

Demystifying Financial Instruments: IBRs

A practical guide to estimating incremental borrowing rates



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Demystifying Financial Instruments Series: IBRs

A practical guide to estimating incremental borrowing rates

Overview

In accordance with the guidance outlined in the Accounting Standards Codification (“ASC”) 842, *Leases* (“ASC 842”) and the International Financial Reporting Standards (“IFRS”) 16, *Leases* (“IFRS 16”), companies are required to estimate the lease liability entries at lease inception and/or on the lease modification date using either i) the rate implicit in the lease or ii) the lessee’s incremental borrowing rate (“IBR”).

The implicit rate takes priority and must be used if it is readily determinable. However, in practice, the implicit rate is rarely determinable given that the implicit rate is the result of return assumptions made by the lessor, which lessees very rarely (if ever) have access to. As such, the majority of companies estimate and use their organization’s IBR when estimating their lease liabilities.

The FASB 842-10-20 Glossary defines the IBR as “the rate of interest that a lessee would have to pay to borrow on a collateralized basis over a similar term an amount equal to the lease payments in a similar economic environment.”

But what does this really mean? In practice, when estimating incremental borrowing rates, one would attempt to estimate a market yield of a hypothetical senior secured debt which is fully collateralized with a tangible (also referred to as “hard”) asset, resulting in a loan to value ratio of 1.00. Effectively, a company estimating the IBR for a five-year car lease, a five-year real estate lease, and a five-year lease on a copy machine would focus on estimating a market yield on a five-year hypothetical debt that has a loan-to-value ratio of 1.00. If the fair value of the underlying asset, no matter the nature of the asset, is assumed to be equal to the notional amount of the hypothetical senior debt, then the five-year IBR would be the same for any asset with a lease term of five years.

U.S. GAAP vs. IFRS differences in estimating IBRs

There are two types of U.S. GAAP vs. IFRS differences. One is driven by the difference in the standard, and one is driven by the difference in best practices due to vagueness and interpretational differences.

Differences in standards

Most companies which report under U.S. GAAP have an easier process for identifying the legal entity which holds the centralized treasury function, as U.S. GAAP allows for more flexibility to perform IBRs at the level of entity who holds the centralized treasury function and to use those rates for all legal entities in the organizational structure. However, IFRS imposes a much higher threshold for justifying the centralized treasury function, which often results in the companies under U.S. GAAP using a single IBR curve for all legal entities in the organizational structure while companies under IFRS go through a more involved analysis to estimate IBRs at multiple entity levels.

Differences in best practices

Under U.S. GAAP, best practice is to use the same IBR rate for all types of leases (i.e. real estate, vehicles, office equipment, etc.) as long as the term for those leases is consistent. While this practice is very common in the U.S., European valuation practitioners often select different rates by asset group for the same company and same term. For example, a 5-year IBR rate for one class of assets will be different from a 5-year IBR rate for another class of assets. The difference in practice (not necessarily guidance) is what sometimes becomes confusing when a U.S. professional is reviewing an IFRS analysis performed by a European valuation firm, or a European valuation firm is reviewing an IFRS analysis performed by a U.S. valuation firm.

Steps in estimating IBRs

Now let's talk about the actual steps in estimating the IBRs. The typical steps are as follows: determine the frequency of estimates required, identify the entity that holds the centralized treasury function, assess the available subject company debt info/credit rating, and conclude on a senior secured rate/yield curve applicable for IBRs.

Step 1: Determine the frequency of estimates required

While the full scope of events that will require an IBR estimate are outside of the purview of this publication, the most common triggers are: i) when a lessee takes possession of a new lease (i.e. on the lease commencement date) and ii) when a modification to the lease term is made. Depending on the composition of the company's lease portfolio, it could very quickly become an unrealistic task to estimate IBRs for each lease as of its lease commencement or modification date, as potentially dozens of dates and estimates may be required in a given quarter, let alone a fiscal year. This is why, in practice, companies set regular intervals over which an IBR study is performed and apply the estimated IBRs for the one given date to leases entered into/modified during the entire covered period. For public companies with regular leasing activity throughout a given year, this translates to quarterly IBR studies performed at the beginning of each fiscal quarter, with rates at the beginning of the quarter being used for any leases entered into after the start of the quarter but before the start of the next quarter. Private companies with similar levels of leasing activity often adopt a quarterly cadence as well to ensure compliance with public company reporting requirements should the company ever pursue a public listing in the future. Less frequent cadences are also observed for private companies and public companies with less material leasing arrangements, such as semi-annual or even annual updates. Finally, many companies only perform an IBR estimate on an as-needed basis if they enter into new leases infrequently, such as biotech companies with only a handful of leases at most.

