Computation of Purchase Interest for Bonds

[See the previous W5 version guide.]

PURPOSE

This document describes the procedure for the computation of purchase interest for Bonds.

WHY IS THIS IMPORTANT?

This allows users to verify the formula and methodology used by CS Lucas to compute the purchase interest for a bond.

FORMULA

The following examples show different types of bond purchase interest methods and how system computes the purchase interest.

Note: Computation of purchase interest is based on the last coupon date till the transaction's value date.

PI-Act/Act

		A	B	C	D	E	F	G=D-E	H=F-E	I=C*B/A	J=I/H*G	
Bond	Frequency		Coupon	Principal	VDate	Last Coupon Date	Next Coupon Date	Acc Days	Period Days	Period Income	Accrued Income	
BRITEL 6.625 23/06/17 Corp	Annual	1	6.625%	1,000,000.00	28-Apr-16 Thu	23-Jun-15 Tue	23-Jun-16 Thu	310	366	66,250.00	56,113.39	
											56,113.39	*
BRITEL 6.625 23/06/17 Corp	Semi-Annual	2	6.625%	1,000,000.00	28-Apr-16 Thu	23-Dec-15 Wed	23-Jun-16 Thu	127	183	33,125.00	22,988.39	
											22,988.39	*
NY09100H	Semi Annual	2	3.000%	1,000,000.00	6-Apr-10 Tue	1-Mar-10 Mon	1-Sep-10 Wed	36	184	15,000.00	2,934.78	
											2,934.78	*
NY07100X	Semi Annual	2	3.125%	1,000,000.00	3-Apr-08 Thu	1-Mar-08 Sat	1-Sep-08 Mon	33	184	15,625.00	2,802.31	
											2,802.31	*
NZ07100S	Semi Annual	2	3.500%	1,000,000.00	8-Dec-11 Thu	1-Sep-11 Thu	1-Mar-12 Thu	98	182	17,500.00	9,423.08	
											9,423.08	*
NY01100F	Semi Annual	2	3.750%	1,000,000.00	19-Oct-06 Thu	1-Sep-06 Fri	1-Mar-07 Thu	48	181	18,750.00	4,972.38	
											4,972.38	*

PI-30/360

		A	B	C	D	E	F	G=D-E (360 Days)	H=F-E (360 Days)	I=C*B/A	J=I/H*G	
Bond	Frequency		Coupon	Principal	VDate	Last Coupon Date	Next Coupon Date	Acc Days	Period Days	Period Income	Accrued Income	
SCOTISH POWER UK Plc	Semi-Annual	2	8.375%	1,000,000.00	12-Oct-16 Wed	20-Aug-16 Sat	20-Feb-17 Mon	52	180	41,875.00	12,097.22	
											12,097.22	*
SCOTISH POWER UK Plc	Annual	1	8.375%	1,000,000.00	12-Oct-16 Wed	20-Feb-16 Sat	20-Feb-17 Mon	232	360	83,750.00	53,972.22	
											53,972.22	*

PI-30/Act

		A	B	C	D	E	F	G=D-E (360 Days)	H=F-E	I=C*B/A	J=I/H*G	
Bond	Frequency		Coupon	Principal	VDate	Last Coupon Date	Next Coupon Date	Acc Days	Period Days	Period Income	Accrued Income	
HDBSP 1.165 04/24/17	Semi Annual	2	1.165%	1,000,000.00	31-Oct-15 Sat	24-Oct-15 Sat	24-Apr-16 Sun	7	183	5,825.00	222.81	
											222.81	*

PI-Act/365

		A	B	C	D	E	F	G=D-E	H=365	I=C*B	J=I/H*G	
Bond	Frequency		Coupon	Principal	VDate	Last Coupon Date	Next Coupon Date	Acc Days	Period Days	Period Income	Accrued Income	
CMASP 3.95 08/24/17	Semi Annual	2	3.950%	1,000,000.00	26-Jul-16 Tue	24-Feb-16 Wed	24-Aug-16 Wed	153	365	39,500.00	16,557.53	
											16,557.53	*
CAPITA 3.85 03/15/17	Semi Annual	2	3.850%	1,000,000.00	20-Apr-15 Mon	15-Mar-15 Sun	15-Sep-15 Tue	36	365	38,500.00	3,797.26	
											3,797.26	*
AREIT 5 07/22/13	Semi Annual	2	5.000%	1,000,000.00	22-Oct-12 Mon	22-Jul-12 Sun	22-Jan-13 Tue	92	365	50,000.00	12,602.74	
											12,602.74	*
ARTSP 4.3 11/30/18	Semi Annual	2	4.300%	1,000,000.00	8-Mar-16 Tue	30-Nov-15 Mon	30-May-16 Mon	99	365	43,000.00	11,663.01	
											11,663.01	*

PI-Act/365 (Act)

Case 1 – Start and end in the same year

		A	B	C	D	E	F	G=D-E	H=365 or 366	I=C*B	J=I/H*G	
Bond	Frequency		Coupon	Principal	VDate	Last Coupon Date	Next Coupon Date	Acc Days	Period Days	Period Income	Accrued Income	
NWIDE FLOAT 07/07/17 Corp	Quarterly	4	0.78375%	1,000,000.00	1-Sep-15 Tue	17-Jul-15 Fri	19-Oct-15 Mon	46	365	7,837.50	987.74	
											987.74	*
NWIDE FLOAT 07/07/17 Corp	Quarterly	4	0.72313%	1,000,000.00	1-Sep-16 Thu	18-Jul-16 Mon	17-Oct-16 Mon	45	366	7,231.30	889.09	
											889.09	*

