



TRANSFER PRICING

**REPORT**

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Comparability Adjustments: Finding an Arm's-Length Interest Rate

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Comparability is the foundation of the arm's-length principle. For the pricing of intercompany loans, the taxpayer must consider whether major differences exist between the selected comparable uncontrolled financial transactions (CUFTs) and the intercompany loan that could affect the interest rate on the related-party loan. This article introduces a comprehensive approach to assessing comparability and making adjustments by applying a method that utilizes changes in the lender's expected credit or loss as a way to quantify and make reliable comparability adjustments to the CUFT for differences in the credit risk profile, type of debt, execution date, tenor of the comparable uncontrolled loan transaction, and country and industry differences.

In applying transactional transfer pricing methods, the arm's-length principle is achieved by comparing a controlled transaction with those between independent enterprises based on economically relevant characteristics. In other words, it is through a detailed and thorough comparability analysis, along with making reasonable and quantifiable comparability adjustments,

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that a taxpayer or tax administration can meet or test the arm's-length standard for a specific transaction, including an intercompany loan transaction.

Applying the CUFT Method

For the purpose of this article it is assumed that the taxpayer has successfully searched for and identified a sufficient number of external CUFTs that could be comparable to the tested intercompany loan.¹ This type of data is publicly available in the United States through borrowing corporations' filings of third-party credit agreements with the Securities and Exchange Commission. While not all credit agreements provide enough loan pricing detail to enable comparability adjustments, the authors have observed that, even during the credit crunch of 2008, sufficient credit agreements exist to apply the CUFT method.

First, the market, or arm's-length, interest rate for a corporate loan is composed of the sum of the lender's cost of funds and a borrower-specific lending margin, sometimes referred to as a credit spread, related to the characteristics of the loan (that is, regarding the seniority, security, and tenor of the loan). While a third-party lender would not state its respective cost of funds in the credit agreement, it does state and use a publicly available (and transparent) reference interest rate, such as a three-month London interbank offered rate (LIBOR) or the bank's commercial prime lending rate.

¹ The taxpayer is assumed not to be searching for corporate bonds as comparable instruments due to the lack of comparability of corporate bonds (traded in the secondary bond markets) with an intercompany loan transaction.

Exhibit: Pricing Grid Information from Sample Credit Agreement filed with the SEC

“Applicable rate” means from time to time, the following percentages per annum, based upon the Funded Debt to EBITDA Ratio (the financial covenant) as set forth in the most recent compliance certificate received by the agent pursuant to Section 6.2(b).

Applicable Rate

Pricing Level	Funded Debt to EBITDA	Commitment Fee	Eurodollar Rate Margin or Standby Letters of Credit	Base Rate Margin
1	Greater than 2.50:1.00	0.50%	2.75%	1.75%
2	Less than or equal to 2.50:1.00 but greater than or equal to 2.00:1.00	0.45%	2.50%	1.50%
3	Less than 2.00:1.00 but greater than or equal to 1.50:1.00	0.40%	2.25%	1.25%
4	Less than 1.50:1.00 but greater than or equal to 1.00:1.00	0.35%	1.75%	0.75%
5	Less than 1.00:1.00	0.30%	1.50%	0.50%

In arm’s-length pricing of corporate loans, the borrower-specific lending margin would be added to the appropriate reference rate to obtain the borrower’s market interest rate.

Broadly speaking, two main categories of comparability adjustments apply to the interest rate on loans:

- those applicable to the reference interest rate; and
- those applicable to the lending margin or credit spread.

With respect to the reference interest rate, the comparability adjustment is to select, and substitute, the most appropriate reference rate, based on the currency and tenor of the loan, as the risk-free (or default-free) interest rate to which the lending margin (credit spread) is added. For example, if the intercompany loan transaction is denominated in Canadian dollars within the Canadian financial and debt markets and has a term commitment of five years, then the most appropriate reference rate would be the risk-free rate of interest for five-year money in Canadian dollars—in this case, the Canada government five-year bond yield (or five-year swap rate) at the execution date of the intercompany loan transaction. Therefore, even though the comparable credit agreement has a U.S. dollar-based reference rate, the substitution of a Canadian dollar-based reference rate has adjusted the reference interest rate for the differences in the currency—and the country-specific debt markets.