In summary, the frequency of estimates required will largely depend on the leasing activity of your organization. Frequent and regular leasing activity may warrant quarterly updates to the estimate, whereas infrequent and irregular leasing activity may warrant updates on an as-needed basis.

Step 2: Identify the entity that holds the centralized treasury function

First and foremost, a company must make an accounting election when it reports in accordance with U.S. GAAP and adopts ASC 842. This election is whether to estimate IBRs based on the credit risk of the entity (typically, a parent entity) which holds the centralized treasury function or based on the credit risk of the individual subsidiaries entering into the subject leases.

Step 3: Assess the available subject company debt info / credit rating

Assess available subject company debt info

A common pitfall for companies when estimating the IBR is failing to consider the costs of borrowing implied by other outstanding issuances that exist for the entity as of the estimation date. Consider a company that has a publicly traded senior unsecured bond with a five-year remaining maturity and a reported yield to maturity of 8.00% as of the IBR estimation date. The company's auditors would hesitate to accept any IBR estimate for a five-year lease that is not aligned with this 8.00% yield to maturity on the traded bond, adjusted for the difference in seniority, the presence of collateral, and term.

While public yield data is often not a factor for private companies, private companies must also consider their privately-held debt obligations when estimating IBRs. For instance, a company's auditors may inquire about how the company's senior secured term loan issued by a major banking syndicate that is currently outstanding was considered when estimating the company's IBRs. Specifically, the auditors would want to know what the term loan's fixed equivalent coupon rate was as of the IBR determination date and would need quantitative as well as qualitative support regarding why the IBRs should differ from the implied borrowing rate of the term loan. For example, if a company recently issued a five-year term loan, which carries an interest rate of SOFR plus 200 basis points ("bps"), and hedged its interest rate exposure by entering into a fixed-for-floating interest rate swap with the lending bank, paying a 4.00% fixed interest rate to swap the variable base rate SOFR portion, management can use the implied fixed equivalent coupon rate of 6.00% (4.00% SOFR for fixed swap rate plus a contractual spread of 200 bps) as the basis for the five-year IBR.

A key concept to remember is that the effective coupon rate of an issuance is not equivalent to the yield or the fixed equivalent coupon rate of the same instrument. For instance, a term loan with a floating rate coupon based on SOFR and a credit spread of 275 bps may have an effective coupon rate of 6.75% on the IBR determination date. However, the yield and fixed rate equivalent coupon rate of the term loan will differ from this effective coupon rate given various factors. Some of these factors are i) the shape of the SOFR forward yield curve, which would be used within a valuation model to forecast remaining cash flows, ii) the effective coupon rate would not reflect the remaining term to maturity of the instrument, which may have significant bearing on the instrument's yield, iii) the effective coupon rate reflects current market rates, not necessarily credit risk expectations held by the lender at the time of the IBR estimate, and iv) the effective coupon rate does not reflect the remaining expected cashflows of the issuance, such as interim amortization payments. As such, using the effective coupon rate is generally not an acceptable proxy for yield and, thus, is generally not an acceptable basis for estimating an IBR. Remember that the IBR is meant to represent the fixed rate of borrowing over the life of the lease. It is NOT a variable rate that is effective as of today's date. This is why an analysis to convert a floating interest rate to a fixed interest that considers the changes in the underlying benchmark rate (i.e. SOFR), such as a fixed-for-floating swap price calculator, is necessary when relying upon the terms of a floating rate issuance to estimate IBRs.

However, if the company does not have any debt issued or outstanding which can be used as a basis for estimating IBRs, then management or the valuation specialist would proceed with estimating the credit rating of the company in order to select the appropriate market yield.

