [citation needed]. The basic forms used in most mezzanine financings are subordinated notes and preferred stock. Mezzanine

³⁵ https://en.wikipedia.org/wiki/Mezzanine_capital

lenders, typically specialist mezzanine investment funds, look for a certain rate of return which can come from (each individual security can be made up of any of the following or a combination thereof):

- ▶ **Cash interest:** A periodic payment of cash based on a percentage of the outstanding balance of the mezzanine financing. The interest rate can be either fixed throughout the term of the loan or can fluctuate (i.e., float) along with LIBOR or other base rates.
- ▶ **PIK interest:** Payable in-kind interest is a periodic form of payment in which the interest payment is not paid in cash but rather by increasing the principal amount by the amount of the interest (e.g., a \$100 million bond with an 8% PIK interest rate will have a balance of \$108 million at the end of the period but will not pay any cash interest).
- ▶ **Ownership:** Along with the typical interest payment associated with debt, mezzanine capital will often include an equity stake in the form of attached warrants or a conversion feature similar to that of a convertible bond. The ownership component in mezzanine securities is almost always accompanied by either cash interest or PIK interest, and, in many cases, by both.

Mezzanine lenders will also often charge an arrangement fee, payable upfront at the closing of the transaction. Arrangement fees contribute the least return, and their purposes are primarily to cover administrative costs or as an incentive to complete the transaction.

The following are illustrative examples of mezzanine financings:

- ▶ \$100 million of senior subordinated notes with warrants (10% cash interest, 3% PIK interest and warrants representing 4% of the fully diluted ownership of the company)
- ▶ \$50 million of redeemable preferred stock with warrants (0% cash interest, 14% PIK interest and warrants representing 6% of the fully diluted ownership of the company)

In structuring a mezzanine security, the company and lender work together to avoid burdening the borrower with the full interest cost of such a loan. Because mezzanine lenders will seek a return of 14% to 20%, this return must be achieved through means other than simple cash interest payments. As a result, by using equity ownership and PIK interest, the mezzanine lender effectively defers its compensation until the due date of the security or a change of control of the company.

Mezzanine financings can be made at either the operating company level or at the level of a holding company (also known as structural subordination). In a holding company structure, as there are no operations and hence no cash flows, the structural subordination of the security and the reliance on cash dividends from the operating company introduces additional risk and typically higher cost. This approach is taken most often as a result of the company's existing capital structure.

Mezzanine financing is traditionally used in the following cases

- ▶ **Leveraged buyouts.** In leveraged buyouts, mezzanine capital is used in conjunction with other securities to fund the purchase price of the company being acquired. Typically, mezzanine capital will be used to fill a financing gap between less expensive forms of financing (e.g., senior loans, second lien loan, high yield financings) and equity. Often, a financial sponsor will exhaust other sources of capital before turning to mezzanine capital.

Financial sponsors will seek to use mezzanine capital in a leveraged buyout in order to reduce the amount of the capital invested by the private equity firm; because mezzanine lenders typically have a lower target cost of capital than the private equity investor, using mezzanine capital can potentially enhance the private equity firm's investment returns. Additionally, middle market companies may be unable to access the high yield market due to high minimum size requirements, creating a need for flexible, private mezzanine capital.

- ▶ **Real estate finance.** In real estate finance, mezzanine loans are often used by developers to secure supplementary financing for development projects (typically in cases where the primary mortgage or construction loan equity requirements are larger than 10%).^[2] These sorts of mezzanine loans are often secured by a second ranking real property mortgage (that is, ranking subordinate to the first mortgage lenders). Standard mortgage foreclosure proceedings can take more than a year, depending upon the relationship between the first mortgage lenders and the mezzanine debt lender, governed by an Intercreditor Deed.

C.4.2 Shareholder loans

In some cases, investment in a project is made by multiple co-investors. In addition to the tested intercompany loan the borrower's debt obligations include loans from other co-investors. Potentially the co-investors loans may be viewed as internal CUTs and used to benchmark the interest rate on the tested transaction.

The co-investor loans should be reviewed in detail to conclude whether the loans can be used as internal CUTs. The following actors should be considered.

- ▶ **Quoted price.** The co-investor loan must be executed. Some term sheets provided by the client represent only a draft agreement with a quoted price which are never executed. Such term sheets cannot be used to represent valid comparable transactions.
- ▶ **Equity shares** of a co-investor. If the co-investor also acquires an equity share in the investment, then effectively the loan made by the investor represents another intercompany transaction, which cannot be used as an internal CUT.
- ▶ **Hybrid debt.** The loan provided by the co-investor may include provisions which allow to treat the loan as a hybrid instrument. For example, the loan can include an option for the lender to acquire common stock in the investment target. Those hybrid structures may also potentially be viewed as not valid internal comparables.

C.4.3 Interest benchmarking analysis based on mezzanine debt searches

As discussed above, mezzanine debt transactions are often private placements used by small firms. As a result, the information on the transactions may be limited and in most cases the transactions and the issuers are not rated.

Mezzanine debt is traditionally issued as part of larger financing structures, which include senior secured loans. The mezzanine debt approach should be applied for the tested transaction whenever the tested transaction is part of the borrower's financing structure which is comparable to the financing structures in the identified third-party sample mezzanine debt transactions. An example of such transaction structure is illustrated below.

- ▶ Senior secured loans from third-party banks;
- ▶ Senior unsecured debt subordinated to the bank loans;
- ▶ Shareholders' loans (including tested loan transaction).

The secured loans from the third-party banks can be viewed as valid internal CUTs for the tested loan. Therefore, the interest rate on the bank loans can be used as a reference benchmark for the tested loan after performing the adjustments discussed in this guide. The key adjustment discussed in this section is

adjustment for the unsecured and subordinated ranking of the tested loan compared to the bank loans. Two approaches can be implemented to perform the subordination ranking adjustment.

- ▶ **Rating adjustment.** Interest rate adjustment through credit rating downward notching adjustment. This is a standard approach that was discussed in detail in Section 7.
- ▶ **Subordination ranking premium.** This is a direct approach presented in more detail in this section. Under the approach, comparable arm's length financing structures are identified which include both secured and mezzanine loans. The sample structures are used to estimate the range of spreads between mezzanine loans and respective senior secured loans.

Note that the approach does not require to estimate the credit rating of the tested transaction. The approach assumes that the tested entity has both 1st – lien senior secured loans and the tested loan, which is subordinated to the 1st – lien loan. The interest rate on the tested loan is estimated in reference to the rate on the 1st – lien loan by adding the premium between subordinated / 1st – lien loans observed in the market. The approach is based on the assumption that the mezzanine debt premium in the 1st – lien / subordinated loans financing structure is less dependent on the specific industry or market conditions and can be estimated and applied as a certain fixed 'subordination ranking' premium to the tested transaction. As illustrated in the in Appendix **Error! Reference source not found.**, the fixed premium should generally be selected within the **4.0% - 6.0% range**.

- ▶ **Sample of mezzanine loans.** This is a direct search in which the interest rate on the tested loan is estimated based on a sample of mezzanine loan transactions. A potential issue with the approach is that it is difficult to establish comparability between the tested loan and identified sample of mezzanine loans.

Application of the second approach, which is recommended as the primary 'mezzanine debt benchmarking' approach, is illustrated in Appendix **Error! Reference source not found.**

C.4.4 Limitations of the mezzanine debt benchmarking approach

As discussed above, mezzanine financing is often used by small and medium size firms which do not have access to high yield markets. As a result, the information on the transaction is limited and subordinated debt transactions often have a hybrid structure which is difficult to adjust for. The list of potential problems in the implementation of the mezzanine debt search approach is provided below.