For the selected CUFTs, the lending margin is provided explicitly in the credit agreement. In some cases the credit agreement will have a pricing grid that indicates the different pricing levels or lending margins that are negotiated and agreed on by both lender and borrower. The pricing grid provides the lending margin (which is added to the appropriate reference rate) that corresponds to the borrower’s credit risk profile (either expressed as an external credit rating or based on a financial ratio). The pricing grid, as in the exhibit above, shows that the parties have agreed to transact at different pricing levels if the borrower’s credit risk profile changes throughout the tenor of the credit agreement. This point is elaborated below in the discussion on making adjustments for differences in the credit risk profile.

Specifically, the lending margin (shown above as Eurodollar Rate Margin) is the sum of the following components:

- a return on the credit risk being assumed by the lender in the loan transaction;
- a recovery of a portion of the lender’s loan administration costs (referred to as the lender’s non-interest expenses, or NIE) that is set by the lender as a percentage of average risk-rated assets; and
- a profit element expressed as a percentage of the loan amount.²

While there may be differences in the operating cost structures and profit expectations of lenders in different, or even the same, market, it is assumed for purposes of this article that these differences are not significant, and accordingly no adjustments would be required to the lending margin component of the interest rate. Therefore, all of the comparability adjustments to the lending margin are due to differences in the credit risk profile of the borrower that is specific to the loan transaction (that is, the return to the lender for assuming the credit risk specific to that borrower and to the contractual terms of the loan transaction).

In general, a lender would evaluate the credit risk profile of a borrower based on the level of expected loss (EL) for a specific loan instrument or transaction. Basically, EL, if expressed in currency terms, is the amount of the loan loss provision that the bank would make in its financial statements for this type of credit exposure to a borrower. If expressed in percentage terms, EL is equal to the product of the following: the probability of default (PD) associated with the creditworthiness of the issuer (that is, the borrower), and the percentage of the credit exposure (in this case the outstanding amount of the loan) that would result in a loss in the event of default of the specific loan instrument (referred to as loss given default, or simply LGD). This is expressed in the following equation:

$$EL(\%) = PD(\%) \times LGD(\%)$$

where

² The profit element is also a return on economic (or regulatory) capital that a lender would put aside to cover unexpected loss.

PD is defined as the probability of default (%) of the borrower over some time frame (for example, one year)

and

LGD is defined as the proportion (%) of aggregate credit exposure to the borrower (in this case, the loan amount) that would be unrecoverable by the lender in the event of default by the borrower (that is, equivalent to $1 - \text{recovery rate} (\%)$).

As default rates and recovery rates are available on most, if not all, of the companies that have filed credit agreements with the SEC, reliable and quantifiable adjustments can be made based on the changes in the credit risk profile (that is, the changes in expected loss or EL).

For the U.S.-based data credit agreements, however, there are likely to be major differences from the tested borrower's intercompany loan that will require adjustments to the comparables' lending margin. In most cases, these major differences consist of the following:

- the risk factors, which are mainly related to the borrower's credit risk profile (which is adjusted before making all other comparability adjustments);

- the functional differences, which are related to the relationship of the borrowing entity with the lender;

- the economic circumstances or conditions,³ which consist of the execution date differences (for differences in the stage of the credit cycle) and country-related and industry-related macroeconomic risk differences;⁴

- the characteristics of the loan,⁵ which consist of 1) the type of debt or asset-class (subordination-based or security-based differences) and 2) the tenor (differences in the term commitment provided by the lender in the credit agreement).

Credit Risk Profile

One of the most important comparability factors arises where there is a difference in the credit risk being assumed by the lender in the uncontrolled loan transaction (referred to as the credit risk profile, which is the level of expected loss that can be mapped to an equivalent credit rating category) as compared with the credit risk assumed by the related-party lender in the controlled transaction.

