

THE INFLATION SWAP MARKET

(COMMON LIGHT STRUCTURES)



Zero-Coupon Inflation Swap

Description

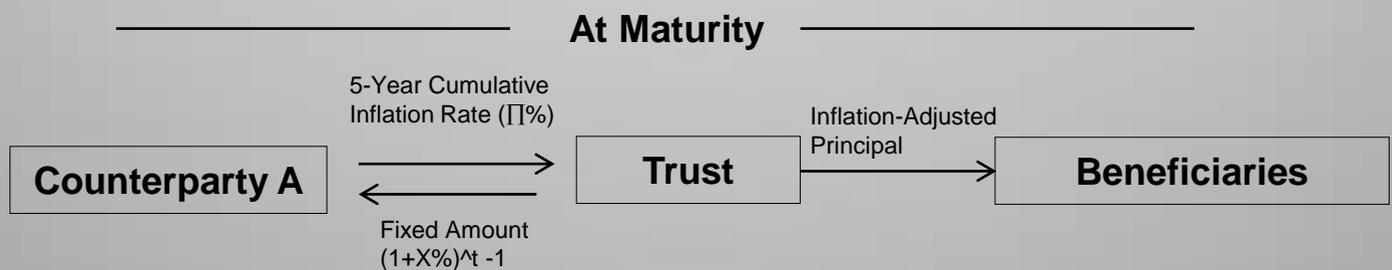
A cashflow exchange between Party A (seller) and B (buyer) in which A pays at maturity the cumulative inflation for term of the swap based on the notional and a published inflation index and B pays the capitalized interest based on the notional and a predetermined fixed rate. This rate is equal to the geometric average of the periodic inflation rates for term of the swap.

Benefits

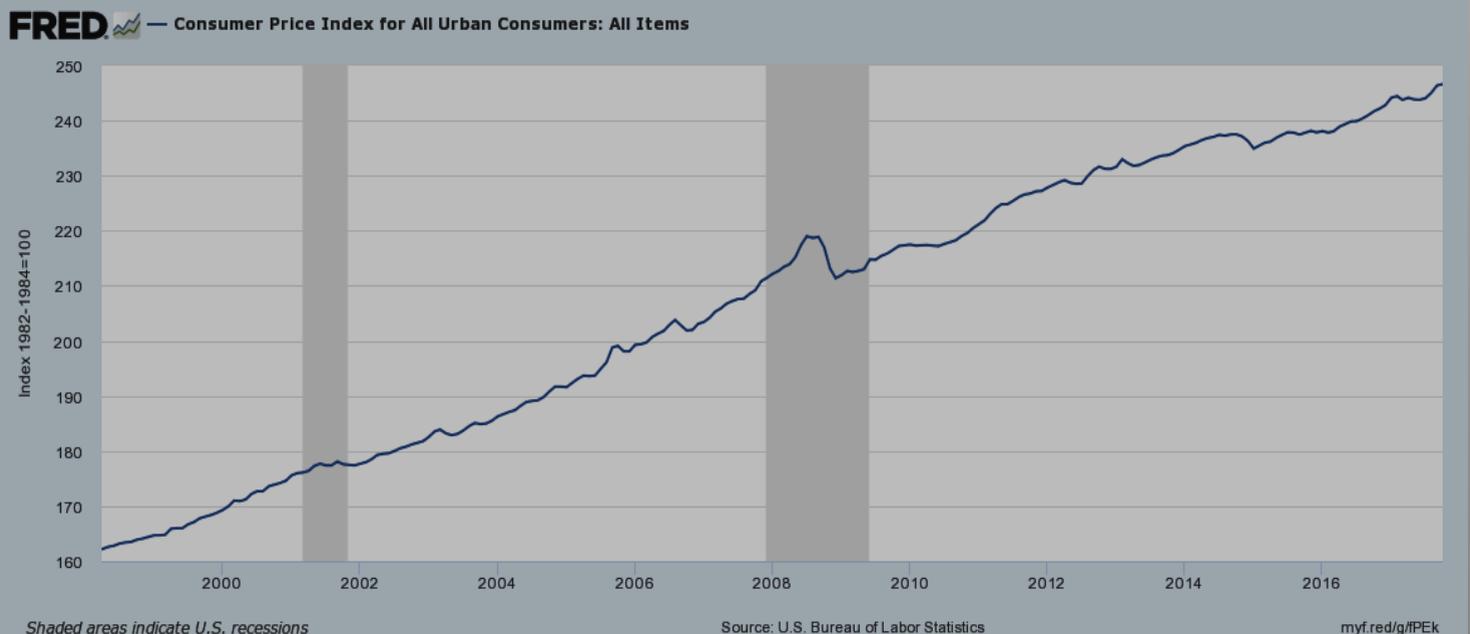
- Allows Party B to hedge the cumulative inflation effect from balloon payment at the end of the term.
- Can be customized to match the revenues of the inflation receiver.
- Allows Part A to speculate and gain if actual cumulative inflation within the term is lower than the inflation forwards.