- ▶ The pricing information (including interest rates) are often no available for mezzanine debt;
- ▶ Mezzanine loans are often not rated by recognized rating agencies such as Moody's or S&P;
- ▶ In the absence of rating information, the risk of two mezzanine debt transactions is difficult to compare;
- ▶ Mezzanine debt is often a hybrid debt which includes characteristics of equity such as PIK provision. Adjustment for the hybrid structure is difficult to estimate accurately;
- ▶ Mezzanine loans are typically part of broader financing structures. The risk exposure and the price of a mezzanine loan will generally depend on the overall financing structure;
- ▶ Based on the above points, it is generally difficult to ensure comparability of two mezzanine loans and reliably adjust for any potential differences.

C.5 Gold/silver loans

In a silver loan transaction, a mining borrowing company repays the funds received from the lender by delivering agreed produced volumes of silver. Silver loans are typically issued between a mining parent and operating subsidiary. The parent prepays a specific volume of silver production, which is delivered then by the operating subsidiary to the parent. Silver loans differ by loan settlement terms:

- ▶ **Physical settlement:** in the case of physical settlements silver loan is repaid by delivering physical volumes of gold. The interest rate is quoted as percentage of borrowed silver loan volume;
- ▶ **Cash settlement:** in the case of cash settlements silver loan is repaid by cash transfers to the lender, where the amount of each transfer is determined by the silver volume sold by the borrower and respective silver spot price. The interest rate is quoted as percentage of borrowed \$ amount.

Two types of silver loans are discussed in more detail in sections below.

C.5.1 Physical settlement

Formally a silver loan with physical settlement is structured as follows.

- ▶ The borrower and the lender agree to a silver loan with a specified volume (measured in ounces and denoted as V_0). The title to the volume V_0 is transferred from the lender to the borrower;
- ▶ The borrower monetizes the volume V_0 into the equivalent \$ amount using spot London Bullion Market Association (**LBMA**) silver price, which is effective of the silver loan issue date. The silver loan balances are denoted as P_t , where the initial balance is $P_0 = V_0$.
- ▶ The loan's principal and interest obligations are repaid by the borrower in kind on a monthly basis using borrower's monthly silver production;
- ▶ The outstanding balances of the silver loan in month t are updated as follows: $P_t = P_{t-1} + I_t - V_t$, where P_{t-1} are loan outstanding balances in previous month, V_t is the volume of silver produced and sold by the borrower in month t , and I_t is the interest accrued on the silver loan in month t . All variables in the equation are measured in ounces (**oz.**).
- ▶ The silver loan is fully repaid after the outstanding balances P_t are reduced to zero.

Silver loans are typically short-term loans (issued for operating needs of the borrower) with the principal balance of the loan issued to match an expected (e.g. one-year) volume of silver production. To simplify the presentation of silver loan benchmarking analysis, we break-down the analysis into two cases: (i) silver loan with a single production period and (ii) silver loan with multiple production periods.

C.5.2 Single production period

In a simple one-period model silver is borrowed in period $t=0$ and repaid back in period $t=T$. To compare silver loan to a regular \$ loan transaction, consider two alternative strategies of the lender.

- ▶ **Cash lending strategy.** Under the cash lending strategy, the lender sells the silver loan volume V_0 at spot price in period $t=0$, lends the proceeds from the sale to the borrower as a regular loan at interest i , and enters into a silver forward contract to purchase in period T volume $V_T = \frac{(1+i)^S \times V_0}{F_T}$, where F_T is the forward price;
- ▶ **Silver lending strategy.** Under the silver lending strategy, the lender makes a silver loan (with physical settlement) to the borrower with volume V_0 and receives volume $V_T = (1+i^S) \times V_0$, where i^S is the fixed interest rate on the silver loan.

The two strategies have the same underlying credit risk and therefore must generate the same volume V_T to the lender:

$$\frac{(1+i) \times S \times V_0}{F_T} = (1+i^S) \times V_0$$

Or equivalently

$$1+i=(1+f_T) \times (1+i^S)$$

where $f_T = \frac{F_T}{S} - 1$. The equation can be approximated as follows

$$(C.1) \quad \Delta f_{i,t} = k_i \times (\vartheta_i - f_{i,t}) + \sigma_i \sqrt{f_{i,t}} \eta_{i,t}$$

where i^{rf} is the risk-free rate, π is the borrower's risk premium and the interest rate on the borrower's cash debt is by definition described by the following identity

$$i = i^{rf} + \pi$$

Equation (C.1) is the key result applied to benchmark the interest rates on silver loans with physical settlement. The expression

$$(C.2) \quad q = i^{rf} - f_T$$

is interpreted as the implied silver **lease rate**. To summarize, the interest rate on the silver loans with physical settlement is estimated by following the steps below.

- ▶ Estimate the interest rate i on the regular \$ loans of the borrower;
- ▶ Estimate risk free rate i^{rf} (either based on swap curves or government treasury rates) and respective risk premium $\pi = i - i^{rf}$;
- ▶ Estimate silver lease rate using equation (C.2);
- ▶ Estimate the interest rate on the silver loan using equation (C.1), which can equivalently be represented as follows

$$(C.3) \quad i^S = q + \pi$$

C.5.3 Multiple production periods

In practice, the loan settlements are made on a periodic (monthly) basis. Extension of a loan with a single-period settlement into the case of a loan with multi-period settlements is performed in the same way as it is done for an amortized loan. Each settlement is treated as a separate loan transaction and the silver loan is treated as a portfolio of loans with a single-period settlement.

The interest rate on each period-specific loan is estimated using equation (c.5.3). As a result, a term structure of interest rates is estimated for the silver loan. The term structure is converted into a uniform interest rate such that the total repaid volume of silver under the uniform interest rate and the estimated

term structure of interest rates is the same. The uniform interest rate can be closely approximated with the weighted average of the interest rates in the estimated term structure, where period-specific volumes are applied as weights in the weighted-average calculations.

C.5.4 Cash settlement

Formally a silver loan with cash settlement is structured as follows.

- ▶ The borrower and the lender agree to a silver loan with a specified volume (measured in ounces and denoted as V_0). The title to the volume V_0 is transferred from the lender to the borrower;
- ▶ The borrower monetizes the volume V_0 into the equivalent \$ amount using spot LBMA silver price, which is effective of the silver loan issue date. The transferred funds are denoted as $P_0 = S_0 \times V_0$, where S_0 is LBMA silver spot price and S_0 is the principal amount of the silver loan.
- ▶ The loan's principal and interest obligations are repaid by the borrower in cash on a monthly basis using borrower's monthly silver production;
- ▶ Upon each delivery of produced silver to the silver purchaser, the silver payment is calculated as the product of (i) the number of payable ounces of delivered refined silver and (ii) the LBMA silver price on the date that title to the delivered silver is transferred to the silver purchaser. The silver payment is used then by the borrower to repay (i) first the accrued interest on the silver loan and then (ii) the silver loan outstanding balances.
- ▶ The outstanding balances of the silver loan in month S_0 are updated as follows: S_0 , where P_{t-1} are loan outstanding balances in previous month, V_t is the volume of silver produced and sold by the borrower in month S_0 , S_t is the LBMA spot price on the date when title of delivered silver is transferred to the silver purchaser, and I_t is the interest accrued on the silver loan in month S_0 .
- ▶ The silver loan is fully repaid after the outstanding balances P_t are reduced to zero.

Under certain conditions (listed below) the cash settlement of a loan is equivalent to the physical settlement.

- ▶ The outstanding balances are revalued on a monthly basis using current LBMA spot price;
- ▶ The outstanding balances and interest payments are calculated using LBMA spot price at the loan issue date (same price used to estimate the initial loan balance P_0).

The interest benchmarking analysis of a silver loan with cash settlements is different from the analysis of a silver loan with physical settlements. Effectively a silver loan with cash settlements is equivalent to a regular loan with two important caveats:

1. A silver loan with cash settlement is effectively an amortized loan with the amortization schedule determined by the plan silver volume sales. Due to uncertain nature of the silver price, produced volumes, and silver sales, only expected projected amortization schedule can be estimated;
2. A silver loan can be viewed effectively as an asset-backed lending (**ABL**). Commitment of the borrower to use the proceeds from silver sales will strongly limit the borrower's ability to enter into other senior secured borrowing arrangements. So effectively the silver loan can be viewed as secured by the silver production.