In an arm's-length framework, third-party lenders would assign ratings, either internally derived by the lender or based on an external credit rating issued by a credit rating agency, to reflect the level of credit risk for a particular borrower (an issuer rating) and for the loan transaction (an issue rating). Because a tested instrument, and even the tested borrower, may not have an external credit rating, the practice is to estimate the

³ In addition, there may be differences in business strategies, but these are not addressed in this article.

⁴ As the publicly available data is from U.S. borrowers, the lending margin may need to be adjusted if there is a major difference in the credit risk (that is, EL) if the comparable borrower was located in another country or region. Also, there may be a difference in credit risk for comparable borrowers that are in different industries.

⁵ The contractual terms also define the characteristics of the loan. Only the major differences that affect the lending margin are addressed.

borrower's credit risk by determining an implied or synthetic credit rating. There are third-party software and scorecards or other quantitative or qualitative solutions for estimating the stand-alone credit rating of a private company. This analysis still requires some further evaluation of whether any notching of the implied credit rating of the related-party borrower is required for the market's or third-party lender's perception of the creditworthiness of the borrower due to its association with the parent entity or group. There also may be a need to adjust for the subordination-based differences in the loan transaction that could affect the implied credit rating of the intercompany loan instrument.

Arguably the most important step in determining an arm's-length interest rate is the assessment of the borrower's credit risk profile. While it is intuitive to think of the agency credit rating assigned to the CUFT borrower and its loan instrument as being the proxy for the credit risk profile, this is not always the case.

In brief, credit ratings that are issued by the credit rating agencies such as Moody's Investor Services, Standard and Poor's, and Fitch, represent an ordinal ranking system, at a given period in time, based on the level of expected loss that a lender would, on average, experience for each specific category of credit risk. These external credit ratings are, in essence, a mapping of the level of expected loss for a specific borrower's debt instrument to a specific credit rating category. Generally the credit rating system is a relative comparison of one credit rating to another, with an A-rated borrower being a relatively higher-quality credit risk than a B-rated borrower.

From a transfer pricing perspective it is important to understand that the external agency credit ratings are not likely to change as frequently as the market's perceived credit risk profile of a borrower. The published credit ratings are intended to reflect the credit risk of the issuer or issue through the entire credit cycle and are not necessarily representative of the borrower's credit risk profile at any given point in time in the credit cycle. On the other hand, an independent lender such as a financial institution would consider the borrower's credit risk profile based on its own internal assessment of credit risk at or just before the execution date of a specific loan transaction with the borrower.

If the external credit rating issued by the credit rating agency is not a sufficient indicator of the borrower's current credit risk profile, how is that credit risk profile to be determined?

First it is necessary to revisit the concept of EL. Using the framework published by the Bank for International Settlements (BIS)⁶ on developing an internal ratings-based (IRB) approach to pricing credit risk, the EL on a loan is a function of the PD of the borrower (referred to as the default rate), the amount of the loan that would not be recoverable in the event of a default by the borrower (loss given default, or LGD), and the amount of the loan or credit exposure outstanding at the time of default (EAD). Therefore, the level of the EL, rather than an agency rating, is a more appropriate proxy for the credit risk profile of the borrower.

To make a reasonably meaningful comparability adjustment for the difference in the credit risk profile re-

⁶ "The Internal Ratings-Based Approach" (supporting document to the New Basel Capital Accord), Basel Committee on Banking Supervision, issued 5/31/01.

quires available and reliable data. One approach is to consider the level of a financial ratio that a lender would consider in pricing a loan. Within the credit agreements filed with the SEC, data is available on the levels of loan pricing to the same borrower by the same lender based on the level of its financial ratio, usually a leverage-based ratio. (See the exhibit for an example of a pricing grid.) In other words, a change in the level of the debt-to-cash-flow ratio (D/CF) is the critical factor in the lender's perception of a change in the credit risk profile of the borrower.

