

Advanced hedging instruments such as cross-currency interest rate swaps (or cross-currency swaps) are no longer limited only to Fortune 500 companies. This strategy is making its way into the mainstream of corporate treasury and middle market companies. As the use of such hedging strategies has increased, so has market and trading liquidity. According to the latest Triennial Survey by the Bank of International Settlements, global turnover in cross-currency swaps rose to \$96 billion in 2016, a 79% increase from the \$54 billion in 2013.

This paper explores the use of cross-currency swaps, their advantages and drawbacks, and the situations where these types of hedging instruments are the right solutions for companies doing business internationally.

**What is a Cross-Currency Swap?**

The concept behind this type of hedge is very simple and ties together two important areas of corporate finance: **debt financing** and **currency risk management**.

As the name implies, the transaction is a contractual exchange of cash flows. Company A swaps a set of payments, similar to a single-currency interest rate swap (a typical hedge where a loan is converted from a variable rate loan to a fixed rate one). The example below shows a USD-LIBOR swap that creates a fixed rate obligation to reduce variability in interest costs over time.

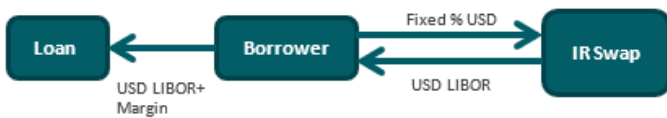


Chart 1. USD Floating Fixed Interest Rate IR Swap

Unlike the interest rate swap, a cross-currency swap provides an additional dimension to this transaction, by setting the payments on the **pay-leg** of the swap in a currency other than that of the **receive-leg** (e.g., USD to the Euro).

This swap may be advantageous when Company A has unhedged revenues originating in the Eurozone that it wishes to utilize to extinguish part of its USD debt service obligations. In that case, Company A may prefer to make variable interest payments in Euros instead of US dollars, thus accomplishing a **hedge of currency risk instead of interest rate risk**.

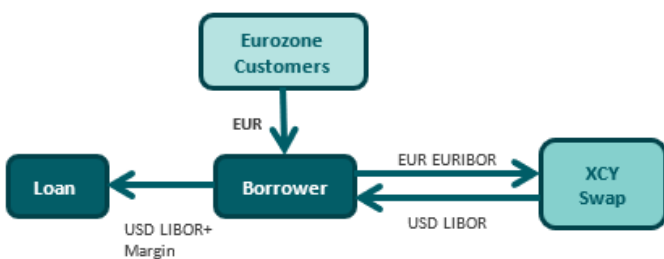


Chart 2. EUR-USD Cross Currency ("XCY") Swap: Periodic payments

In addition to regularly swapping interest payments in two different currencies, another major distinction between an interest rate swap and a cross-currency swap is that at maturity, and often at trade inception as well, Company A and the bank counterparty also **exchange the principal or notional amounts on the swap**. This does not occur on standard single currency interest rate swaps, as the notional amounts are both in the same currency and same amount, and thus would cancel each other out, leaving only the periodic interest exchanges. The exchange of principal or notional amounts at maturity in a cross-currency swap is called *final exchange*, whereas the similar exchange on trade date, in the opposite direction, is called *initial exchange*.

The totality of the cash flows that occur over time in a cross-currency swap can be expressed more clearly visually.

In the following illustration, boxes above the dotted timeline represent positive or incoming cash flows, while boxes below the line represent negative or outgoing cash flows. The situation resembles that of exchanging amounts associated with two loans:

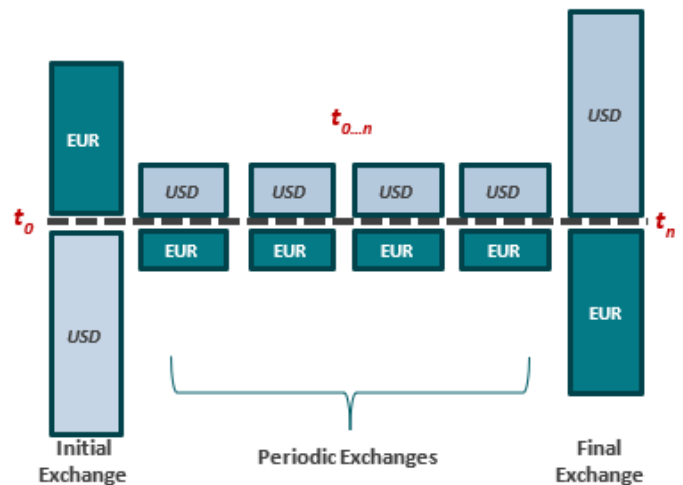


Chart 3. Cash Flows during Life a Cross-currency Swap

- Company A borrows US dollars and then converts the funds for Euros when entering into the swap, as part of the **initial exchange**.
- Over time, Company A then makes **periodic interest payments** on the swap in Euros in exchange for receiving US dollar payments, which can be used for covering interest payments on the initial USD loan. The interest calculations are based on the relevant interest rate terms or each leg of the swap: **variable** or **fixed**. Any partial principal repayments, as may be needed to match an amortizing loan schedule, may also be exchanged as part of **periodic notional exchanges**.
- At maturity, the **final exchange** involves swapping back the same initial notional amounts, with Company A making the Euro notional payment and receiving the US dollar equivalent.