C.6 Gold/silver streaming

Silver streaming is the term often used when a company makes an agreement with a mining company to purchase all or part of their silver production at a low, fixed, predetermined price to which both parties agree. Silver Wheaton Corporation is one of the world's largest silver streaming companies.³⁶

C.7 Asset-backed lending

C.8 Upstream loans

The upstream loans are typically provided by subsidiaries to the parent entity for the purpose of providing liquidity to the parent entity. In some cases, the upstream loans are provided to improve the balance sheet position of the parent group. The funds of the upstream loans are used to repay the outstanding balances of third-party loan facilities at the end of each reporting quarter. At the beginning of the following quarter the facility advances are drawn back and the upstream loans are repaid. So effectively the upstream loans have a very marginal impact on the financials of the parent and subsidiaries and impacts only the leverage metrics of the parent group at the end of each reporting quarter.³⁷ The upstream loans are structured in this case as facilities to provide the flexibility to borrow and repay the advances from the facility.³⁸

Since the upstream loans are provided to the parent group, the group credit rating is typically applied. If debt capacity is performed as part of the engagement, then the practice is either (i) to use consolidated financial statements of the group or (ii) remove the financial metrics of the lending subsidiaries from the consolidated financial metrics. The second approach is more conservative. Debt capacity is performed from both the borrower's and from the lenders' perspective. The purpose of the debt capacity analysis is (i) to show that the borrower has sufficient capacity to borrow the loan amount and (ii) to show that the lenders have sufficient liquidity to provide the funds pursuant to the loan agreement.

In certain cases, there may be limitations for the upstream loans. For example, there may be a limitation on the term of such loans (**two year limitation for Canada?**). Since in many cases group has access to third-party financing, the available capacity and costs of borrowing from existing third-party loans should be reviewed and compared to the terms of the upstream loans. If it is cheaper to borrow from third-party loans, there is a potential transfer pricing risk that the upstream loans do not have a valid business purpose.

C.9 OID notes

Original Issue Discount (OID) notes is a zero-coupon note which interest is accrued and paid on maturity. The following terminology is applied for the OID notes:

1. Original Issue Price – the price at which the OID bond is sold at the issue date
2. Redemption Price – the amount repaid at the note stated maturity date (equals to the accreted value a of the maturity date)

³⁶ https://en.wikipedia.org/wiki/Silver_streaming

³⁷ It is common for companies to borrow short term from their subsidiaries to improve financials over quarter ends. There is a long-standing exception to 956 to allow this in the case of US multinationals. As a result the transactions typically have low risk from the US tax perspective.

³⁸ The arrangement effectively serves a cash-pool-like purpose but does not have the format and features of a cash-pooling structure.

3. Original Issue Discount – the difference between the redemption price and original issue price
4. Accreted Value – sum of original issue price and accrued interest expense

The OID notes can be used as the direct benchmarks for the discount factors. In practice, due to insufficient samples of publicly traded OID notes, the discount factors are estimated from the samples of bonds with regular coupon payments by applying a bootstrapping algorithm which strips the bonds from the coupon payments.³⁹

[search for OID notes]

C.10 On-demand notes

Intercompany promissory note is often issued as an on-demand note, which provides an option to the lender to demand note repayment at any time. The note's agreement often does not include any specific maturity dates. Absence of the maturity date is a red flag from the transfer pricing perspective as it is not consistent with normally observed terms in third-party debt transactions and does not include commitment to repay the borrowed funds from the borrower's perspective. In the absence of the maturity term, the implied maturity term should be inferred based on the note business purpose and actual evidence (the maturity is inferred to be long-term if the note was not repaid for an extended period of time). Otherwise, an on-demand note is assumed to be a short-term instrument.

In some cases, on-demand notes are put in place for the purpose of charging a low interest rate (estimated based on the short-term assumed maturity term). In practice, the on-demand notes are medium term debt obligations and the low interest rate is charged to avoid interest leakage in the financing structure. An alternative to the on-demand note is to put a note with a fixed medium-term maturity and include a pay-on-demand option. The pay-on-demand option effectively removes the term premium from the note's interest rate (if priced correctly). The structure is preferable from the transfer pricing perspective as the term of the note is consistent with the note's business purpose and the note has a fixed maturity term, which is consistent with the note characterization as debt. On the other hand, the terms of the note justify applying a low interest rate which is necessary to avoid interest leakage. The only risk in the financing structure is the risk that the pay-on-demand option will be in the money in future and should be exercised under normal circumstances. However, the transfer pricing risk of questioning the pay-on-demand option by tax authorities is typically very low.

C.11 Loan transfers

A loan transfer is a transaction in which the loan is transferred from a current lender (Original Lender) to a new lender (New Lender). The loan is typically transferred for tax or other reasons.

A loan transfer analysis traditionally involves two components:

1. Interest rate benchmarking of the transferred loan;
2. Fair market valuation (**FMV**) of the transferred loan.

From transfer pricing perspective the loan must be transferred at the FMV value. However the FMV analysis is typically not performed within a transfer pricing engagements and must be performed by a different service line.

³⁹ For more technical details on discount factor estimation, see the "NPV Analysis" guide.

The interest rate estimated for the transferred loan can also be applied as a discount rate in the loan FMV analysis. In the latter case the estimation of the arm's length discount rates is referred to as the discount rate benchmarking analysis (**DRB**).

The loan valuation is performed using standard NPV analysis (which is discussed in more detailed in the respective "NPV Analysis" guide).

C.12 Commitment / facility fee estimation

Commitment fee is estimated in two cases:

1. Covered transaction is a **delayed draw loan** or a **term loan facility**. The delayed draw format provides an option to the borrower to draw the funds at some date after the loan issue date depending on the actual need for the funds. The loan format is typically selected when the borrower needs the funds to finance a project which is still at the construction stage and the loan is issued to ensure that the borrower has the funds to complete the project construction. Since the exact date when the funds are needed may not be known at the loan issue date, the borrower is provided an option to draw the funds during a specified draw term (which can be selected, for example, as one year after the loan issued date).
2. Covered transaction is a **revolving loan facility** which provided the borrower an option to draw and redraw individual loan advances. The revolver format is typically selected to finance the capital expenditures of the project acquired by the borrower. The exact amounts and dates for capex expenditures are typically not know in advance and, therefore, the revolver format provided the flexibility to the borrower to match the loan advances to the capex expenditures.

In both cases, the flexible format of the loan provides a benefit to the borrower by reducing the financing costs. Therefore, the lender must be compensated for the commitment of the funds to the borrower. The compensation fee is estimated using a **commitment fee** analysis.

The commitment fee analysis is performed by searching for comparable loan transactions with non-zero commitment fees specified in the loan agreements.

Commitment fees are charged on the undrawn balances of the loan credit limit. Therefore, the commitment fee is typically reported as a separate fee in the intercompany loan agreement to ensure a better comparability to third-party loan transactions.⁴⁰

In the case of revolving loan facilities, the premium for the revolving facility format is sometimes estimated by performing a search for facility fees in comparable loan transactions. In some loan agreement standby fee is effectively treated as a facility fee. Below is an illustration of the excerpt from the loan agreement with the standby fee definition.⁴¹

⁴⁰ In some cases, however, the commitment fee may be added as a premium to the range of interest rates estimated for the intercompany loan.

⁴¹ Third amended and restated credit agreement between Airboss of America Corp and a consortium of banks led by TD Bank as an administrative agent, dated on 23 September 2021.