Business Case

An endowment trust is planning a major distribution to its beneficiaries in 5 years. They are forecasting a higher inflation than the government bond inflation breakeven rate.



$$\text{Net Cashflow (at Maturity)} = I - (1+X\%)^t - 1$$



Additive Inflation Swap

Description

A cashflow exchange between Party A (seller) and B (buyer) in which, at each payment date, A pays a coupon plus an inflation rate for a given period based on a published index and B pays a benchmark bank lending rate. Although the value of this swap is zero at inception, the market has evolved significantly due to concerns on inflationary pressures given massive central bank monetary stimulus in recent years. Large global financial counterparties offer many flavors on their structure depending on the needs of their clients.

Benefits

- Allows Party B to hedge the inflation effect from a stream of fixed revenues.
- Can be customized to match the revenues of the inflation receiver.
- Allows Part A to speculate and gain if actual inflation rates within the term are lower than the inflation forwards.
- In order to increase the real rate party B receives or reduce the real rate party B pays, it can sell the right to Party A to terminate early.

Business Case

A regional bank wants to extend the duration of a commercial loan. Additionally, it's concerned about inflation picking up and widening its gap versus the short term benchmark.

On each payment date



$$\text{Net Cashflow} = 3M \text{ Libor} + 2\% - 3M \text{ Libor} + 2\% + \text{Qtly Inflation} = 4\% + \text{Qtly Inflation}$$



Inflation-Linked Annuity Swap

Description

A cashflow exchange between Party A (seller) and B (buyer) in which, at each payment date, A pays the cumulative inflation on the notional, according to a published index, since the start of the swap, and B pays the capitalized amount of a predetermined fixed interest rate. This rate is equal to the geometric average of the cumulative inflation rate for whole term of the swap.

Benefits

- Allows Party B to hedge the inflation effect from a stream of fixed revenues.
- Can be customized to match the revenues of the inflation receiver.
- Allows Part A to speculate and gain if actual inflation rates within the term are lower than the inflation forwards.

Business Case

A highway operator wants to lock in receipts it obtains from its traffic revenues in a 10-year toll concession. The company is also forecasting a lower inflation than the government bond market inflation breakeven rate.

On each payment date



$$\text{Net Cash flow (on Payment Date)} = \Pi_t - (1+X\%)^t + 1$$

US INFLATION RATE



SOURCE: TRADINGECONOMICS.COM | U.S. BUREAU OF LABOR STATISTICS

Inflation Asset Swap (ASW)

Description

A cashflow exchange between Party A (seller) and B (buyer) in which, at each payment date, A pays the reference bond nominal coupon based on the notional adjusted for cumulative inflation since the start of the swap, and at maturity pays only the cumulative inflation on the same notional, according to a published index, and B pays a reference short term interest rate plus a spread. This spread represents an inflation-adjusted credit premium over a money market rate over the life of the reference bond.

Benefits

- Allows Party A to go long on a desired inflation adjusted credit and lock a spread over a short term reference rate for the life of the bond.
- Can be customized to match the revenues of the reference inflation adjusted bond.
- Allows Party A to speculate and gain if actual cumulative inflation within the life of the reference bonds are higher than the market breakeven rate forwards.
- Party A's receivable floating leg can then be swapped into fixed or structured coupons, extending to a desired duration.