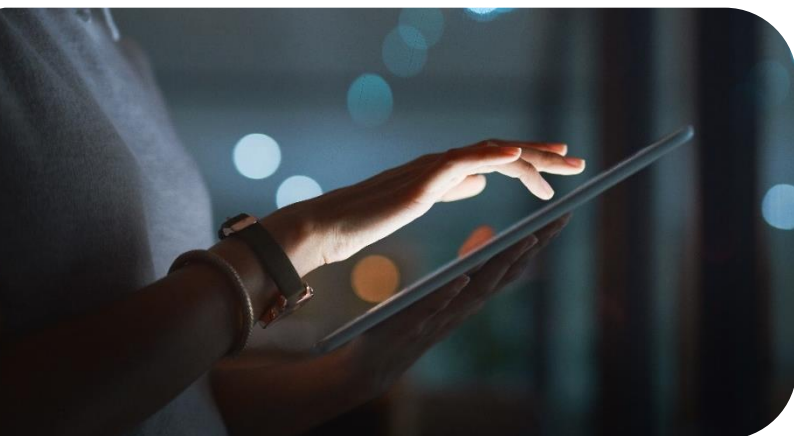
Evaluate the creditworthiness of the company and/or its debt

The strongest pieces of audit evidence relied upon when auditors are gaining comfort with a company's IBR estimate are i) observable costs of borrowing for outstanding issuances of the company, as discussed above, and ii) credit rating information for the company and/or the company's outstanding issuances, which we have yet to discuss in detail until now. On the latter piece, a credit rating for the company and/or a company's debt issuances assigned by a major credit rating agency, such as S&P or Moody's, is a key consideration in any cost of borrowing exercise. In situations where the company has no outstanding borrowings that may serve as a reasonable basis for estimating IBRs, the company's credit rating is the only grounding data point in the rate estimation.

The challenge here, of course, is that if a company does not have any debt outstanding, it is very unlikely that it would have an assigned credit rating, as credit rating assignments must be paid for by the company and are often tied to lending requirements. This is why, in the vast majority of cases, a company must perform a synthetic credit-rating analysis to estimate its senior unsecured credit rating and then adjust this credit rating one to two notches up to account for securitization (since the credit rating assigned to a company represents the senior unsecured credit rating of that company).

Step 4: Conclude on a senior secured rate / yield curve applicable for IBRs

As discussed above, the concluded IBR and/or IBR curve (in situations where the IBRs for multiple leases of varying terms must be estimated) will depend on the facts and circumstances of the company. If the company has outstanding debt with an observable market yield or a fixed equivalent coupon rate that can be easily estimated, then this yield or rate will serve as the basis (after adjustments for differences in collateral and seniority, if applicable) for IBRs with the same term to maturity as the observed debt issuances. If the company does not have debt, then its assigned or estimated credit rating (again adjusted for collateral and seniority) will serve as the basis for the market yields that should be sourced when estimating IBRs. In either case, management will need to know or estimate the company's senior secured credit rating in order to select the appropriate market yields to benchmark its IBR estimate against.



We have mentioned several times throughout this publication the need to ensure that the market yield and/or fixed equivalent coupon rate of a company's outstanding debt may need to be adjusted for the presence of collateral and for seniority. What do we mean by this and how is this done in practice? We must remember that the leases are "senior and perfectly secured" when compared to the company's other obligations. The only lien against the lease is held by the lessor; no other creditor can claim the leased asset in the event of liquidation, nor can any other creditor claim an interest in the underlying lease payments. As such, the lease payments are senior to other payment obligations held by the company. On the security side, the lease payments are entirely secured by the leased asset; in theory the loan-to-value ratio of a lease at any given time is 1.0x, since the leased asset may be seized in the event of default and given that the hypothetical value of the lease must equal the present value of the remaining lease payments on the lease commencement date/modification date.

In the context of developing IBRs, seniority and collateral considerations are often addressed together and in the same way when the benchmark debt issuance is not senior to other debt obligations and/or not collateralized OR is over-collateralized. The most common instances of these fact patterns are when we're looking at traded bonds (which are often unsecured issuances) and revolving credit facilities (which are often over-collateralized). In the case of a traded senior unsecured bond, the reported yield to maturity would be too high to be a fair proxy for the company's IBR for the term commensurate with the remaining term to maturity of the bond, as the lack of collateral backing results in a higher yield. Conversely, a revolving credit facility that is overcollateralized would simultaneously have a yield or fixed equivalent coupon rate that is too low to serve as a reasonable proxy for the IBRs, since the excess collateral reduces the risk of non-recovery of the facility and, thus, lowers the yield/fixed equivalent coupon rate.