From the Effective Date to the Maturity Date, the US Borrowers shall pay to the US Agent for distribution to the US Tranche Lenders pro-rata in accordance with their respective US Tranche Percentages, a US Tranche Facility Fee quarterly in arrears commencing on each Quarterly Instalment Date, with the first payment date commencing on October 15, 2021. The US Tranche Facility Fee payable to each US Tranche Lender shall be calculated at the rate *per annum* specified as the applicable “Standby Fee Rate” in the pricing matrix contained in the definition of Applicable Margin on the daily unadvanced portion of the US Tranche during such fiscal quarter. The US Tranche Facility Fee shall be computed on the basis of a year of three hundred sixty (360) days and assessed for the actual number of days elapsed. Whenever any payment of the US Tranche Facility Fee shall be due on a day which is not a Business Day, the date for payment thereof shall be extended to the next Business Day. Upon receipt of such payment, the US Agent shall make prompt payment to each US Tranche Lender of its share of the US Tranche Facility Fee based upon its respective US Tranche Percentage. It is expressly understood that the US Tranche Facility Fees described in this Section 3.9 is not refundable.

Bloomberg definitions of facility and commitment fees are shown below.

Facility fee definition⁴²

LN056 - Facility Fee (LN_FACILITY_FEE)
 Fee paid by the borrower to the lender(s) on the total committed loan amount.

Most applicable to revolvers, this fee is often paid instead of a commitment fee because the borrower has a competitive bid option (CBO) that allows them to solicit the best bid from its syndicate group. The lenders that do not lend under the CBO are still paid for their commitment.

Also known as: Handling Fee, Facing Fee, Annual Fee

Override LN056 (0) React to LN056 (0) 1/1

ID	Mnemonic	Description	Ovrd	Value
1) LN056	LN_FACILITY_FEE	Facility Fee		N.A.

Commitment fee definition

LN055 - Commitment Fee (LN_COMMIT_FEE)
 Fee paid by the borrower to the lender(s) on the undrawn loan amount (specified as a fixed percentage) for keeping funds available.

Most applicable on revolvers, it is the fee paid by the borrower on unused commitments.

For term loans, it is the fee paid by the borrower during the commitment period, from the loan's allocation date until the end of the availability period or cancellation, whichever comes first (also known as Ticking Fee, which

Override LN055 (0) React to LN055 (1) 1/1

ID	Mnemonic	Description	Ovrd	Value
1) LN055	LN_COMMIT_FEE	Commitment Fee		N.A.
2) LN259	LOAN_CASH_FLOW_SCHEDULE	Loan Cash Flow Schedule		Show Bulk Data ...

⁴² A competitive bid option is a form of loan syndication in which lenders within a group submit rival offers to fund a loan or debt. After that bidding process has established the best rate (or best price), other members of the syndicate have the option to match it or abstain from the deal; those who match will divvy up the loan amongst them.

Appendix D Examples

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D.1 Mezzanine debt

D.1.1 Valuation of a PIK loan

D.1.2 Mezzanine debt search examples

The examples below illustrate the results of mezzanine debt searches in Oil & Gas and REITs industry sectors. The examples show that as a rule of thumb **4.0% – 6.0%** premium can be applied on the mezzanine debt in the 1st – lien senior secured and subordinated/mezzanine debt structure.

Oil & Gas sector, 2nd – lien loan search

The section presents the results of the search performed for the purpose of estimating a range of market premiums on the 2nd – lien loan issuances in the North American Oil & Gas industry sector. The search criteria are summarized in the exhibit below.

Exhibit D.1 2nd - lien loan search criteria, Oil & gas sector

Search Parameter	Value
BICS Classification	Energy excluding pipelines and renewable energy (including oil & gas exploration and production, integrated oils, and oil & gas equipment)
Issue date	In the range between 28 Sep 2013 and 28 Sep 2015 ⁴³
Currency	C\$ or US\$
Country / region of domicile	Canada or US
Loan payment rank	2 nd – lien
Tenor	Over three years
Loan spread at close	≥ 1 ⁴⁴

The identified sample of loan issuers was reviewed to retain only the loan deals, which included both 1st and 2nd – lien issuances with a reasonably short difference between the issuance dates. The sample of the loan deals and respective differences in the interest rate margins are summarized in the exhibit below.

⁴³ The search was performed using 28 Sep 2015 as the valuation date.

⁴⁴ The search parameter was included to retain only loan with available spread data.

Issuer name	Bloomberg code (2 nd – lien loan issue)	Issue date	Tenor	Spread on 2 nd – lien loan	Spread on matching 1 st – lien loan	Spread difference
Arena Energy LLC	BL1806134	16-Jul-14	5.5	700	300	400
Blue Ridge Mountain Resources Inc	BL1424144	22-Oct-14	5.0	750	325	425
Cal Dive International Inc ⁴⁵	BL1392606	9-May-14	5.0	1175	675	500
Callon Petroleum Co	BL1392697	8-Oct-14	7.0	750	125	625
Eagle Exploration Operating LLC	BL1632472	14-Oct-14	5.5	700	200	500
Fieldwood Energy LLC	BL1112129	30-Sep-13	7.0	712.5	287	425.5
Fieldwood Energy LLC	BL1236720	25-Feb-14	6.6	712.5	225	487.5
Glacier Oil & Gas Corp	BL1286048	3-Feb-14	4.0	975	400	575
Jonah Energy LLC	BL1293820	12-May-14	7.0	650	400	250
MD America Energy LLC	BL1350265	4-Aug-14	5.0	850	500	350
Parsley Energy LP	BL1290271	21-Oct-13	3.2	1000	200	800
Parsley Energy LP	BL1290289	21-Oct-13	3.2	1100	200	900
Proserv US LLC	BL1607656	22-Dec-14	8.0	925	537.5	387.5
Resolute Energy Corp	BL1734070	30-Dec-14	4.8	1000	325	675
Seventy Seven Operating LLC	BL1742644	13-May-15	6.1	900	300	600
Shoreline Energy LLC	BL1153057	30-Sep-13	5.5	900	225	675
Templar Energy LLC	BL1163635	25-Nov-13	7.0	700	150	550
Templar Energy LLC	BL1335688	19-Sep-14	6.2	750	150	600
Triangle USA Petroleum Corp	BL1314501	27-Jun-14	5.3	700	275	425
Tribune Resources LLC	BL1335134	4-Aug-14	7.0	750	425	325
Vine Oil & Gas LP	BL1595786	25-Nov-14	7.0	687.5	300	387.5
Arena Energy LLC	BL1806134	16-Jul-14	5.5	700	300	400

The ranges of interest rate margins between the 2nd and the 1st – lien loans are summarized in the exhibit below.

Range Parameter	Value
Minimum	250
Lower quartile	400
Median	500
Upper quartile	600
Maximum	900

The example illustrates that the premium on the 2nd – lien loans is typically quite significant and may not be captured adequately by adjustment to the transaction-specific credit rating.

Mezzanine debt search

The Bloomberg information on mezzanine debt is more sparse and extended search criteria need to be applied. The search was performed using the following parameters.

⁴⁵ For the issuer the spread was estimated for the Term B and Term A loan issuances.

Exhibit D.2 Mezzanine debt search criteria

Search Parameter	Value
Issue date	After 1 January 2010 ⁴⁶
Country / region of domicile	Canada or US
Loan payment rank	Junior or Mezzanine or Subordinated
Loan spread at close	≥ 1 ⁴⁷

The identified sample of loan issuers was reviewed to retain only the loan deals, which included both 1st and 2nd – lien issuances with a reasonably short difference between the issuance dates. The sample of the loan deals and respective differences in the interest rate margins are summarized in the exhibit below.