Consequently, the first step to making a meaningful credit risk profile adjustment is to select the lending margin, as stated in the credit agreement, that the lender would provide to the comparable borrower if it had the same D/CF as the tested-party borrower. This step on its own does not adjust the borrower's credit risk profile. It does, however, necessitate a second step, which is to make changes to the financial statements of the comparable borrower to this assumed level of D/CF and determine the revised credit risk profile for the comparable borrower and comparable loan transaction. Based on these adjusted financial statements, the default rates and LGD can be obtained by using a credit estimation model (for example, Moody's KMV RiskCalc). Once the credit risk profile of the CUFT borrower has been adjusted to be comparable to that of the tested borrower, other comparability adjustments, as outlined below, can be made based on this comparable credit risk profile.

Functional Differences

A functional difference also exists in that the related-party lender is not in the business of lending money and as such has not established any infrastructure to originate, evaluate, and administer a portfolio of loan assets. Arguably, it would not have the same level of profit expectation from its intercompany lending activity as a financial institution in the business of lending money. In most cases some of the functions that are performed by the third-party lenders related to the comparable loan transactions could be performed by the treasury group within the multinational (and are, in many cases, dealt with as a separate intragroup services charge). As a portion of the lending margin is the lender's allocation for recovery of its non-interest expenses and an expectation of a certain level of profit, this is a difference that needs to be considered.

While an adjustment to the lending margin of the CUFT loan should be made to reflect this difference in the lender's cost structure and in its expectations regarding a profit margin, it is difficult to quantify reliably the amount of the functional adjustment. Subjectively, the direction of the adjustment would be to decrease the lending margin and therefore the interest rate of the comparables.

Economic Conditions or Circumstances

Three major differences in economic conditions or circumstances could affect the interest rate.

First, there could be a difference in the stage of the credit cycle from the date on which the CUFT occurred or was executed and the market conditions existing at the time the intercompany loan transaction was executed. If there is a difference in the stage of the credit cycle, then the market's perception of credit risk, and in

particular the default rates, will be shifting even if there is no change in the published agency credit rating of the CUFT borrower or the CUFT loan transaction.

Second, there could be differences in the default rates due to current macroeconomic conditions in general or in the industry in which the borrower is operating.⁷

Third, there could be a difference in the currency in which the loan is denominated. According to the interest rate parity theorem, there is a relationship between two countries' currency exchange rates and their respective risk-free interest rates. Therefore, there will be a difference in the interest rates depending on the currency of the loan.

Execution date adjustment

If the comparable loan transaction was executed in a different time period—or, more specifically, a different stage in the credit cycle—than the tested transaction, there may be differences in loan pricing.⁸ Lenders will adjust loan pricing if the debt or credit market is in a credit contraction stage compared to a credit expansion stage. The difference in the lending margin from one time period to another can be measured by considering the change in the level of expected loss for a specific comparable borrower's loan instrument from its execution date to the execution date of the tested instrument. One source of available data to make this adjustment is the credit cycle adjustment developed by Moody's KMV, which is based on signals in the equity market regarding the perceived change in credit risk of public companies. This data provides the change in the level of expected loss of a comparable borrower from the execution date of the comparable loan to the execution date of the tested loan. This change in EL is the adjustment for difference in the execution date of the CUFT borrower's loan.

Industry-specific, country-specific default risk adjustment

If the comparable borrower is in a different industry or a country or region that has a significantly different

⁷ This is somewhat subjective for a large multinational company that operates on a global basis but could be specific for the related-party borrower, which probably operates in a specific geography.

⁸ As PD-based credit measures are affected not only by the financials of a company but also by the general state of the credit cycle in a particular economy, the adjustment for the different time periods of the loan transactions must capture this effect.

