

Interest Rate Risk And Swap

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Interest-rate risk is the possibility that changes in market interest rates will alter a company's borrowing cost, investment income, asset value, liability value, or cash flow. The original discussion correctly treats this risk as especially important for multinational enterprises because they borrow in several currencies, use different maturities, and may combine fixed- and floating-rate debt. It also identifies forward-rate agreements, futures, swaps, and refinancing as methods of managing exposure. These instruments do not eliminate economic uncertainty; they change the form and timing of that uncertainty. A company must first understand the underlying debt, reference rate, repricing date, currency, and cash-flow objective before selecting a hedge. Otherwise, a derivative can create a new mismatch rather than solve the original one. Modern interest-rate management also requires an important correction to the earlier emphasis on LIBOR: major markets have transitioned from LIBOR and several other interbank offered rates toward overnight, nearly risk-free reference rates, and derivative contracts now commonly use benchmarks such as SOFR in U.S. dollars (CFTC, 2022).

Sources of Interest-Rate Risk

A borrower faces interest-rate risk whenever the cost of debt can change before the obligation is fully repaid. Floating-rate debt exposes the company directly because each reset applies a new market rate to the outstanding principal. Fixed-rate debt provides stable contractual payments, but it creates an opportunity-cost risk: if market rates fall, the company continues paying the higher fixed rate unless it refinances or uses a derivative. Investments create the opposite exposure. A firm holding fixed-rate bonds may suffer a decline in market value when rates rise, while a firm relying on short-term deposits may receive less income when rates fall. The appropriate risk measure therefore depends on whether management is concerned with accounting value, economic value, near-term cash flow, or long-term funding cost.

The original article describes repricing risk as a situation in which financing terms are revised. More precisely, repricing risk arises when assets and liabilities reset or mature at different times. A company may fund a five-year asset with debt that reprices every three months. Its operating return may remain stable while interest expense changes repeatedly. A bank may hold long-term fixed-rate loans but finance them with deposits whose rates adjust more quickly. Even when the total amount of assets equals the total amount of liabilities, the difference in repricing dates can cause earnings volatility. Maturity gaps, duration, sensitivity analysis, and scenario testing help reveal these mismatches before management selects a hedge.

Reference Rates and the Transition from LIBOR

Reference rates provide a common basis for determining floating payments. For decades, LIBOR was widely used in loans, bonds, forward-rate agreements, and swaps. However, the weaknesses revealed in the benchmark-setting process led regulators and market participants to replace most LIBOR settings with alternative rates based more directly on observable transactions. In the United States, the Secured Overnight Financing Rate is an important reference for dollar contracts. Other currencies use their own alternatives, including SONIA for sterling and €STR for euros. The Commodity Futures Trading Commission changed its clearing requirements by removing swaps tied to LIBOR and certain other interbank offered rates and substituting swaps tied to overnight, nearly risk-free rates (CFTC, 2022).

This transition matters because a reference rate is not merely a label. LIBOR incorporated bank credit and term elements that an overnight risk-free rate may not reproduce exactly. Contracts may therefore require a spread adjustment, fallback language, compounding method, and clear definition of the observation period. A company reviewing an old interest-rate-risk policy should identify every loan and derivative that still refers to a discontinued or nonrepresentative benchmark. It should then confirm that the replacement rate and derivative hedge behave consistently. If a loan shifts to one convention while the swap shifts to another, basis risk may remain even though both contracts have technically left LIBOR.

Debt Structure in a Multinational Enterprise

The original essay correctly notes that a multinational enterprise's debt structure includes currency, maturity, and interest-rate terms. These features should be examined together. A U.S.-based company that earns euros may borrow in euros so that interest and principal payments are naturally matched with euro revenue. A company funding a long-lived factory may prefer longer-maturity debt because repeated short-term refinancing would expose the project to market disruptions. Management may combine fixed-rate debt for budget stability with floating-rate debt to retain some benefit if rates decline. The correct proportion depends on cash-flow resilience, leverage, covenant requirements, market access, and risk tolerance rather than a universal rule.

Short-term borrowing can be attractive because its initial rate may be lower and its structure flexible. It also creates refinancing and rollover risk. At maturity, lenders may demand a higher rate, impose stricter conditions, or withdraw credit. This was an important idea in the original discussion of companies relying on short-term funding. A hedge of the interest rate does not necessarily guarantee access to principal. Firms should therefore distinguish market-price risk from funding-liquidity risk. Maintaining committed credit lines, staggering maturities, holding liquidity reserves, and diversifying funding sources can complement derivatives.

Forward-Rate Agreements and Interest-Rate Futures

A forward-rate agreement allows two parties to settle the difference between an agreed interest rate and a future market rate for a specified notional amount and period. The notional principal is normally used to calculate the settlement; it is not exchanged. A company expecting to borrow in three months can use an FRA to reduce uncertainty about the rate applicable to that future borrowing. If rates rise above the contract rate, the settlement can offset part of the increased borrowing cost. If rates fall, the company may make a payment under the FRA but benefit from the lower rate on the actual loan. The hedge replaces an uncertain rate with a more predictable combined outcome.

Interest-rate futures perform a similar economic function through standardized exchange-traded contracts. Standardization and central clearing can reduce bilateral credit exposure and improve liquidity, but the available contract may not match the company's exact amount, date, benchmark, or maturity. This creates basis risk. Futures are also marked to market, so gains and losses generate daily margin cash flows. A hedge can be economically effective while still creating short-term liquidity demands. Treasury managers must therefore consider collateral and cash-management capacity, not only the expected final offset.