Issuer name	Issue date	Tenor	Ranking	Spread on mezzanine debt	Spread on matching 1 st – lien loan	Spread difference
885 Second Avenue Owner LLC	8-Jan-19	5.00	Mezzanine, Unsecured	365	160	205
AMC Entertainment Holdings Inc	21-Dec-16	1.00	Guarantee, Subordinated, Unsecured	550	275	275
H&E Equipment Services Inc			Guarantee, Subordinated, Unsecured	525	175	350
Loehmann's Operating Co	1-Mar-11	3.25	2nd Lien, Guarantee, Secured, Subordinated	1200	400	800
Quality Home Brands Holdings LLC	23-Dec-13	6.00	Senior, Mezzanine, Unsecured	1050	650	400
RP MRP Courthouse LLC	10-Aug-11	5.00	Mezzanine, Unsecured	1050	225	825
Rouse Properties LLC	12-Jan-12	3.50	Subordinated, Unsecured	850	450	400
Strategic Storage Trust II Inc	1-Jun-16	0.58	Subordinated, Unsecured	563	225	338
Tower 12 GP LLC	16-Jun-15	3.50	Mezzanine, Unsecured	900	225	675
Trizechahn 1065 Avenue of the Americas Property Owner LLC	9-Aug-11	3.01	Mezzanine, Unsecured	900	225	675
Vista Outdoor Inc	19-Nov-18	5.00	Guarantee, Junior, Secured	800	225	575
TAS Tecumseth Niagara LP	21-Aug-20	1.68	Guarantee, Junior, Secured	885	335	550

The ranges of interest rate margins between the subordinated/mezzanine and the 1st – lien loans are summarized in the exhibit below.

Range Parameter	Value
Minimum	205
Lower quartile	347
Median	475
Upper quartile	675
Maximum	825

⁴⁶ The search was performed in 2021. Due to small number of identified loans, ten-year historical period was selected. The analysis assumes that the premium between 1st-lien senior secured and subordinated debt is relatively stable over time.

⁴⁷ The search parameter was included to retain only loan with available spread data.

The example illustrates that the spread between the 1st-lien senior secured and mezzanine/subordinated debt is similar to the spreads observed between 1st and 2nd – lien loans in the Oil & Gas industry sector.

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Appendix E Bloomberg Screens

This section discusses how to obtain detailed information on 3rd – party loan and note transactions through Bloomberg database. It is not intended to be a detailed overview of Bloomberg functions and available information. The section shows only how to get the key description information on bonds / loans issuances.

E.1 Description screen

The first step in the review of the bond issuance is to obtain the information on the bond’s general. The information can be accessed through Bloomberg using DES function applied to the bond Bloomberg ticker (ID number).

AESGEN 4 7/8 05/25/29		Settings ▾	Actions ▾	Page 1/12	Security Description: Bond
25) Bond Description		26) Issuer Description		94) No Notes	95) Buy 96) Sell
Pages	Issuer Information	Identifiers			
11) Bond Info	Name EMPRESA ELECTRICA ANGAMO	ID Number EK6194873			
12) Addtl Info	Industry Electric (BCLASS)	ISIN USP3713QAA50			
13) Reg/Tax	Security Information	FIGI BBG007KJPR49			
14) Covenants	Mkt Iss EURO-DOLLAR	Bond Ratings			
15) Guarantors	Country CL	Currency USD			
16) Bond Ratings	Rank 1st lien	Series REGS			
17) Identifiers	Coupon 4.875000	Type Fixed			
18) Exchanges	Cpn Freq S/A				
19) Inv Parties	Day Cnt ISMA-30/360	Iss Price 98.52800			
20) Fees, Restrict	Maturity 05/25/2029				
21) Schedules	MAKE WHOLE @40.000000 until 05/25/29/SINKA...				
22) Coupons	Mkt Sprd +275.00bp vs T 2 ¼ 11/15/24				
Quick Links	Calc Type (77)PRO-RATA:PAR SINKS				
32) ALLQ Pricing	Pricing Date 11/20/2014				
33) QRD Qt Recap	1st Coupon Date 05/25/2015				
34) TDH Trade Hist	Tender Notice Date 09/08/2020				
35) CACS Corp Action	Tender Expiration Date 10/05/2020				
36) CF Prospectus					
37) CN Sec News					
38) HDS Holders					
		Issuance & Trading			
		Aggregated Amount Issued/Out			
		USD	800,000.00 (M) /		
		USD	81,023.96 (M)		
		Min Piece/Increment			
		200,000.00 / 1,000.00			
		Par Amount	739.00		
		Book Runner	JOINT LEADS		
		Reporting	TRACE		

Additional information on the bond issuance can be accessed through the menu on the left panel of the Bloomberg screen.

E.2 Prepayment option

The prepayment information for a bond issuance can be accessed through the ‘Schedule’ menu.

GEOPAR 5 1/2 01/17/27		Settings ▾	Actions ▾	Page 11/12	Security Description: Bond
25) Bond Description		26) Issuer Description		94) No Notes	95) Buy 96) Sell
Pages	Schedules				
11) Bond Info	Call Schedule				
12) Addtl Info					
13) Reg/Tax					
14) Covenants					
15) Guarantors	Callable on and anytime after date(s) shown				
16) Bond Ratings					
17) Identifiers					
18) Exchanges					
19) Inv Parties					
20) Fees, Restrict					
21) Schedules					
22) Coupons					
Quick Links					
32) ALLQ Pricing					
		Date	Price		
		01/17/2024	102.750		
		01/17/2025	101.375		
		01/17/2026	100.000		

The prepayment information includes (i) the first date when the bond becomes callable or the make-whole call termination date; and (ii) the penalty schedule applicable if the bond is redeemed prior to the maturity date. The penalty schedule is typically linear over time.

E.3 Principal repayment history

The history of bond principal amount redemption is available through the 'Corp Action' menu.

AESGEN 4 7/8 05/25/29 \$ 100.655 - .150 Yld 4.699		
EK619487@BMRK C Actions Export Corporate Actions		
Actions for Security Announced Effective - 01/28/21 Asset Types		
Filter Actions Dividends Splits M & A IPO / ADDL Listings Action Types 4 Results		
	Announced Action Type	Summary
1)	09/08/20 Debt Rep-Tendr	4 7/8 05/29; USD 388.402 M @97.000 %
2)	06/27/18 Debt Rep-Tendr	4 7/8 05/29; USD 100.000 M @94.875 %
3)	03/29/16 Debt Rep-Tendr	4 7/8 05/29; USD 200.000 M @91.000 %
4)	11/20/14 Debt Off-New	USD 4 7/8% 05/29; 800.000 MM, 98.53%

The Bloomberg screen shows the dates when the bond was issued and repaid. A detailed information on each specific bond repayment can be obtained by clicking on the related repayment date link.

E.4 Loan amendments

In the case of loan amendments, Bloomberg allows to track which loan is being amended and what is the following amendment of the loan transaction. In addition, Bloomberg allows to track the history of all minor loan amendments. The Bloomberg screens are illustrated below.

Sequence of loan amendments

4) Details 42) Amendments 43) Waivers 44) Forbearance/Standstill			
Original Deal Details			
Deal Amount	USD	2,150,000,000	Maturity Date 10/20/2024
Tranche Amount	USD	2,150,000,000	
Related Loans			
Replaces		Replaced by	
51) QUESPE REV 1L USD		7) FUL TL B 1L USD	
52) QUESPE TL 1L USD			
53) QUESPE TL 1L USD			
54) FUL TL B 1L USD			
55) FUL 5.61 12/16/19			
56) FUL 5.61 02/24/20			
57) FUL 4.12 03/05/22			

History of minor loan amendment

4) Details 42) Amendments 43) Waivers 44) Forbearance/Standstill			
Amendment #	1	Date	04/23/2018 Status
Restated #	--	Date	
Amended & Restated Indicator No			
Amendment #	Type	Date	
2	Definition Change	11/17/2017	

Minor amendments typically include changes in definitions or changes in maturity dates.

E.5 Variable coupon rate

Some bonds or preferred shares (as in the example) have a variable coupon rate, which switches from one rate to another at a given future date. In the example below, the fixed 4.5% coupon rate switches into the floating rate equal to Canadian 5-year government bond yield rate + 2% margin, where the yield on 5-year government bond is reset every five years.

