Futures invoice spread

Invoice spread transactions allow investors to express an opinion on the perceived credit risk of two financial debt instruments (for example, a sovereign government bond and an interest rate swap). A widening invoice spread reflects a perceived increase of credit risk. A narrowing invoice spread reflects a perceived diminishing of credit risk.

The futures invoice spread strategy is based on the forward-starting interest rate swap that begins on the last delivery date of the futures contract and ends at the maturity date of the underlying cash bond (the cheapest-to-deliver bond or CTD). The spread represents the difference between the fixed rate of the swap for the same maturity and the yield of the bond futures' CTD. Futures invoice spreads can be traded on-exchange through an Exchange for Risk (EFR) facility.

Government bond asset swap spread exposure can be achieved cost efficiently using interest rate futures instead of cash bonds. To initiate a long/short position in the bond futures market, only an initial margin is required. Bond futures, such as the CGB contract, also have a narrower bid/ask spread than that of the underlying cash bond market. Furthermore, bond futures contracts are a great alternative to investors who cannot short bonds or foreign investors that don't have easy access to the Canadian government bond market. Futures contracts also eliminate the need to do any financing transactions in the repo/reverse repo market.

Invoice spread analysis – two strategy examples

Hedging a forward interest rate swap with CGB contracts

Bloomberg's futures invoice spread analysis (IVSP) function calculates the forward bond futures yield against a corresponding forward-starting interest rate swap so that investors can evaluate potential invoice spread transactions. The IVSP analytics function can also be used to determine the number of CGB contracts required to hedge a notional amount of $10 million of forward interest rate swaps. In this analysis, we used the CGB June 2012 contract and the CTD reference bond is the Can 3½% June 1, 2020 bond.

Cont'd... >>

TMX Montréal Exchange

Considering current market implied yields, an investor must take a position in 82 CGB contracts to hedge a notional amount of $10 million of corresponding forward-starting swap. Specifically, it takes 82 CGB contracts for the position to be duration neutral—where the dollar value of one basis point (DV01) of the fixed leg of the swap ($7,549 per $10 million of notional) is equal to the DV01 of the CGB contract ($7,587 per $10 million of notional). Note that the slight difference in the DV01 of the position is due to the rounding of the 82 CGB contracts. With this position, the overall interest rate level change is hedged and the remaining exposure is the spread (swap spread of 0.382% or 38.2 basis points) between the futures yield (1.902%) and the swap fixed rate (2.284%).

This analysis can be done on different segments on the yield curve using the CGZ and the CGF contracts coupled with the corresponding matched-maturity forward-starting swap. As per results obtained, an investor may choose to be long or short the relevant futures and take the opposite position on the matched-maturity swap. At expiration of the futures contracts, the investor can choose to roll the contracts, close-out the position or take physical delivery of the cash bond.

Taking a view on the swap spread using the futures invoice spread

An investor can also be long or short the relevant bond futures and take the same position on the matched-maturity swap through the Exchange for Risk (EFR) facility.

An EFR is a basis trade. Investors execute an EFR on the view that the price difference between the cash leg (an OTC derivative in the case of an EFR) and the futures leg of the transaction will either widen (long the basis) or narrow (short the basis). Specifically, an investor who executes an EFR using a bond futures contract and a matched-maturity interest rate swap is taking a view on the direction of the swap spread.

An EFR is a transaction that provides market participants with a way to unwind an existing OTC position or to initiate a new OTC position via the futures market. Specifically, an EFR represents the simultaneous exchange of a long/short bond futures position against a receiver/payer interest rate swap position, while the two legs have a related comparable sensitivity to interest rate changes (normally expressed through a hedge ratio based on the basis point value of the futures and the swap).

Conceptually, an EFR is similar to an Exchange for Physical (EFP) transaction, except that at the time the EFR is arranged it involves the exchange of a futures position for an interest rate swap (where the interest rate swap represents the "cash leg" of the EFR) rather than the exchange for a physical bond.

EFR example using the CGB contract

1. **Original position:**
   Trader A: Long CGB futures

2. **EFR trade:**
   a. Sell CGB to Trader B
   b. Buy receive fixed swap from Trader B

Result Trader A exchanges a long CGB futures position for a receive fixed swap (OTC position).

1. **Original position:**
   Trader B : Receive fixed swap (OTC position)

2. **EFR trade:**
   a. Buy CGB from Trader A
   b. Sell receive fixed swap to Trader A

Result Trader B exchanges a receive fixed swap (OTC position) for a long CGB futures position.

Cont'd... >>

How to report an EFR transaction?

An EFR transaction must be reported to the Market Operations Department (MOD) for approval and subsequent input into the SOLA trading system. Approved participants for both the seller and buyer must complete and submit to MOD the EFP/EFR reporting form prescribed by MX.

This form is available at http://www.m-x.ca/efp_formulaire_en.php. If the EFR (or EFP) transaction is executed before the close of the futures contract trading session, the EFP/EFR reporting form must be submitted immediately upon the execution of the transaction. If the transaction is done after the close, the EFP/EFR reporting form must be submitted no later than 10:00 a.m. (Montréal time) on the next trading day.

Results

The futures invoice spread is a simple and efficient way to take a view on the credit risk associated between the Government of Canada bond market and the corresponding matched-maturity interest rate swap. The exposure is the spread between the CTD bond underlying of the futures contract and the corresponding forward starting swap yield.

It is possible to set-up the trade with the new IVSP Bloomberg function and execute an EFR transaction on-exchange to unwind an existing OTC interest rate swap position or to initiate a new OTC interest rate swap position via the futures market.