But what if the company has "comparable" senior secured debt? It is very common for a company to have a senior secured instrument outstanding, such as a term loan or revolving credit facility. However, the loan-to-value ratio of these instruments may vary. But is the loan-to-value ratio important when estimating IBRs? Yes and no. Let's consider the following scenarios:

SCENARIO 1

The company has recently issued a senior secured term loan, which is collateralized with accounts receivable, inventory, and fixed assets. The term loan's loan-to-value ratio was assessed to be 0.7x on the issuance date. Shortly after, the company needs to estimate IBRs for newly acquired operating leases. Even though the loan-to-value ratio for the term loan is below 1.0x, implying that the term loan has more collateral than is required for estimating IBRs, in practice it is perfectly ok to use the term loan's fixed equivalent coupon rate as the basis for IBRs. Effectively, the overcollateralization of the term loan is ignored. While someone can potentially adjust the IBR rate for overcollateralization of the term loan, effectively making IBR rate higher than the term loan rate for the equivalent term, it is not done in practice.

SCENARIO 2

Now, let's look at another example. The company has recently issued a senior secured term loan, which is collateralized with substantially all assets of the company (tangible and intangible). Looking at the company's balance sheet, one can note that the company's tangible assets account for only 40% of the notional amount of the term loan. This makes the term loan riskier than the hypothetical senior secured debt which is fully collateralized with tangible assets. Therefore, even though the term loan is senior secured, the IBR with a term equivalent to the time to maturity of the term loan will be lower, since the IBR assumes a 1.0 loan-to-tangible-assets-value ratio while the term loan only has 40% coverage when looking at the company's tangible assets.

So how do we adjust for differences in seniority and collateral? Let's again assume we have a senior unsecured bond with a yield to maturity of 8.00% and remaining term to maturity of five years from the measurement date. There are three general ways to adjust the 8% from a senior unsecured yield to a senior secured (fully-collateralized) yield. Keep in mind as we walk through these examples that these methods can also be used adjust for differences in seniority (i.e. adjusting the yield on a junior unsecured instrument to be on a senior secured basis).

All of the prevailing theories below are predicated on S&P's and Moody's notching guidance, which outlines the relative expected relationships between an issuer's senior unsecured debt (the baseline credit rating and the credit rating reflective of the company's own credit worthiness) and debt higher and lower in priority of payment as well as security. For the sake of brevity and reducing complications, we are going to focus on adjusting from a senior unsecured yield to a senior secured yield. In general, it is recommended to always consider debt that is closest to the security and seniority of the leases (senior secured) and to avoid relying upon junior debt when possible to avoid introducing increased subjectivity and judgment into the IBR estimate.

First, we could add a discount factor to the 8.00% based on observed differences in secured and unsecured market yields. For example, assume the bond has been assigned a credit rating by S&P of B. Per S&P's and Moody's credit notching guidance, the senior secured credit rating of the company could be anywhere from zero to two notches higher than the company's senior unsecured credit rating (B in this case since the bond is also senior unsecured). In practice, most practitioners assume a one-to two-notch upward adjustment from the company's senior unsecured credit rating when approximating the leases' senior secured credit rating. If management were to make the same assumption in our current example, management would assume a senior secured credit rating of BB- (for two-notch adjustment) or B+ (for one-notch adjustment). Management would then source a five-year market yield for B and B+ rated issuances from a reputable data vendor. For our example, let's assume the five-year market rates are 7.50% and 7.00% for B and B+ rated issuances, respectively. The differential of 50 bps would be used as the assumed spread discount for the presence of collateral. So in our case, the 8.00% senior unsecured yield would be reduced by the 50 bps discount to conclude on a five-year IBR of 7.50%.