25) Preferred Description		26) Issuer Description	
Pages 11) Bond Info 12) Addtl Info 13) Reg/Tax 14) Covenants 15) Guarantors 16) Bond Ratings 17) Identifiers 18) Exchanges 19) Inv Parties 20) Fees, Restrict 21) Schedules 22) Coupons Quick Links 32) ALLQ Pricing 33) QRD Qt Recap 34) DVD Div History 35) CACS Corp Action 36) CF Prospectus 37) CN Sec News 38) HDS Holders 60) Send Bond		Issuer Information Name SHAW COMMUNICATIONS INC Industry Cable Satellite (BCLASS) Cumulative Preferred Information Mkt Iss PUBLIC Country CA Currency CAD Rank Preferred Series A Div 2.791000 Type Variable Div Freq Quarterly Day Cnt ACT/365 Iss Price 25.00000 Maturity PERPETUAL PERPETUAL CALL 06/30/21@25.00 Iss Sprd Calc Type (1517)PRFDs FIX->FLOAT Pricing Date 05/18/2011 Dividend Pay Date 03/31/2021 Exchange Notice Date 05/31/2016 Exchange Expiration Date 06/17/2016 CPN=4.5% UNTIL 6/30/16; THEN RESETS EVERY 5 YEARS @+200BP OVER 5YR GOC BOND YLD.CONVERTIBLE INTO SERIES B ON CALL DATES. GREENSHOE=2MM SHRS.	
Identifiers ID Number EP0404988 EXCH SYM SJR A CUSIP 82028K879 Bond Ratings S&P BB S&Pna P-3M DBRS Pfd-3 Composite BBB- Issuance & Trading Amt Issued/Outstanding 12,000,000 SHR / 10,012,393 SHR Min Piece/Increment 25.00 / 25.00 Par Amount 25.00 Book Runner TDSECS Exchange TORONTO			

In addition to showing the variable coupon information on the front page (accessed through DES function), a more detailed information is accessible through the 'Coupons' menu (as shown in the print screen below).

25) Preferred Description		26) Issuer Description	
Pages 11) Bond Info 12) Addtl Info 13) Reg/Tax 14) Covenants 15) Guarantors 16) Bond Ratings 17) Identifiers 18) Exchanges 19) Inv Parties 20) Fees, Restrict 21) Schedules 22) Coupons Quick Links 32) ALLQ Pricing 33) QRD Qt Recap 34) DVD Div History 35) CACS Corp Action 36) CF Prospectus		Coupons Coupon Information Index N/A Cpn Freq Quarterly Current Coupon 2.791000 % Last Reset 00/00/0000 Convention Unknown Coupon Calendar CA First Irreg Cpn Normal Last Irreg Cpn Normal FRN Coupon Formula Date Formula Day Count Freq Cap Floor 05/31/2011 4.500000% Fixed ACT/365 QTL 06/30/2016 GCAN5YR +2.000000% ACT/365 QTL	

Normally, the bonds / preferred shares with variable coupon rate are removed from the final sample. However, in the case of a preferred shares sample it may be difficult to identify a reasonably large sample of comparable transactions. In this case, the preferred shares are retained in the sample and the pricing has to rely on the Bloomberg yield function. In the example below, we test the accuracy of the Bloomberg pricing of preferred shares with variable coupon rate.

Bloomberg price information for the preferred shares presented in the example is shown in the exhibit below. The exhibit shows a low yield rate (significantly lower than the fixed 4.5% coupon rate) and the price above the 25 par value.

Date	Last Price	Mid Yield...	Date	Last Price	Mid Yield...
Fr 03/29/13					
Th 03/28/13	26.380	2.484			
We 03/27/13	26.390	2.483			
Tu 03/26/13 H	26.450	2.477			
Mo 03/25/13	26.360	2.485			
Fr 03/22/13	26.310	2.490			
Th 03/21/13	26.150	2.507			
We 03/20/13	25.980	2.525			
Tu 03/19/13	25.960	2.526			
Mo 03/18/13 L	25.740	2.550			
Fr 03/15/13	25.880	2.535			

The complexity of the yield assessment for the preferred shares in the example is due to the following factors:

- (i) The fixed coupon rate is replaced with a floating rate which needs to be swapped into the equivalent fixed rate to estimate the yield rate on the preferred shares.
- (ii) Preferred shares become callable after a certain date with np prepayment premium. The yield rate adjustment for the prepayment premium is also required to estimate option-free yield rate.



91) Actions ▾ 92) Products ▾ 93) Views ▾ 94) Info ▾ 95) Settings ▾ Swap Manager

Solver (Coupon) ▾ Load Save Trade ▾ CCP ▾

3) Main 4) Details 5) Curves 6) Cashflow 7) Resets 9) Scenario 10) Risk 11) CVA 12) Matrix

Deal **CMS Swap** Counterparty **SWAP CNTRPARTY** + Ticker / SWAP 20) Properties

CCP **OTC** Trade Date **03/26/2013**

Swap **Valuation Settings**

Leg 1:Fixed ▾ **Receive** ▾ Leg 2:Float ▾ **Pay** ▾

Notional **10MM** Notional **10MM**

Currency **CAD** Currency **CAD**

Effective **OD 06/30/2016** Effective **OD 06/30/2016**

Maturity **5Y 06/30/2021** Maturity **5Y 06/30/2021**

Coupon **5.234095** % Index **5Y GCANS5YR**

Pay Freq **Quarterly** Spread **200.000** bp

Day Count **ACT/365** Leverage **1.00000**

Calc Basis **Money Mkt** Latest Index **2.63052**

Reset Freq **Quarterly**

Pay Freq **Quarterly**

Day Count **ACT/365**

Market **Valuation Results**

Dscnt **4** ▾ M ▾ **CAD (vs. 3M CDOR)** ▾ Dscnt **4** ▾ M ▾ **CAD (vs. 3M CDOR)** ▾

Fwd **4** ▾ M ▾ **CAD (vs. 3M CDOR)** ▾

Vol **VCUB** ▾ M ▾ **CAD BVOL Cube** ▾

22) Calculators ▾

Par Cpn	5.234095	Premium	0.00000	PV01	4,701.99
Principal	0.00	BP Value	0.00000	DV01	4,991.58
Accrued	0.00			Gamma (1bp)	2.26
NPV	0.00			Vega (1bp)	-400.17

91) Actions ▾ 92) Products ▾ 93) Views ▾ 94) Info ▾ 95) Settings ▾ Swap Manager

Solver (Coupon) ▾ Load Save Trade ▾ CCP ▾

3) Main 4) Details 5) Curves 6) Cashflow 7) Resets 9) Scenario 10) Risk 11) CVA 12) Matrix

Deal **CMS Swap** Counterparty **SWAP CNTRPARTY** + Ticker / SWAP 20) Properties

CCP **OTC** Trade Date **03/26/2013**

Swap **Valuation Settings**

Leg 1:Fixed ▾ **Receive** ▾ Leg 2:Float ▾ **Pay** ▾

Notional **10MM** Notional **10MM**

Currency **CAD** Currency **CAD**

Effective **OD 06/30/2016** Effective **OD 06/30/2016**

Maturity **30Y 06/30/2046** Maturity **30Y 06/30/2046**

Coupon **5.194893** % Index **5Y GCANS5YR**

Pay Freq **Quarterly** Spread **200.000** bp

Day Count **ACT/365** Leverage **1.00000**

Calc Basis **Money Mkt** Latest Index **2.63052**

Reset Freq **Quarterly**

Pay Freq **Quarterly**

Day Count **ACT/365**

Market **Valuation Results**

Dscnt **4** ▾ M ▾ **CAD (vs. 3M CDOR)** ▾ Dscnt **4** ▾ M ▾ **CAD (vs. 3M CDOR)** ▾

Fwd **4** ▾ M ▾ **CAD (vs. 3M CDOR)** ▾

Vol **VCUB** ▾ M ▾ **CAD BVOL Cube** ▾

22) Calculators ▾

Par Cpn	5.194893	Premium	0.00000	PV01	19,469.33
Principal	0.00	BP Value	0.00000	DV01	19,831.56
Accrued	0.00			Gamma (1bp)	52.00
NPV	0.00			Vega (1bp)	-7,996.78

E.6 Sinkable notes

The information on the terms of the bond sinking fund provision can also be accessed through the 'Schedules' menu.