Plain-Vanilla Interest-Rate Swaps

An interest-rate swap is an agreement in which counterparties exchange interest-payment streams calculated on a notional principal. In a typical fixed-for-floating swap, one party pays a fixed rate and receives a floating rate, while the other does the reverse. The CFTC describes an interest-rate swap as an exchange of interest flows, commonly involving a fixed payment and a floating payment on specified dates (CFTC, n.d.). The notional amount generally remains with its original owner and serves only as the calculation base. A company with floating-rate debt can pay fixed and receive floating under a swap. The floating receipt can offset the loan's floating interest, leaving a substantially fixed net cost. A company with fixed-rate debt can use the opposite position to obtain more floating-rate exposure.

The original article calls the plain-vanilla swap the cheapest form, but cost should be interpreted carefully. A standard contract may have better liquidity and narrower pricing than a highly customized structure, yet it still carries credit, collateral, basis, operational, legal, and termination risks. If the company wants to exit early, the swap may have positive or negative market value. A fall in rates can make a pay-fixed swap costly to terminate even though it originally protected the borrower from increases. The swap should therefore be linked to a defined risk objective, expected debt life, and documented exit plan.

Cross-Currency Swaps

A cross-currency swap combines currency and interest-rate management. The parties may exchange principal amounts in different currencies at inception, exchange interest payments during the contract, and reverse the principal exchange at maturity. This can allow a multinational company to obtain financing in a currency where it has weaker market access and transform it into the currency needed for operations. For example, a company may issue dollar debt because investors know it well, then swap the proceeds and payments into euros to fund a European subsidiary.

Cross-currency swaps are more complex than single-currency interest-rate swaps. They involve exchange-rate movements, different yield curves, cross-currency basis, collateral terms, and settlement arrangements. They can create an effective hedge when the swapped cash flows match the underlying exposure, but imperfect timing or amount can leave residual risk. Legal documentation must also address what happens after default, early termination, benchmark change, or market disruption. The original point that currency swaps provide access to otherwise difficult currencies remains valid, but the instrument should not be treated as a simple conversion without counterparty and liquidity consequences.

Credit Risk, Clearing, and Collateral

Because a swap can acquire significant market value, each party faces the risk that the counterparty will fail before making required payments. Collateral agreements, netting provisions, credit limits, and central clearing are used to reduce this exposure. Under post-financial-crisis regulation, certain classes of interest-rate swaps must be cleared through registered derivatives clearing organizations. Clearing replaces direct bilateral exposure with exposure managed through a central counterparty and margin system, although it does not make risk disappear. The CFTC's clearing framework covers designated classes of interest-rate swaps and has been updated to reflect the move away from LIBOR (CFTC, 2022).

Collateral introduces liquidity risk because adverse market movements may trigger variation-margin calls. A company that has successfully hedged the long-term economics of its debt can still face immediate cash demands on the derivative while the offsetting benefit on the loan appears gradually. Stress testing should therefore examine both the final economic result and the path of collateral payments. Treasury, accounting, legal, tax, and operations teams need consistent data about the transaction.

Accounting and Hedge Effectiveness

Derivatives are generally measured at fair value, which can create earnings volatility unless the transaction qualifies for and is documented under applicable hedge-accounting rules. A company

must identify the hedged item, hedging instrument, risk being hedged, and method of assessing effectiveness. Accounting treatment should not drive a transaction that lacks economic purpose, but it does affect how the hedge appears in financial statements. A mismatch between loan and swap benchmarks, reset dates, payment frequencies, or maturities can weaken effectiveness. Documentation prepared only after market values change may not satisfy the relevant requirements.

Management should also distinguish accounting profit from cash-flow protection. A hedge may produce an accounting loss while protecting the company against a larger increase in borrowing cost. Conversely, favorable fair-value gains do not prove that the strategy was well designed if the underlying debt was refinanced or disappeared. Performance evaluation should compare the combined debt-and-derivative outcome with the policy objective established before the trade.

A Practical Risk-Management Process

Effective interest-rate management begins with an inventory of loans, bonds, leases, deposits, derivatives, and forecast financing. Each item should be mapped by currency, principal, benchmark, reset date, maturity, optionality, covenant, and counterparty. Management can then calculate repricing gaps and test scenarios such as parallel rate increases, yield-curve steepening, benchmark divergence, and refinancing stress. The goal is not to predict one exact future rate but to understand how the company performs across plausible conditions.

After exposure is measured, the company should decide how much variability it can tolerate. Natural hedges and debt restructuring should be considered before derivatives because they may address the risk at its source. When a derivative is appropriate, competitive quotations, independent valuation, approved counterparties, legal review, and operational controls are necessary. The hedge should be monitored throughout its life. Changes in debt balance, acquisition plans, currency revenue, or reference-rate conventions can turn a previously effective swap into an over-hedge or speculative position.

Conclusion

Interest-rate swaps and related derivatives are useful because they allow companies to reshape cash flows without replacing every underlying loan. A plain-vanilla swap can convert floating exposure into fixed exposure or fixed exposure into floating; a cross-currency swap can address both currency and interest-rate mismatches; and FRAs or futures can protect forecast borrowing periods. Their value depends on accurate exposure analysis. The original chapter summary was right to emphasize debt structure, multinational currencies, repricing, and swaps, but modern practice must also account for the transition from LIBOR, clearing, collateral, basis risk, and hedge documentation. The best instrument is not automatically the cheapest or most complex. It is the one that matches the company's genuine exposure, remains understandable to decision-makers, and produces an

acceptable outcome across adverse as well as favorable scenarios.

References

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