

FV	100				
coupon rate	0,08	coupon	8		
yield y	0,1				
number of period n	10				

annually

n	1	2	3	4	5	6
CF	8	8	8	8	8	8
PV CF	7,272727273	6,61157	6,010518	5,464108	4,967371	4,515791
Price P	87,71086579					

semi annually

FV	1000	coupon	4
coupon rate	0,04		
yield y	0,05		
number of period n	20		

n	1	2	3	4	5	6
CF	4	4	4	4	4	4
PV CF	3,80952381	3,628118	3,45535	3,29081	3,134105	2,984862
P	87,53778966					

SUM of the Geomertic sequence for exampl SUM of the Geometric sequence for example 2

-0,6144567106	-0,623111	
-0,0909090909	-0,047619	
6,7590238163	13,08532	
540,721905302	523,4128	
491,5653684564	498,4884	49,84884
plus	plus	???????? ??
PV FV	PV FV	$(?^?-1)/(?-1)$
38,554328943	37,68895	
Price		
87,7108657886	87,53779	

7	8	9	10	10
8	8	8	8	100
4,105265	3,732059	3,392781	3,084346	38,55433

7	8	9	10	11	12	13	14	15
4	4	4	4	4	4	4	4	4
2,842725	2,707357	2,578436	2,455653	2,338717	2,22735	2,121285	2,020272	1,924068

??????=?_1

)

16	17	18	19	20	20
4	4	4	4	4	100
1,832446	1,745187	1,662083	1,582936	1,507558	37,68895

A	B	
2 Data	Description	
3 February 15, 2008	Settlement date	Required.
4 November 15, 2016	Maturity date	Required.
5 5.75%	Percent coupon	Required.
6 95.04287	Price	Required.
7 \$100	Redemption value	Required.
8	2 Frequency is semiannual (see above)	Required.
9	0 30/360 basis (see above)	Optional.

Basis Day count basis
 0 or omitted US 30/360
 1 Actual/actual
 2 Actual/360
 3 Actual/365
 4 European 30/360

FV	100
c	0,08
k	0,1
n	10

coupon

annually		
1.1.2015	Settlement date	
31.12.2025	Maturity date	
8%	Percent coupon	
87,71	Price	
100	Redemption value	
1	Frequency is annual (see above)	
1	30/360 basis (see above)	

YIELD 0,0988205676

semiannually		
1.1.2015	Settlement date	
31.12.2025	Maturity date	
8%	Percent coupon	
87,53	Price	
100	Redemption value	
2	Frequency is semiannual (see above)	
1	30/360 basis (see above)	

YIELD

0,0988496789

The security's settlement date. The security settlement date is the date after the issue date when
The security's maturity date. The maturity date is the date when the security expires
The security's annual coupon rate.
The security's price per \$100 face value.
The security's redemption value per \$100 face value.
The number of coupon payments per year. For annual payments, frequency = 1; for semiannual, 1
The type of day count basis to use.

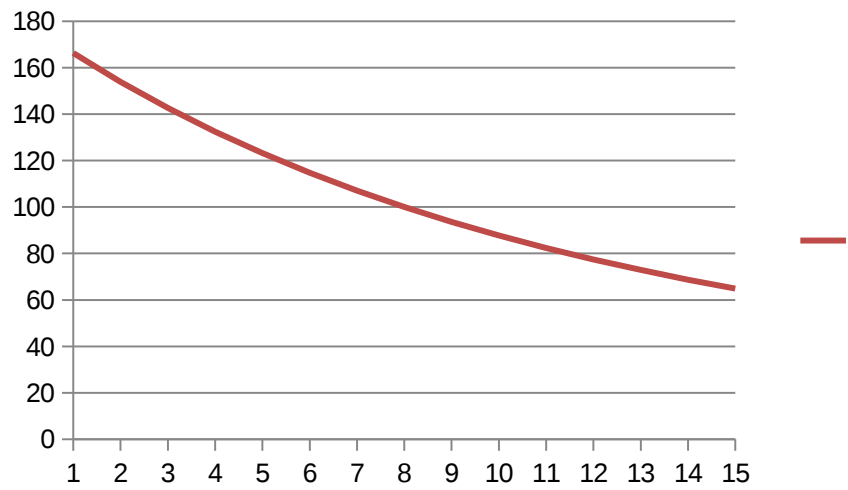
the security is traded to the buyer.

frequency = 2; for quarterly, frequency = 4.