AESGEN 4 7/8 05/25/29		Settings	Actions	Page 11/12	Security Description: Bond	
25) Bond Description		26) Issuer Description		94) No Notes	95) Buy	96) Sell
Pages		Schedules				
11) Bond Info	52) Sink	56) Factor Hist				
12) Addtl Info	Type	Level	Amount Issued		800,000.00 (M)	
13) Reg/Tax	Frequency	Semi-Annual	Schd Amt Outstanding		591,200.00 (M)	
14) Covenants	Voluntary	None	Next Mandatory Sink		05/25/2022	
15) Guarantors	Avg Life	4.18 (04/05/25)	Shortest		4.32 (05/25/25)	
16) Bond Ratings			Longest		4.32 (05/25/25)	
17) Identifiers	<input checked="" type="radio"/> Table View <input type="radio"/> Chart View					
18) Exchanges	Date	Amount	Total Sunk		Remaining Balance	
19) Inv Parties		Cash (M)	%	Cash (M)	%	Cash (M)
20) Fees, Restrict						
21) Schedules	05/25/2018	34800.00	4.3500	34800.00	4.3500	765200.00 95.6500
22) Coupons	11/25/2018	34800.00	4.3500	69600.00	8.7000	730400.00 91.3000
Quick Links	05/25/2019	34800.00	4.3500	104400.00	13.0500	695600.00 86.9500
32) ALLQ Pricing	11/25/2019	34800.00	4.3500	139200.00	17.4000	660800.00 82.6000
33) QRD Qt Recap	05/25/2020	34800.00	4.3500	174000.00	21.7500	626000.00 78.2500
34) TDH Trade Hist	11/25/2020	34800.00	4.3500	208800.00	26.1000	591200.00 73.9000
35) CACS Corp Action	05/25/2021	34800.00	4.3500	243600.00	30.4500	556400.00 69.5500
36) CF Prospectus	11/25/2021	34800.00	4.3500	278400.00	34.8000	521600.00 65.2000
37) CN Sec News	05/25/2022	34800.00	4.3500	313200.00	39.1500	486800.00 60.8500
38) HDS Holders	11/25/2022	34800.00	4.3500	348000.00	43.5000	452000.00 56.5000
66) Send Bond						

Sinking fund provision can be effectively interpreted as the amortization of the bond principal amount and respective schedule can be interpreted as amortization schedule. The information is applied to adjust the yield rates for the effective amortization provision. In the example above, the bond has 4.35% semi-annual (or 8.7% annual) amortization schedule.

Appendix F Reuters (Eikon) Screens

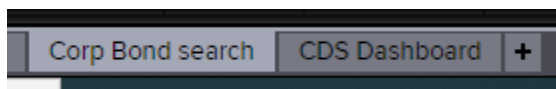
This section discusses how to obtain detailed information on 3rd – party loan and note transactions through Reuters database. It is not intended to be a detailed overview of Reuters functions and available information. The section shows only how to get the key description information on bonds / loans issuances.

F.1 Search screen

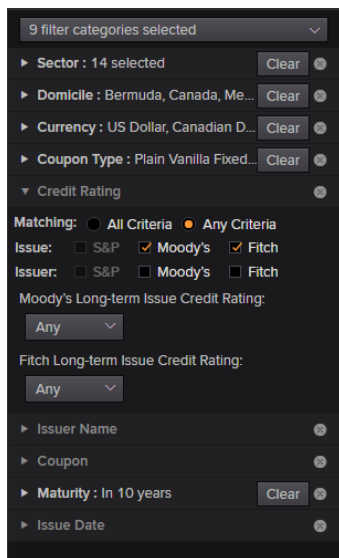
To open the corporate bond/note search, select from menu




The following option: Templates> Fixed Income> Credit Market Monitoring. At the bottom menu select 'Corp Bond search' menu.



Example of search screen is shown below.



A more direct approach is to select 'Search Tools> Government & Corporate Bonds' from  menu.

The search screen allows to select search categories. Search parameters have certain limitations. For example, Reuters allows to search only using Moody's and Fitch ratings (issue or issuer). Selection of S&P rating is disabled. After selecting the search parameters, click 'Update' button to generate the sample and sort the sample by issuer name. The results can be exported into an Excel file (check the 'Include all xxx bonds matching T&Cs filters to export all identified bonds'). The output includes both ISIN and RIC identifiers. However, some of them may be empty.

F.2 Bond information

Each individual bond can be selected and reviewed in more detail in a separate screen. The screen includes historical ratings

HISTORICAL BOND RATINGS		
Rating Source	Date	Rating
Moody's Long-term Issue Credit Rating	28-Jan-2021 (R)	Baa2
Fitch Long-term Issue Credit Rating	29-Oct-2020 (R)	BBB-
S&P Long-term Issue Credit Rating	29-Apr-2020 (R)	BBB-
Moody's Long-term Issue Credit Rating	10-Apr-2020 (R)	Baa2
Egan-Jones Long-term Issue Credit Rating	01-Apr-2020 (R)	BBB-
Fitch Long-term Issue Credit Rating	24-Mar-2020 (R)	BBB
Egan-Jones Long-term Issue Credit Rating	19-Mar-2020 (R)	BBB
S&P Long-term Issue Credit Rating	16-Mar-2020 (R)	BBB
Fitch Long-term Issue Credit Rating	13-Mar-2020 (A)	A-
Egan-Jones Long-term Issue Credit Rating	14-Feb-2020 (R)	BBB+
Egan-Jones Long-term Issue Credit Rating	07-Feb-2020 (R)	BBB+

historical outstanding principal amounts

AMOUNT OUTSTANDING HISTORY		
Date	Amt Change Code	Amt Outstanding
31-Dec-2007	Unknown	249,980,000
31-Dec-2001	Repurchase	248,000,000
17-Sep-1991	Initial Issuance	250,000,000

and historical redemption penalties

REDEMPTION		CALL SCHEDULE		
Payment-in-Kind (PIK)	No	Start Date ▼	End Date	Price
Extendible Maturity	No	15-Dec-2022	14-Dec-2024	100
First Refunding Date	—	15-Dec-2021	14-Dec-2022	100.917
Next Call	29-May-2021 @ 101.833%	15-Dec-2020	14-Dec-2021	101.833
Worst	01-Jun-2021 CALL @ 101.833%	15-Dec-2019	14-Dec-2020	102.75
▼ Call	Full Schedule ..			
Next Call Date	15-Dec-2021			

F.3 Eikon Excel API

List of some key functions and function parameters are summarized below.

Function	Description
TR(RICs, Fields ⁴⁸ , Display Parameters, Cell Ref)	Return field(s) values for a list of RICs

⁴⁸ Fields used with TR function usually start with TR.* prefix (e.g. TR.NAICSSector).

Function	Description
TR(RICs, "TR.CA.AmtOutstanding", "SDate='yyyy-mm-dd' NULL=BLANK", Cell Ref)	Return historical amount outstanding that was effective as of given date
TR(RICs, "TR.GR.Rating(BondRatingSrc=MDY)", "SDate='yyyy-mm-dd' TOP=1 EDate='yyyy-mm-dd' NULL=BLANK", Cell Ref)	Return historical credit rating that was effective as of given date. Bond rating sources include MDY(Moody's) , S/P (S&P), FTC (Fitch), and DOM (DBRS)
RData(RICs, Fields ⁴⁹ , Display Parameters, Cell Ref)	Return field(s) values for a list of RICs (alternative to TR)
RHistory(RICs, Fields ⁵⁰ , Period Parameters ⁵¹ , ,Display Parameters, Cell Ref)	Return time series data for given RICs

List of display parameters is summarized below.

Parameter	Function	Value(s)	Description
NULL		NA or SKIP	Values for NULL data
TSREPEAT	RHistory	YES or NO	Repeat the dates in the RHistory function for each RIC
SORT	RHistory	ASC or DESC	Sort data by dates in increasing / decreasing order
Transpose		Y or N	Transpose data
CH		FD or IN	Add fields as column headers
RH		IN or FD	Add instrument RICs as row headers

⁴⁹ Fields used with RData function usually start with EJV.C.* prefix (e.g. EJV.C.IssueDate).