Second, we could peg the bond's 8.00% five-year yield to maturity against the corresponding five-year B market rate to estimate a relationship between the company's observed cost of borrowing and the market rate. Management could compare the 8.00% bond yield against the 7.50% B market yield and estimate a company-specific spread premium of 50 bps. Management could then apply this 50 bps to the B+ five-year market yield of 7.00% in order to estimate the five-year IBR of 7.50%.

Keep in mind that this is considered to be a "simplified approach", where the core assumption is that the relationship between the company's own cost of borrowing and the market cost of borrowing remains fixed across various seniority and security levels. In other words, as long as you are comparing apples-to-apples (company's senior unsecured yield to senior unsecured equivalent market yield), it does not matter what market yield the company specific spread premium is applied to. Some auditors may challenge this assertion and, thus, some additional adjustment may need to be considered, but this approach otherwise provides a simple approach to adjusting the company's observed cost of borrowing to be on a senior secured basis.

Finally, management could consider observed differences in recovery rates for senior unsecured and senior secured issuances and calculate an adjustment factor based on these differences. Common sources for typical observed recovery rates of various levels of obligations include Bloomberg L.P. and Moody's. A simple formula to estimate an adjustment factor based on recovery rates is as follows:

$$\frac{(1 - SR)}{(1 - UR)}$$

Where:

SR = Senior secured recovery rate

UR = Senior unsecured recovery rate

This adjustment factor would then be applied to the credit spread of the subject debt issuance. In our example, let's assume a five-year risk-free rate of 4.00% (so the bond's implied credit spread would be 8.00% - 4.00% = 400 bps), a senior secured recovery rate of 60%, and a senior unsecured recovery rate of 45%. Using the simple formula above, the adjustment factor would be $(1 - 60\%) / (1 - 45\%) = 0.73x$. The product of 0.73x and the 400 bps credit spread would result in a senior secured equivalent credit spread of 291 bps (109 bps reduction).

Adding back the 4.00% risk-free rate results in a concluded five-year IBR of 6.91%. As seen here with this simple example, the adjustment factor can be substantial when compared to the simplified approaches above. However, the appeal of this approach is that it can be used when management may otherwise lack market yield information for comparable bonds with assigned ratings commensurate with the company's senior secured and senior unsecured credit ratings.

Let's consider a simpler example. Consider a company whose senior secured debt is rated B by S&P and the fixed equivalent coupon rate on the company's senior secured term loan maturing in three years is 5.00% on the term loan's issuance date. If management were to estimate a three-year IBR on the term loan's issuance date, it would use 5.00% as the IBR; simple as that.

Now, what if management needs to estimate IBRs for lease terms other than three years? Let's say management needs to estimate the IBRs for a seven-year lease. One approach would be to select a benchmark yield curve developed using yields sourced from bonds with an assigned rating of B, as provided by a reputable data vendor, and source the seven-year yield from this yield curve (or linearly interpolate the seven-year rate if the yield curve does not explicitly report a seven-year rate but does report rates above and below seven years). Next, management would calculate the difference between the three-year and seven-year market yields from this yield curve to estimate a term differential. So if the seven-year B market rate was 5.75% and the three-year B market rate was 4.75%, the calculated spread premium would be 100 bps. To estimate a seven-year IBR, management would add this 100 bps term premium to the 5.00% term loan rate to calculate the IBR of 6.00%. Note how this is equivalent to management calculating a company-specific spread premium of 25 bps (5.00% - 4.75%) over the three-year B market rate and then adding this spread premium to the seven-year B market rate.

What if management does not have access to a reputable data vendor to source B yields from? In this case, management could instead perform the same analysis above with Treasury yields, as sourced from the Treasury website¹. If the three-year risk-free rate was 1.5% and the seven-year risk-free was 2.0%, the 50 bps term premium could be applied to the 5.00% term loan rate to approximate the seven-year IBR rate. However, this is not an ideal approach given that it may understate the seven-year IBR, as credit spreads also tend to follow a curve of its own, where spreads widen as maturities get longer, resulting in an upward-sloping spread curve.

To at least partially correct for this issue, management could use a ratio-based approach, whereby it would estimate the ratio of the seven-year risk-free rate to the three-year risk-free rate ($2.00\% / 1.50\% = 1.33x$) and then estimate the seven-year IBR as the product of the ratio and the term loan's rate, resulting in an IBR of approximately 6.67%.

