

ASX Interest Rate Futures Research

Trading the 90 Day Bank Accepted Bill Futures contract (IR) vs
3 Year Treasury Bond Futures (YT)

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Spread trading* opportunities with ASX Interest Rate Futures contracts

The BAT Spread acts as a proxy momentum indicator of future rises or falls in interest rates.

ASX's benchmark Interest Rate Futures contracts present several interesting spread trading opportunities across the short term interest rate curve. Two key points on the curve are:

1. the 90 Day Bank Accepted Bill Futures (IR) contract; and
2. the 3 Year Treasury Bond Futures (YT) contract.

Both contracts exhibit strong market turnover and order book depth.

The IR contract is a key interest rate indicator and pivotal point in the short term interest rate yield curve. Basing the spread order on this contract provides opportunities to both the more cash rate sensitive IB contract (the Cash Against Bills or CAB Spread) and the longer 3 Year Treasury Bond Futures contract (the Bills Against Treasuries or BAT Spread). This paper reviews the performance of the BAT Spread highlighting key attributes for traders looking to take advantage of this trading opportunity.

The BAT Spread

The BAT Spread is based on the ASX's 90 Day Bank Bill Futures contract (IR) and 3 Year Treasury Bond Futures (YT) contract. The BAT Spread reflects expectations of the steepness of the interest rate curve – this being the interest rate differential between the 90 day bank bill and 3 Year Treasury Bond. A large positive spread (the 3 Year Treasury Bond yield is trading above 90 day bank bill yield) infers expectations of strong future economic growth and/or higher future inflation. A negative spread or inverted yield curve (the 3 Year Treasury Bond yield is below the 90 day bank bill yield) infers expectations of sluggish economic growth and lower inflation. The BAT Spread can therefore act as a proxy momentum indicator of future rises or falls in interest rates. The more extreme (positive or negative) the spread, the greater the expectation of change momentum.

The graph below illustrates performance of the BAT Spread¹ between March 1992 and September 2011. During this period 90 Day Bank Bills peaked at 8.15% in March 2008 before falling to a low of 2.57% on 3 February 2009. 90 Day Bank Bills then retraced back to 4.79% by 30 March 2010. Over the same period the BAT Spread ranged from -50 basis

* Spread trading refers to the facilitation by ASX Trade24 of the placing of spread orders. A spread order is an order seeking to deal in two contracts by buying one contract and selling the other at the same time. Therefore, the trader is primarily concerned with the price differential between the value of the two contracts, or the "spread differential".

¹ BAT Spread based on differential between the first listed IR Futures month and the YT Futures front month.

points (bps) in October 2007 to a low of -196 bps in March 2008 with a peak of +173 bps by the end of July 2009. Placing a positive BAT Spread (buy IR, sell YT) around the time when the indicator turned between March and September 2008, would have captured over 300 basis points. By the time cash rates were falling sharply in July 2008, the BAT Spread had already shown significant momentum which continued for another twelve months. Again well before the time of the first cash rate rise in October 2009, the BAT Spread had peaked in momentum expectations and was contracting back towards more normal levels.



Placing the trade

Differences in the contract scaling (or tick values) between IR and YT contracts needs to be taken into account to ensure the BAT Spread's performance does not suffer due to slippage. Both the IR and YT contracts have variable tick dollar values. The IR contract has a face value of A\$1 million, the YT has a face value of A\$100,000.

The dollar value of a 0.01% change in both contracts does not remain constant but rather varies in accordance with changes in the market price. Calculate the dollar value of a futures tick at a given price by doing the following calculations:

Trade Statistics

Max: 292 basis points

Min: -175.5 basis points

St dev: 80 basis points

Mean: 34 basis points

Differences in the contract scaling (or tick values) between IR and YT contracts needs to be taken into account to ensure the BAT Spread's performance does not suffer due to slippage.

Assume the IR contract is trading at a price of 95.000 (ie. a yield of 5.00%). Calculate:

1. IR contract value at 95.000 (5.00%)= \$987,821.38 (rounded to two decimal places)
2. IR contract value at 94.990 (5.01%)= \$987,797.32 (rounded to two decimal places)
3. Difference (value of 0.01%)= \$24.06



Do the same calculation for the YT contract, using the ASX 3 Year Treasury Bond Futures Tick Value Calculator. (For more information, go to www.sfe.com.au/content/sfe/products/pricing.pdf and the calculator www.asx.com.au/resources/calculators/sfe/sfe_futures_and_options_calculator.xls)

On the 30 March 2010, the IR contract closed at 95.23 (4.77%) giving a tick value of \$24.09. On the same day, YT closed at 94.56 (5.44%) giving a tick value of \$27.60. This made the BAT Spread +67 bps. Based on these levels, 1,000 IR contracts would require 873 YT contracts to be accurately hedged (24.09/27.60).

Note: the number of YT contracts will alter slightly depending on the change in IR and YT prices with positions being adjusted during the life of the trade. To assist in this calculation, ASX has developed a spreadsheet (see www.asx.com.au/interestrates), which indicates the tick value at each price level for the IR and YT contracts.

ASX Trade24 facilitates the trading of BAT spread orders at Exchange defined ratios. These ratios are usually 17 YT to 20 IR futures or 18 YT or 20 IR futures, depending on the level of interest rates in both contracts. Spread markets for the first 3 bank bill futures against the spot month 3 Year Treasury Bond Futures are listed on the ASX Trade24 platform, allowing for spread orders to be executed against other spread orders and for implied spread pricing from orders placed in the underlying leg markets.

Margin offset benefits

ASX clear (Futures) offers margin offsets for portfolios holding spread positions in related markets. The current concession available for a spread portfolio containing 90 Day Bank Bill Futures and 3 Year Treasury Bond Futures is 75% on a 1:1 ratio basis. Using the previous example, where a trader holds 1000 long IR Futures and 873 short YT Futures the margin payable would be calculated as follows:

Total Initial Margin on IR Futures = A\$1,170,000 (1,000 contracts x \$1,170)²

Total Initial Margin on YT Futures = A\$960,300 (873 contracts x \$1,100)³

Total IM = A\$2,130,300 (A\$1,170,000 + A\$960,300)

The total IM for the portfolio reduces from A\$2,130,300 to A\$675,607.50, a significant capital saving.

The spread concession of 75% is applied to the combined margin for 873 IR Futures and 873 YT Futures. This provides a reduction in the total margin payable on the portfolio of A\$1,454,692.50 (75% x (979,290 + 960,300)).

The total IM for the portfolio reduces from A\$2,130,300 to \$675,607.50, a significant capital saving.

For more information and research on ASX Interest Rate products, visit www.asx.com.au/interestrates

To read more about ASX 90 Day Bank Bill Futures and ASX 3 Year Treasury Bond Futures, please refer to the product factsheets.

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www.asx.com.au For these contracts the market is operated by Australian Securities Exchange Limited ABN 83 000 943 377

² Margin rates as at 20 September 2011. For current Initial Margins, go to www.asx.com.au/professionals/clearing/operations/index.htm

³ Margin rates as at 20 September 2011. For current Initial Margins, go to www.asx.com.au/professionals/clearing/operations/index.htm