⁵⁰ Standard fields include (i) YLDTOMAT.Value and YLDTOMAT.Timestamp for bonds yields and dates; (ii) PAR_YLD.Value and PAR_YLD.Timestamp for yield curves' yields and dates; (iii) (i) MID_PRICE.Value and MID_pRICE.Timestamp for swap and forward curves' values and dates.

⁵¹ Period parameters have typically the following format, which specifies start date, end date, data frequency, and number of rows: START:ddMMMy END:ddMMMy INTERVAL:1D NBROWS:25.

Appendix G Yield Measurements

There are different alternative approaches to measuring bond yield rates. Two standard approaches are yield-to-maturity, yield-to-call, and yield-to-worst. The section compares the yield measurements and discusses which one should be used in the analysis.

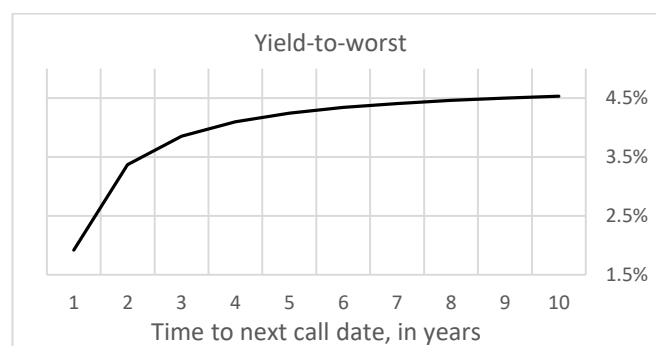
G.1 Yield metrics selection

Yield is a derived metrics, which is estimated from the bond price. The inputs for the yield estimation are the bond bid and ask prices.⁵² A direct approach to estimate yield is to use Excel YIELD function. The function estimates a yield value assuming that the yield term structure is flat. The yield estimate depends on the option selected by the callable bond issuer: (i) hold the bond till maturity or (ii) exercise the prepayment option when the bond becomes callable.⁵³

Yield-to-maturity is estimated assuming that the bond is settled at the maturity date. Yield-to-call is estimated assuming that the bond is settled at the next call date at the respective redemption price, which takes into account the redemption penalty. Yield-to-worst is estimated as the minimum of the yield-to-maturity and yield-to-call. Yield-to-worst is the lowest yield expected by investor depending on the options available to the bond issuer.⁵⁴

Which option will be selected by the bond issuer depends on the bond price. If (i) bond price equals par, the yield-to-call equals to yield-to-maturity;⁵⁵ if (ii) bond price is below par, the yield-to-call is above the yield-to-maturity; and if (iii) bond price is above par, the yield-to-call is below the yield-to-maturity. In the latter case, the yield-to-worst is below the yield-to-maturity due to the prepayment risk.⁵⁶ We consider the latter case when the yield-to-worst is below the yield-to-maturity and the prepayment risk can be measured by the yield differential.

The exhibit below shows the yield-to-worst as a function of the prepayment date. The yield-to-worst function in the exhibit was estimated assuming 105 bond price (5% above the par), 10-year tenor, 5% fixed coupon rate, and 2% redemption penalty.



⁵² Note that prices may also vary depending on the sources from where the price quotes are obtained.

⁵³ For bonds with other options, such as convertibility, yield-to-worst is estimated using all potential options for the bond issuer and bond holder.

⁵⁴ Yield-to-worst assumes implicitly that yield process is deterministic (non-random) and yield does not change over time.

⁵⁵ For simplicity, the prepayment penalty is assumed to be zero.

⁵⁶ In practice, prepayment risk exists for any bond price. The describe 'indicator' prepayment risk function is due to the non-random (constant) yield value over time.

The exhibit above shows a material difference between the yield-to-maturity and yield-to-worst for the short durations between the valuation date and the next call date, which implies that the prepayment risk can be large and should be accounted for if yield-to-maturity metrics is used. On the other hand, the yield-to-worst metrics (which accounts for the prepayment risk) is estimated assuming that the bond is repaid on the next call date and, therefore, the effective maturity is not the same as the stated maturity. For comparability with the tested transaction, the term adjustment to the yield-to-worst must be performed based on the effective (not stated) maturity term. The conclusions can be summarized as follows:

- (i) The yield-to-maturity term is estimated based on stated maturity but must be adjusted for the prepayment risk.
- (ii) The yield-to-worst is estimated based on the term to the next call date. The metrics adjusts for the prepayment risk but the term premium needs to be estimated based on the effective (not stated) maturity term.

Generally, it is recommended using the yield-to-maturity term as a simpler measurement (and a measurement that is easier to adjust). A preferable option is to screen out the transactions with material prepayment risk and use yield-to-maturity metrics as the yield measurement.

G.2 Yield metrics sensitivity

The previous section assessed the two yield measurements based on the comparability criteria between the selected yield measurement and the benchmarked interest rate on the tested transaction. This section discusses the robustness of the two measurements.

The yield metrics are estimated based on the bond average price, which is calculated as the average of the bid and ask price. Therefore, the yield metrics may be sensitive to the bond price bid-ask spread. The sensitivity of the yield metrics to the price bid-ask spread are illustrated for the bond with the US032177AH01 ISIN code (issued by Amsted Industries). The bond data is summarized in the exhibit below (which was effective as of 31 Dec 2021).

Scenario	Valuation date	Effective maturity	Coupon	Price	Redemption price	Yield
Exercised at maturity, bid price	31 Dec 2021	1 Jan 2027	5.63%	103.88	100	4.81%
Exercised at maturity, ask price	31 Dec 2021	1 Jan 2027	5.63%	104.88	100	4.61%
Exercised at next call date, bid price	31 Dec 2021	1 Jul 2022	5.63%	103.88	102.81	3.37%
Exercised at next call date, ask price	31 Dec 2021	1 Jul 2022	5.63%	104.88	102.81	1.43%

The example shows that the bid-ask spread generates only (i) 20bps difference between bid and ask yield-to-maturity and (ii) almost 2% difference between bid and ask yield-to-worst. Therefore, the yield-to-worst metrics is significantly more sensitive compared to the yield-to-maturity.

The US032177AH01 bond has a duplicate bond with the USU0018PAF81 ISIN code. The bid-ask price spread for the USU0018PAF81 ISIN code is much smaller (bid price equals to 103.87 and ask price is equal to 103.95). As a result, the yield-to-worst bid-ask spread for the duplicate USU0018PAF81 ISIN code is much smaller than for the US032177AH01 ISIN code. The example illustrates how the difference in the bid-ask price spread between two otherwise identical bonds generates a material difference for the bonds yield-to-worst metrics and reasonably small difference for the bonds yield-to-maturity metrics.

To summarise, the bid-ask spreads observed for the duplicate bond transactions generate large differences in the yield-to-worst yields and relatively small differences in the yield-to-maturity yields. This is not an

exceptional case and is observed often for the duplicate bond prices obtained through Reuter's Eikon database. The fact provides an additional rationale for using yield-to-maturity metrics as the yield measurement in the interest benchmarking analysis.

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Appendix H References

The list of literature references used in this guide is provided below.

- [1] Bolder D and D Stréliski, Yield Curve Modelling at the Bank of Canada, Technical Report No. 84, Bank of Canada, February 1999
- [2] Diebold FX, GD Rudebusch and SB Aruoba, The Macroeconomy and the Yield Curve: a Dynamic Latent Factor Approach, *Journal of Econometrics* 131 (2006), pp. 309-338
- [3] Hull J., White A., “Libor vs. OIS: The Derivative Discounting Dilemma”, *Journal of Investment Management*, Vol. 11, No. 3, pp.14-27
- [4] “OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations”, OECD, July 2017
- [5] “Transfer Pricing Guidance on Financial Transactions”, Inclusive Framework on BEPS: Actions 4, 8–10, February 2020, OECD

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