A transaction of this kind allows a company that borrows in the U.S. and deploys the funds in the Eurozone as part of its foreign capital investment to hedge the currency risk associated with repaying the USD loan with funds that originate from its Euro-denominated assets.

### Swap Parameters: The Control Panel

Cross-currency swaps are highly customizable agreements that are usually tailored to optimize a set of desired objectives. The parameters typically negotiated and set forth in a cross-currency swap define the key terms for exchanging cash flows over the life of the transaction:

- **Notional amounts:** These are the USD (or home currency) amount and its equivalent in foreign currency to be exchanged between the parties and to be used as the basis for calculating interest payments. The exchange rate that governs this conversion is typically the spot rate on trade date.
- **Effective date and maturity date:** These are the preset dates on which interest rate calculations begin and end, respectively.
- **Cash flows:** These are the optional components such as the initial exchange, plus any periodic principal exchanges (amortization) and the final exchange.
- **Interest rate calculation:** On each of the two legs of the swap, a company may choose whether to pay or receive variable or fixed interest rate payments. Therefore, four possible combinations exist in designing the payment profile of the swap: *fixed/floating*, *fixed/fixed*, *floating/fixed* and *floating/floating*. The choice usually seeks to align the payments generated with those of the loan hedged, and the new risk profile desired.
- **Other details such as day-count calculation conventions:** This commonly follows market convention for each of the currency and interest index.

There are a number of parameters that have to be defined and customized. The guiding principle is to customize one set of relevant parameters (for example on the receive-USD leg) to best match an underlying debt profile, hedged item or desired exposure pattern.

### How Much Does It Cost to Enter into a Cross-Currency Swap?

A key question to address early on is “how much does it cost to execute such a contract?” Typically, a cross-currency swap is entered into at **no upfront cost**. The swap is structured “at-market”, which means that the **net present value of the combined streams of cash flows is zero** at the time that the transaction is executed. In other words, the sum total of payments to be made is equal to the sum total of payments expected to be received. The two sides of the transaction must hang in a balance at the outset – otherwise the swap would not make sense economically. Any consideration associated with covering market, regulatory, credit and administrative charges by the financial counterparty providing the transaction are usually included in the interest rate (e.g., +30 basis points) payable by the counterparty end-user on the pay-leg.

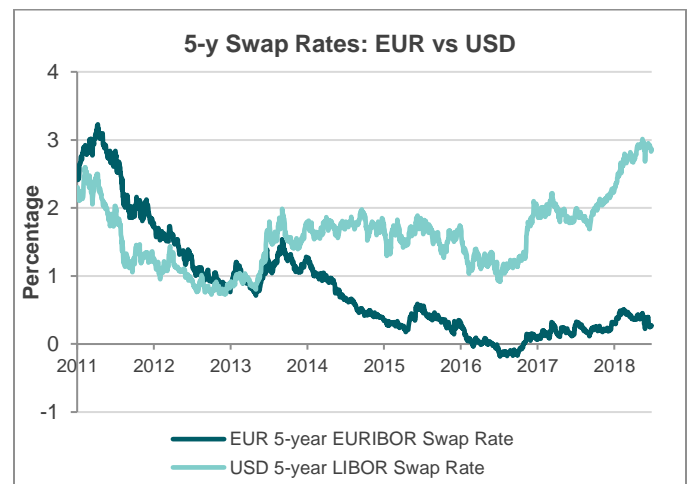
### Why Use Cross-Currency Swaps?

The following are the three most common business reasons for a company to employ a cross-currency swap as part of its risk management strategy, with the goal of taking advantage of favorable financial market conditions.