One approach to making an adjustment to the credit risk profile for the difference in the credit cycle uses the distance-to-default calculation from Moody's KMV public firm model. This measure is specifically designed to be a forward-looking indicator of default risk. It extracts signals of default risk from the stock market performance of individual publicly traded firms as data is available for a large universe of industries and has been extensively validated. If the distance-to-default calculation for public firms, in a specific industry and geography, indicates a level of risk above the historical average for that industry, the private firms' default rates or expected default frequency (EDF values) in that industry are adjusted upward by some factor. Conversely, if the level of risk is below the historical average, the private firms' EDF values are adjusted downward. When the credit cycle adjustment factor is neutral, no adjustment is required.

risk profile from that of the related-party borrower, this may have an impact on the interest rate. Default rates can vary significantly across industries as well as countries and regions. If there is a higher industry- or country-specific default rate for the CUFT borrower compared to that of the related-party borrower, there would be an increase in credit risk profile and therefore an increase in the expected loss for that loan. As stated elsewhere in this article, the EL that the lender would determine for assuming the credit risk associated with the borrower and the debt instrument is a component of the interest rate, specifically the lending margin. Any change in the EL from one industry or country to another for borrowers that have similar credit risk profiles would be the quantification of an industry- or country-specific adjustment.

Currency-related adjustment

As stated above, the currency-related adjustment applies to the reference interest rate, not the lending margin. By selecting, and substituting, the most appropriate risk-free reference rate based on the currency of the loan, the reference rate has been adjusted.

Loan Instrument Characteristics

For an intercompany loan, in addition to the factors discussed above, the comparability of the loan characteristics would need to be closely examined and adjustments made to obtain a high degree of comparability to apply the CUFT method. These characteristics may consist of the loan's:

- purpose;
- size;
- repayment option;
- seniority;
- security; and
- tenor or maturity.

For some characteristics, such as purpose, size, and repayment options, insufficient data exists to make a reliable comparability adjustment—or in some cases, there is no market evidence that these characteristics would have a significant impact on the level of the interest rate.⁹ Therefore, these loan characteristics are critical screening and selection criteria.

Subordination-based adjustments

One of the major differences between an intercompany and a third-party loan relates to the priority of the debt instrument in the capital structure, which leads to subordination-based differences. At any given point in time, the lending margin provided by a lender for a senior secured loan advanced to a particular borrower likely would be lower than the margin the same lender would give on a subordinated loan to the same borrower. Why? The type of debt does not affect the PD of the borrower; it is constant. But the recovery rate is different by type of debt. Therefore, subordination-based adjustments are based on differences in LGD (or $1 - \text{recovery rate}$) for different types of debt.¹⁰

⁹ However, the size of the loan is highly correlated to the size of the borrower, which is taken into account for the determination of the estimated default rate.

¹⁰ When corporate bonds are used as comparable debt instruments there are some serious concerns as to whether or

Academic and industry research demonstrates that different recovery rates are experienced for different types of debt instruments, as the position the debt has in the corporation's capital structure will result in more or less of the debt being recoverable in the event of default. Subordination-based adjustments are derived from extensive research conducted on recovery rates for various types of debt and the priority of claims over assets that different debt instruments have in the firm's capital structure. It is interesting to note, as shown by Moody's research,¹¹ that statistical evidence indicates recovery is higher for bank loans than for corporate bonds. As expected, the recovery rate is higher for debt that is ranked higher in the priority of claims in the borrower's capital structure.¹²

The method for subordination-based adjustments follows from research that concludes that the LGD will be higher for different security classes or asset classes of debt, which would imply that these types of debt instruments are, in the lender's perspective, riskier than others with lower LGD for the same corporate borrower. Therefore, the adjustment for a subordination-based difference is a change in the LGD and its impact on the change in EL (expressed as a percentage), which is the incremental change in the lending margin that the lender would require for the difference in subordination.

Tenor-based adjustment

Another major difference in the loan characteristics is the tenor or term commitment given by the lender in the loan instrument. For example, a five-year loan or commitment would be priced higher than a one-year loan or commitment.¹³ In general, loan interest rates will be higher for loans with longer tenor. The lender, by providing a committed period, assumes the cumulative probability of default over the term or commitment period of the loan which, in theory, increases the credit risk and therefore the interest rate. For the comparable loan transactions that have a different tenor or commitment period from the tested loan, this major difference needs to be quantified and a reliable adjustment made.

