

Sydney Airport interest payment calculation

Here is the pricing information at the time of the transaction on the trading terminal. As you can see the money yield, which is your yield to maturity for the bond, is 5.67%. I also note that the gross price of \$128,176.00 includes a net price of \$127,849.00 and an accrued interest amount of \$327.00. I will get back to those numbers later.

BOND INFORMATION				HISTORY			
SETTLEMENT DATE	3/21/2017			ACIF INDEX	CAPITAL VALUES		
PRICE	127.849000000			12/31/2016	110.000	5/20/2017	128.83
YIELD	QUARTERLY	3.150				2/20/2017	128.01
	SEMI-ANN	3.162				11/20/2016	127.31
INFLATION ASSUMPTION	2.5000%					8/20/2016	127.20
MONEY YIELD						5/20/2016	127.09
	QUARTERLY	5.670					
	SEMI-ANN	5.710					
Personal default Yield Betas now available. Type COVR <GO>.							
SENSITIVITY ANALYSIS				CURRENT PERIOD DATA			
FOR VARIOUS REAL vs NOMINAL YIELD-BETA ASSUMPTIONS (SEE <HELP>)				CURRENT INDEX FACTOR	0.640		
YIELD-BETA ASSUMPTION:				PREVIOUS INDEXED CAPITAL VALUE	128.01		
	0.000	0.500	1.000	CURRENT INDEXED CAPITAL VALUE	128.83		
EFF. DURATION	0.000	5.509	11.019	PAYMENT INVOICE			
RISK	0.000	7.062	14.123	FACE AMOUNT	100		
CONVEXITY	0.000	0.354	1.415	FACE VALUE OF BOND	100000		
				NET PRICE	\$	127849.00	
				29 DAYS ACCRUED INT	\$	327.00	
				GROSS PRICE	\$	128176.00	

The method to calculate the coupon is defined as the coupon and principal linked to the last 2 quarter on quarter change for the Australian Consumer Price Index (CPI) as shown by ACIF index. The ACIF index is produced by the Reserve bank of Australia. A screen shot of the ACIF is shown later for you to see what it looks like.

The coupon is calculated as follows:

$$\text{Interest Payment} = (\text{Coupon} \div \text{Frequency}) \times \text{Index Ratio} \times \text{Face Value}$$

For the Coupon to be distributed on 20 May 2017

$$\text{Interest Payment} = (3.12\% \div 4) \times 1.2883 \times \$100,000 = \$1,004.87$$

Where Index Ratio = Reference CPI \div Base CPI

Base CPI = 100

Reference CPI = 128.83

The Capital values that the most recent coupon calculations have been derived from as shown in the table below.

Coupon Date	Capital Value
20 May 2017	128.83
20 Feb 2017	128.01
20 Nov 2016	127.31
20 Aug 2016	127.20
20 May 2016	127.09

As each quarter CPI comes out the change is added to the Capital value so the 3.12% keeps being multiplied by a larger and larger number. This is why you end up receiving the 5.67% yield assuming CPI over the life of the bond sits in the middle of the RBA target.

The Reserve Bank's CPI factor page is below to give you an idea of what it looks like.

ACIF 0.64 As Of 12/31/16
Australia CPI Factor Avg Chg in CPI QoQ Reserve Bank of Australia

ACIF Index		90 Export to Excel		Historical Price with % Chg		
Australia CPI Factor Avg Chg in CPI QoQ		High	2.42	on	09/30/89	
Range	06/30/1987 - 12/31/2016	Low	-.37	on	09/30/97	
Market	Last Price Mid Line	Average	.76		.76	
View	Price with % Chg	Net Chg	-1.16		-64.48%	
Date	Last Price	Net Change	% Change	Mid Line	Net Change	% Change
Sa 12/31/16	.64	+09	+16.36%	.64	+09	+16.36%
Fr 09/30/16	.55	+46	+511.11%	.55	+46	+511.11%
Th 06/30/16	.09	+00	+0.00%	.09	+00	+0.00%
Th 03/31/16	.09	-.33	-78.57%	.09	-.33	-78.57%
Th 12/31/15	.42	-.14	-25.00%	.42	-.14	-25.00%
We 09/30/15	.56	+14	+33.33%	.56	+14	+33.33%
Tu 06/30/15	.42	+23	+121.05%	.42	+23	+121.05%
Tu 03/31/15	.19	-.14	-42.42%	.19	-.14	-42.42%
We 12/31/14	.33	-.14	-29.79%	.33	-.14	-29.79%
Tu 09/30/14	.47	-.05	-9.62%	.47	-.05	-9.62%
Mo 06/30/14	.52	-.15	-22.39%	.52	-.15	-22.39%
Mo 03/31/14	.67	-.30	-30.93%	.67	-.30	-30.93%
Tu 12/31/13	.97	+19	+24.36%	.97	+19	+24.36%
Mo 09/30/13	.78	+39	+100.00%	.78	+39	+100.00%
Su 06/30/13	.39	+10	+34.48%	.39	+10	+34.48%
Su 03/31/13	.29	-.51	-63.75%	.29	-.51	-63.75%
Mo 12/31/12	.80	-.15	-15.79%	.80	-.15	-15.79%

Like I mentioned before, you will notice in the trade screen the accrued interest of \$347.90. This is the amount of interest that has been accrued on the bond between the last time a coupon was paid and the date your transaction was settled. i.e.:

Total number of days between coupons (20 Feb 17 to 20 May 17) = 89

Total number of days between last coupon and settlement date of the trade (20 Feb 17 to 21 Mar 17) = 29 days.

Interest Accrued = $\$1,004.87 \times (29/89) = \327.00 .