Closing thoughts and takeaways

As a key-point summary to the topics discussed in this publication, as well as some additional considerations that should be kept in mind, please consider the following:

The standard under which the IBR is calculated will impact the analysis. As discussed above, under U.S. GAAP, a company may elect a centralized treasury function, which will most likely require significantly less initial and go-forward effort than electing an entity-by-entity-based approach to estimate IBRs. For those reporting in accordance with IFRS, an entity-by-entity-based approach is typically required. If the entity was reporting under U.S. GAAP but now adopting IFRS standards, there might be a lot of additional work needed, as the centralized treasury function approach may no longer be accepted under IFRS.

The IBR estimate should consider the indication(s) of market yield(s) from the outstanding debt issuance(s) of the company. Expect your auditors to always ask how you considered outstanding issuances and come prepared to explain why these issuances were not relied upon in your estimate if there are factors that make the instrument a poor comparison to the leases. The current exception to this rule that is widely accepted in practice is when it comes to revolving credit facilities. IBR estimates based on the yield of revolving credit facilities without the adjustments are often rejected because the revolving credit facility is over collateralized and, thus, the IBRs are understated when considering the fully collateralized nature of the leases.

Consult with your auditors when planning for adoption/material updates. When in doubt about the methodology for estimating IBRs, always consult with your auditors before implementing an approach.

¹ https://home.treasury.gov/resource-center/data-chart-center/interest-rates/TextView?type=daily_treasury_yield_curve&field_tdr_date_value=2025

While your auditors cannot tell you how to estimate the IBRs given the need for them to remain independent and objective, consulting with your auditors on your organizations' proposed methodology before implementing is key to identifying potential roadblocks early and can help you identify the need to hire a valuation specialist to assist with the estimate, which can save your organization on valuation fees compared to needing to hire a specialist on short notice before a filing deadline.

When hiring professional help could be necessary

The process of estimating a defensible IBR as well as implementing U.S. GAAP and IFRS compliant procedures with regard to lease liability reporting can be daunting.

On the IBR estimation side, the IBR estimate often requires calculating the fixed-equivalent coupon rate of outstanding debt issuances that do not have publicly reported yield data, estimating synthetic credit ratings for companies that do not have assigned credit ratings, and sourcing benchmark market yield data from reputable and costly data vendors. Companies often face challenges with their auditors given lack of valuation experience, lack of a reputable methodology to estimate the synthetic credit rating, and/or lack of supportable market data used to construct the estimate.

In our experience, we find that management teams have the best success with their auditors approving of their in-house IBR estimation methodology in the following situations:

- **The company has publicly traded senior secured debt outstanding.** In these cases, management can often search for their company's outstanding senior secured issuances on and source this issuance's yield from the FINRA website (<https://www.finra.org/finra-data/fixed-income>). While management will still need to select a benchmark yield curve, since the subject leases will most likely have differing remaining terms to maturity than the company's traded issuance(s), using the company's own debt issuances removes a significant amount of subjectivity from the IBR estimate and provides a good foundation for the IBR curve.
- **The company has recently issued a senior secured term loan that has full tangible asset coverage.** In these cases, the fixed-equivalent cash coupon rate of the term loan (if the coupon rate is not already a fixed rate) will serve as a reasonable proxy for the IBR for leases with remaining terms equal to the term loan's term to maturity. As mentioned above, management will still need to source the relevant benchmark yield curve, which would require access to market data not publicly available.

In all other instances, several challenges will be present for management when performing the estimate in-house. For example, the company may not have recently issued senior secured debt and a roll-forward analysis between the outstanding senior secured debt's issuance date and the IBR estimate date will need to be performed. Compounding this may be the company's assigned or estimated creditworthiness changing between the calibration date (most recently issued debt's issuance date) and the estimation date, which will require an adjustment to the company-specific debt premium estimate and benchmark yield curve selection. Alternatively, the company may have multiple traded publicly unsecured debt issuances, showing significant variations in the yields to maturity and/or spreads, making IBR analyses challenging.

On the implementation side, private companies seeking public registrant compliance to facilitate a public offering may require significant work and expertise to appropriately construct and restate historical financial statements, while also performing the initial set up of the leasing software that will be used to record the lease liability entries on a go-forward basis.

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