#### *Favorable interest rate differentials*

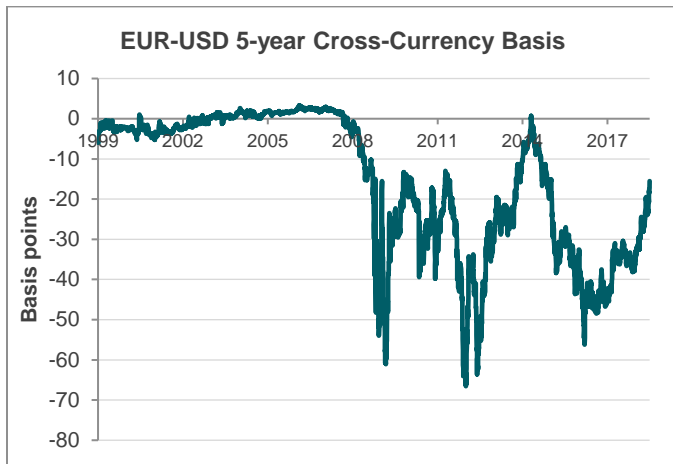
Currencies exchanged in a cross-currency swap often have very different interest rate term structures. That is precisely when cross-currency swaps tend to be more advantageous. They allow a company to convert a loan with a higher interest rate into one with a lower rate, thus reducing interest costs. This occurs when interest rates are higher for the currency of the original loan being swapped (e.g., USD) than interest rates of the new, destination currency (e.g., EUR or JPY).

An example is when the relevant central bank is in the middle of a more stimulative and accommodative cycle (e.g., the European Central Bank or Bank of Japan). Given the constraints placed on the swap by design – zero upfront cost and translation of all cash flows using the spot exchange rate – present value calculations typically result in the pay-leg of the swap bearing a lower interest rate than the one on the receive-leg.



#### *Cross-currency basis*

Occasionally, dislocations in financial markets offer an additional advantage when funding constraints and the resulting supply-and-demand conditions for different maturities and currencies have led to the emergence of a non-negligible, separately identifiable parameter. This parameter is known as the cross-currency basis. It indicates the market participants’ preference, even after accounting for spot and interest rates, for a particular position in the spot/forward currency market. The basis may further amplify favorable interest rate differentials and thus benefit from swapping a loan from one currency to another. For example, if the 5-year EUR-USD basis is -0.25%, a company swapping Euro interest payments for US dollars over five years benefits from a 0.25% discount over the EUR-EURIBOR rate.



In essence, the cross-currency basis is the premium that the market places on a particular currency in the forward market, over and above that implied by nominal interest rates in both currencies. The cross-currency basis has become much more relevant after the 2008-2009 financial crisis and the dislocations in global money markets that have persisted since. During the financial crisis, liquidity in the system drained, and financial institutions around the world found themselves in dire need for USD funding. Banks began using the currency swap market to obtain access to US funds and, as a result, demand for USD funding became so great that market participants began paying a premium to secure that funding.

### Currency risk reduction

As a company expands internationally, its capital structure is typically slower to adjust and often harder to reconstruct, given funding constraints and related idiosyncrasies. Ideally a company will create natural hedges and, over time, match liabilities incurred to the currency in which it generates revenues so that currency risk is naturally reduced or eliminated. However, this is rarely the case when it comes to long-term financing. Capital structure and debt in particular tend to remain in a single currency, and usually the home currency of the business. In the U.S., this is even more true as capital and debt markets tend to be very liquid, especially for U.S.-based companies.

As currency risk increases in an expanding business and goes beyond what natural hedges can mitigate, companies begin adopting ongoing operational and cash flow hedging programs. However, while providing flexibility, these hedging programs tend to be administratively burdensome and overly granular. Cross-currency swaps are thus elegant solutions, synthetically creating liabilities in the currency in which a company incurs revenues and reducing currency risk in the process.

### Valuation & Accounting Considerations

Once a swap has been executed, the transaction must be recorded on the company's balance sheet and measured at fair value every time the company prepares financial statements. The value of the swap fluctuates based on changes in a range of factors over time, primarily the **spot exchange rate** and **interest rates** for the two currencies involved in the swap.

Companies have a range of choices when it comes to recording the **change in value** period-to-period and the type of accounting treatment to select for the cross-currency swap. The unrealized gains/losses arising from changes in value could be significant and may have a material impact on a company's financial statements. Therefore, it is important to thoroughly consider the following accounting options (with associated requirements) *before* entering into the cross-currency swap.

### Net investment hedging

In accordance with FASB ASC 815, a swap under a net investment hedging designation can be deemed a hedge of a company's long-term equity exposure in a foreign operation. The accounting exposure arises in the consolidated financial statements of the parent company from the periodic translation of the net equity balance of the foreign subsidiary. The translation effect is usually recorded in "Other Comprehensive Income" (OCI) and is driven primarily by changes in the spot exchange rate period-to-period. To the extent that the parent company has entered into a cross-currency swap and designated it as a net investment hedge, it may record changes in fair value of the swap as a partial offset to the cumulative translation adjustment of the net foreign equity hedged. Amounts recorded in OCI are then reclassified to the income statement upon a sale or substantial liquidation of the foreign subsidiary. Certain restrictions must be abided by to qualify for this favorable accounting treatment, including maintaining same interest index type on both legs of the swap (i.e., the swap must be either fixed/fixed or floating/floating) and not hedging more than the outstanding net equity balance held in the overseas operation. But, overall, the benefits of the net investment hedging approach are significant, as the accounting model insulates the income statement from the potentially unfavorable effect of unrealized gains/losses arising from changes in fair value of the swap period-to-period.