One of the most common methods for making a term adjustment is to look at the average yield spread difference on corporate bonds of the same credit rating with corresponding terms. For example, if the tested loan instrument has a term of five years and the CUFT loan is for a one-year tenor, as long as both the tested and com-

not this type of debt instrument meets the comparability standard to be considered a reliable CUFT for an intercompany loan. One of the main differences, among others, is subordination-based.

¹¹ Moody's Ultimate Recovery Database—Special Comment, April 2007.

¹² From Moody's URD, which consists of default data on about 3,500 bonds and loans since 1987 for more than 700 U.S. non-financial corporate default events (with total debt at time of defaults of over US\$50 million), the mean recovery rate for bank loans is 82 percent (median 100 percent) but senior secured bonds have only a 65 percent average recovery rate (median 67 percent).

¹³ This is not the same as an adjustment from a variable, or floating, interest rate to a fixed interest rate. In that case, the adjustment can be priced by applying the adjusted lending margin to a reference rate that is appropriate for the term or alternatively looking at the floating-fixed interest rate swap rates.

parable instrument have the same credit rating or credit risk profile, the comparable loan would be adjusted by the difference in average yield spreads.

Unfortunately this method has significant flaws, which are summarized below and will be expanded on in a future article. In theory, the difference in the average yield spreads is a proxy for the additional yield the investor in corporate bonds will require to hold the longer-term bond to maturity (holding the credit rating constant). However, the observed spread between corporate bonds with different maturities is not entirely due to the increased credit risk inherent in the longer tenor or maturity. The difference in the yield spread could be due to, or better explained by, other factors, such as the relative liquidity of the bonds in the secondary corporate bond market. Therefore, this is a major difference in corporate bond yields that would need to be adjusted for if the tenor bond spread difference were to be used to adjust for loan tenor. Based on existing research, there is no reliable method for making this comparability adjustment.

In the authors' opinion, the most appropriate method for a tenor-based adjustment is to consider the impact on the lending margin due to the change in EL at different tenors. As stated, the increased credit risk associated with a longer tenor or term commitment provided by the lender is the increase in EL, which comes from a change in PD or LGD.¹⁴ If EL is higher for the longer

¹⁴ The lender will price into the lending margin an additional spread to compensate for this increased credit risk. For any undrawn portion of the credit facility that is committed for one year or more, the lender will obtain compensation for that commitment through fees charged on the undrawn amount of the credit facilities. These fees can have a variety of names but they all are compensation for the economic capital or regulatory capital requirements of the lender and, as such, do not affect the level of the lending margin on the outstanding portion of credit facilities.

tenor, the lender will require a higher lending margin to compensate for the higher credit risk.¹⁵

Other comparability issues

While beyond the scope of this article, there are other comparability issues that would need to be addressed in an intragroup funding arrangement. The following are just two examples:

- Debt capacity—the amount of debt the related party could obtain given the market conditions at the execution date of the loan.
- Parent affiliation—the market's perception of the credit risk of the related borrower's loan due to the borrower's affiliation with the multinational group or parent (with any formal financial support or intragroup guarantee).

Conclusion

With the availability of reliable data as potential comparables and empirically validated models to make to make reliable and quantifiable comparability adjustments using data on the borrower's default rate and loan recovery rates to calculate changes in the level of EL, the taxpayer can determine the arm's-length lending margins for intercompany loans. In addition, a taxpayer can reliably adjust the risk-free portion of the interest rate for differences in the currency of the loan by selecting the most appropriate reference interest rate. Accordingly, the sum of the arm's-length lending margin and the appropriate reference rate will provide an arm's-length interest rate for the intercompany loan.

¹⁵ The tenor adjustment also is made in the selection of the most appropriate reference rate to which the credit risk portion of the interest rate is added. For example, a five-year intercompany loan would use the five-year government bond rate as a reference rate and then add the adjusted lending margin.