Case 2 – Start and end in different years

		A	B	C	D	E	F	G=F-E+1 (1st Yr) G=D-E (2nd Yr)	H=365 or 366 (Leap year)	I=C*B	J=I/H*G	
Bond	Frequency		Coupon	Principal	VDate	Last Coupon Date	Next Coupon Date	Acc Days	Period Days	Period Income	Accrued Income	
NWIDE FLOAT 07/07/17 Corp	Quarterly	4	0.77938%	1,000,000.00	12-Jan-16 Tue	19-Oct-15 Mon	31-Dec-15 Thu	74	365	7,793.80	1,580.11	
			0.77938%	1,000,000.00	12-Jan-16 Tue	1-Jan-16 Fri	18-Jan-16 Mon	11	366	7,793.80	234.24	
											1,814.35	*
NWIDE FLOAT 07/07/17 Corp	Quarterly	4	0.76025%	1,000,000.00	12-Jan-15 Mon	17-Oct-14	31-Dec-14	76	365	7,602.50	1,582.99	
			0.76025%	1,000,000.00	12-Jan-15 Mon	1-Jan-15	19-Jan-15	11	365	7,602.50	229.12	
											1,812.10	*

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If no PI computation method is selected, system computes the purchase interest based on the formula below:

Principal * Coupon% * Currency accrual method

Let's say the coupon schedule is as per below and bond transaction's VDate is 28 Apr 2016.

Type	End Date	VDate	Coupon	Coupon PPM
Issued Principal	21 Jun 2007	21 Jun 2007	6.625000	0.000000
Periodic Repayment	23 Jun 2008	23 Jun 2008	6.625000	66,708.230410
Periodic Repayment	23 Jun 2009	23 Jun 2009	6.625000	66,154.783290
Periodic Repayment	23 Jun 2010	23 Jun 2010	6.625000	66,250.000000
Periodic Repayment	23 Jun 2011	23 Jun 2011	6.625000	66,250.000000
Periodic Repayment	23 Jun 2012	23 Jun 2012	6.625000	66,345.216710
Periodic Repayment	23 Jun 2013	23 Jun 2013	6.625000	66,154.783290
Periodic Repayment	23 Jun 2014	23 Jun 2014	6.625000	66,250.000000
Periodic Repayment	23 Jun 2015	23 Jun 2015	6.625000	66,250.000000
Periodic Repayment	23 Jun 2016	23 Jun 2016	6.625000	66,345.216710
Periodic Repayment	23 Jun 2017	23 Jun 2017	6.625000	66,154.783290

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Last coupon payment date = 23 Jun 2015

Next coupon payment date = 23 Jun 2016

Bond transaction's VDate = 28 Apr 2016

Please see below computation of purchase interest based on different currency accrual methods.

(i) Currency accrual method = Act/365 (fixed)

	A	B	C	D	E=D-C	F=365	G=A*B*E/F
Bond	Principal	Coupon	Start Date	End Date	Acc Days	Period Days	Accrued Income
Bond A	1,000,000.00	6.625%	23-Jun-15	28-Apr-16	310	365	56,267.12
							56,267.12

(ii) Currency accrual method = Act/365 (Act)

E=D-C+1

	A	B	C	D	E	F	G=A*B*E/F	
Bond	Principal	Coupon	Start Date	End Date	Acc Days	Period Days	Accrued Income	
Bond A	1,000,000.00	6.625%	23-Jun-15	31-Dec-15	192	365	34,849.32	
Bond A	1,000,000.00	6.625%	1-Jan-16	28-Apr-16	118	366	21,359.29	
							56,208.60	*

E=D-C

(iii) Currency accrual method = Act/360

	A	B	C	D	E=D-C	F=360	G=A*B*E/F	
Bond	Principal	Coupon	Start Date	End Date	Acc Days	Period Days	Accrued Income	
Bond A	1,000,000.00	6.625%	23-Jun-15	28-Apr-16	310	360	57,048.61	
							57,048.61	*

(iv) Currency accrual method = 30/360

	A	B	C	D	E=D-C (360 Days)	F=360	G=A*B*E/F	
Bond	Principal	Coupon	Start Date	End Date	Acc Days	Period Days	Accrued Income	
Bond A	1,000,000.00	6.625%	23-Jun-15	28-Apr-16	305	360	56,128.47	
							56,128.47	*

* The accrued income is rounded to currency decimal places. Currency decimal places is determined at the currency set up. See [Set Up Currency](#).

RELATED INFORMATION

[Create and Amend Investment](#)

[Set Up Security](#)

CHANGE HISTORY

Date	By	Changes
5-Apr-2010	CS	Created.
17-Mar-2016	TS	Reformatted and rewritten.
7-Jun-2016	Douglas	Proofread.
2-May-2017	TS	Rewritten.
9-May-2017	TS	Updated PI computation for blank.
12-Jun-2017	TS	Updated PI computation for Act/365 (Act).
15-Jun-2017	TS	Revised to add accrued income is rounded to currency decimal places.
18-Feb-2025	Lyra	Updated to W6 instructions and screenshots.