### Cash flow hedging

In instances where an entity enters into a cross-currency swap to convert a foreign currency debt obligation into its functional currency (e.g., converting a USD-denominated loan held in a Euro-functional currency entity into a Euro loan), it may be appropriate to adopt a cash flow hedge accounting approach. This treatment avoids any "P&L noise" arising from an imperfect offset between (1) the effect of re-measuring the loan due to changes in the spot exchange rate and (2) the effect of marking-to-market the swap period-to-period. The two effects usually track pretty closely and offset each other given that the majority of the change in swap value is typically driven by the changes in spot rate and their impact on the final exchange rate of the swap – much like how the same spot rate variability drives a negative change in value of the hedged loan. However, the ASC 815 accounting model in this case allows for a smoother recognition of changes in swap value in the income statement through the use of OCI.

Both in this case and in net investment hedging designations, proper documentation and effectiveness testing thresholds must be met to qualify for the preferred accounting treatment, which may be complicated and require quantitative resources and modeling techniques.

### No hedge accounting

If the cross-currency swap does not qualify or the entity entering into the transaction chooses not to elect the special hedge accounting treatment, then any unrealized gains/losses from marking-to-market the swap must be recorded in the income statement each period. Because this may give rise to volatility in net income, the approach may make better sense for transactions with smaller notional amounts, shorter tenors, or for private companies that are able to point stakeholders to other profitability measures than net income (e.g., free cash flow) and thus strip away the effect on financial performance of unrecognized gains/losses from hedging activities.

### Pros and Cons of Cross-Currency Swaps

#### Advantages

- This is an all-in-one financial instrument that requires minimal ongoing administrative work, adjustments and further layering of additional hedges.
- Favorable accounting treatment enables a company to efficiently hedge large balance sheet items such as investments in foreign jurisdictions or debt denominated in foreign currency.
- Allows the capture of favorable interest rate differentials between two currencies, leading to interest cost savings.
- It's highly liquid, efficient to trade and available for most currencies across longer tenors.

#### Disadvantages

- Cross-currency swaps require a good understanding of interest rate and foreign currency markets, credit availability and sufficient institutional knowledge for the end-user.
- The final exchange on the swap may become a liability at maturity and can potentially contribute to large swings in value (recorded as unrealized gains/losses), which may materially affect a company's P&L, especially if special hedge accounting is not adopted.
- There is limited flexibility once executed. The convenient, all-in-one feature of the swap can also be a drawback. If something changes in the hedged exposure profile, such as lower than anticipated foreign currency cash flows, the cross-currency swap is relatively difficult to adjust when compared to other options, such as a strip of individual forward contracts, and may lead to incremental transaction costs.

### Conclusion

While cross-currency swaps are more complex than more commonly-used hedging tools, the increase in utilization across several industries and client sectors is a testament to their viability and effectiveness as a risk management strategy. This is particularly the case for companies that take a longer-term view of their financing plans, as well as their currency risk exposures in the business beyond their typical operating cycle. In those situations, and especially when market conditions provide a benefit arising

from interest rate differentials, cross-currency swaps can be a very powerful and effective hedging instrument.

### Contact

For more information on this or related global markets risk management topics, please reach the Citizens Bank Global Markets coverage desk at:

[FX@citizensbank.com](mailto:FX@citizensbank.com) or **888.821.3600**

This document has been prepared for discussion and informational purposes only by Citizens Bank, N.A. In the preparation of this document, Citizens has relied upon and assumed, without independent verification, the accuracy and completeness of all information available from public sources. Citizens makes no representation or warranty (expressed or implied) of any nature, nor does it accept any responsibility or liability of any kind, with respect to the accuracy or completeness of the information in this document. The information in this document is subject to change without notice and Citizens does not undertake a duty or responsibility to update these materials. The information contained herein should not be construed as investment, legal, tax, financial, accounting, trading or other advice. Under no circumstances should the information be considered recommendations to enter into transactions. You should consult with your own independent advisors before acting on any information herein.

©2019 Citizens Financial Group, Inc. All rights reserved. Citizens Commercial Banking is a brand name of Citizens Bank, N.A. Member FDIC.