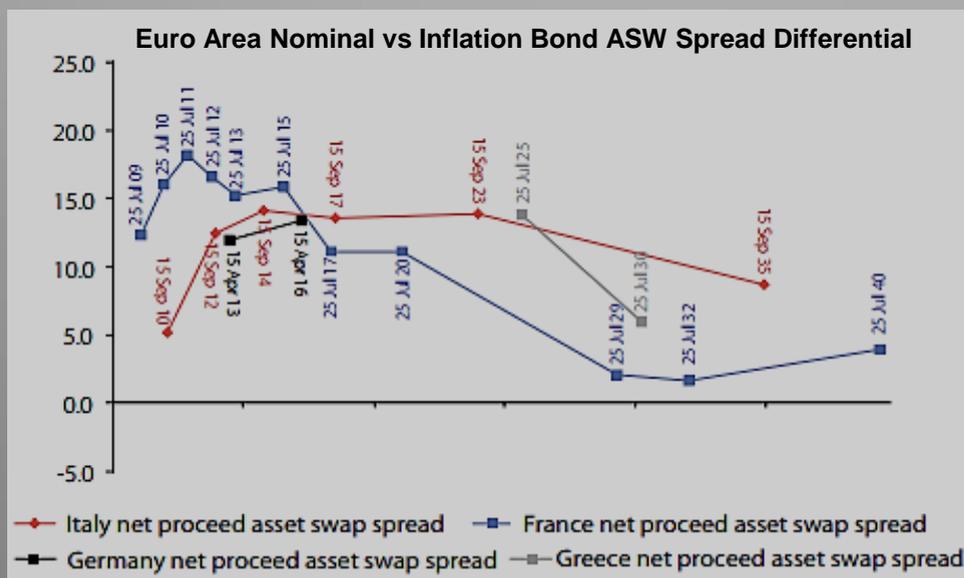
Business Case

Disruptions in the sovereign bond market in 2010 European debt crisis led to pricing differences between cash inflation bonds and inflation ASW spreads, leading government inflation linked bonds to trade at wide asset swap spreads over Euribor and at large discounts over nominal government bonds. So a pension fund with a bullish view on inflation can lock in the asset swap spread by getting exposure to an inflation linked bond and a swap that exchanges the inflation linked coupons into floating Euribor coupons.

On each payment date



Net Cash flow (on Payment Date) = 3M Euribor + Spread – Inflation-adjusted Coupon
 (*) +/- upfront premium/discount



Inflation Strangle Swap

Description

A cashflow exchange between Party A (seller) and B (buyer) in which, at each payment date, A pays a reference rate short term interest rate plus a spread, which decreases if inflation (according to a published index) falls outside preset strike levels, and B pays a reference short term interest rate plus a spread. Can be customized to match the strike levels and/or a spread. This spread represents a pickup in yield for B for selling inflation volatility.

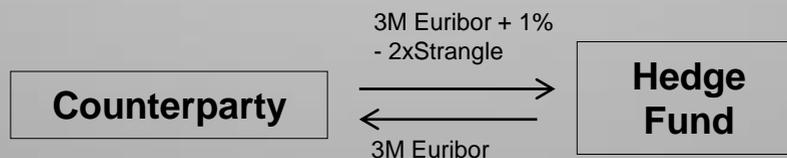
Benefits

- Allows Party A to buy inflation volatility if it considers that future inflation could move outside of a given strangle range.
- Allows Party B to sell inflation volatility if it considers inflation will stay put within a given strangle range.
- Party A's receivable floating leg can then be swapped into fixed or other structured coupons, extending to a desired duration.

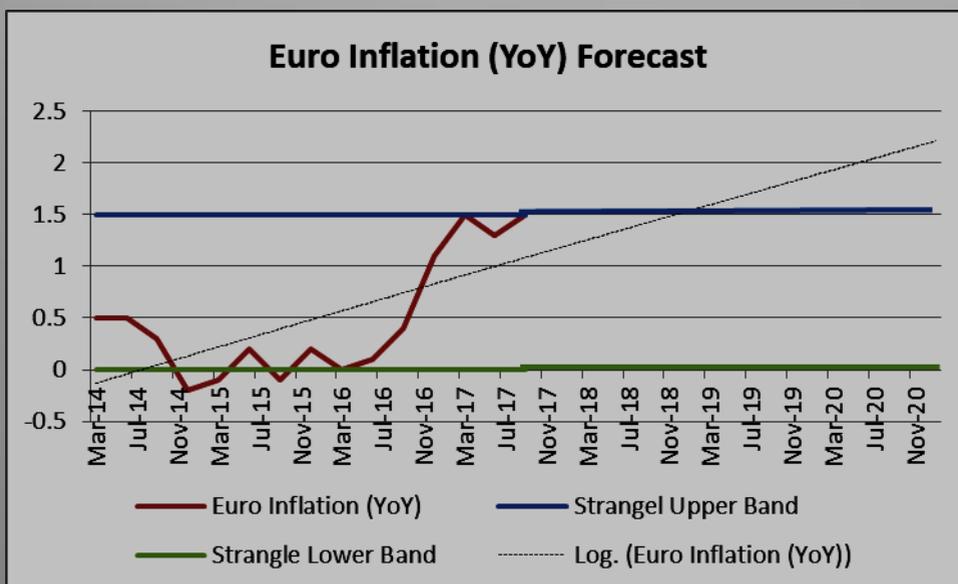
Business Case

The market inflation breakeven forwards and the current macroeconomic environment are pointing towards higher inflation. However, a hedge fund portfolio manager is bearish on inflation for the next 5 years. He decides to go long 3M Libor plus a spread minus absolute inflation above or below a certain range, and short 3M Libor.

On each payment date



Net Cash flow (on Payment Date) = 1.00% – 2 x Strangle
 where Strangle = Max(0%, YoY Inflation Rate – 4.00%) + Max(0%, 0% - YoY Inflation Rate)



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