FV	100		
coupon rat	0,08	coupon	8
yield	0,91		
n	10		

annually

n	1	2	3	4	5	6	7	8
CF	8	8	8	8	8	8	8	8
PV CF	4,188482	2,192922	1,148127	0,601114	0,314719	0,164774	0,086269	0,045167
P	8,932366							



9 10 10
 8 8 100
 0,023648 0,012381 0,154763

y	P	Price change
0,01	166,2991	
0,02	153,8955	-7,46%
0,03	142,651	-7,31%
0,04	132,4436	-7,16%
0,05	123,1652	-7,01%
0,06	114,7202	-6,86%
0,07	107,0236	-6,71%
0,08	100	-6,56%
0,09	93,58234	-6,42%
0,1	87,71087	-6,27%
0,11	82,3323	-6,13%
0,12	77,39911	-5,99%
0,13	72,86878	-5,85%
0,14	68,70331	-5,72%
0,15	64,86862	-5,58%

y	P	Price change
0,5	17,45669	
0,51	17,05441	-2,30%

- Sloupec P

y	P	Price change
0,9	9,037495	
0,91	8,932366	-1,16%

percentage change in y	Bond price elasticity
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100	-0,0007458609
50	-0,0014613163
33,3333333333	-0,0021466516
25	-0,0028022178
20	-0,0034283346
16,6666666667	-0,0040254084
14,2857142857	-0,004593854
12,5	-0,0051341262
11,1111111111	-0,0056467157
10	-0,00613215
9,0909090909	-0,0065909921
8,3333333333	-0,0070238411
7,6923076923	-0,0074313296
7,1428571429	-0,0078141234

FV	100		
coupon rate	0,08	coupon	8
y	0,1		
n	10		

annually

semiannually

FV	100		
coupon rate	0,04	coupon	4
y	0,05		
n	20		

period = t	CF	PV CF y = 0,1	t * PV CF
1	8	7,2727272727	7,2727272727
2	8	6,6115702479	13,2231404959
3	8	6,0105184072	18,0315552216
4	8	5,4641076429	21,8564305717
5	8	4,9673705845	24,8368529224
6	8	4,5157914404	27,0947486426
7	8	4,1052649458	28,7368546209
8	8	3,7320590417	29,8564723334
9	8	3,392780947	30,5350285228
10	8	3,0843463154	30,8434631544
10	100	38,554328943	385,5432894295
sum	180	87,7108657886	617,8305631879

DUR	7,0439455549	in years
mod DUR	7,1439455549	in percent
convexity	56,143474724	

100 basis 0,1+/-0,01	effect of duration	0,0640358687
200 basis 0,1+/-0,02		0,1280717374

period = t	CF	PV CF y = 0,05	t * PV CF
1	4	3,8095238095	3,8095238095
2	4	3,6281179138	7,2562358277
3	4	3,4553503941	10,3660511824
4	4	3,2908098992	13,1632395967
5	4	3,1341046659	15,6705233294
6	4	2,9848615865	17,9091695193
7	4	2,8427253205	19,8990772436
8	4	2,7073574481	21,6588595849
9	4	2,5784356649	23,2059209838
10	4	2,4556530142	24,5565301416
11	4	2,3387171563	25,7258887198
12	4	2,2273496727	26,7281960725
13	4	2,1212854026	27,5767102336
14	4	2,020271812	28,2838053677
15	4	1,9240683924	28,8610258855
16	4	1,832446088	29,3191374074
17	4	1,7451867504	29,6681747575
18	4	1,6620826195	29,9174871505
19	4	1,5829358281	30,0757807333
20	4	1,5075579315	30,1511586298
20	100	37,6889482873	753,778965746
sum		87,5377896575	1197,5814619226

DUR	6,8403684089	in years
mod DUR	6,5146365799	in percent
convexity	56,485035645	

100 basis 0,05+/-0,01	effect of duration	0,0651463658
200 basis 0,05+/-0,02		0,1184479378

$t^2 + t$	$(t^2 + t) \cdot PV\ CF$	y	P		
2	14,54545		0,01	166,2991	
6	39,66942		0,02	153,8955	
12	72,12622		0,03	142,651	
20	109,2822		0,04	132,4436	
30	149,0211		0,05	123,1652	
42	189,6632		0,06	114,7202	
56	229,8948		0,07	107,0236	
72	268,7083		0,08	100	
90	305,3503		0,09	93,58234	0,14011
110	339,2781		0,1	87,71087	0,066941
110	4240,976		0,11	82,3323	-0,061321
	5958,515		0,12	77,39911	-0,117565
			0,13	72,86878	
	0,826446281		0,14	68,70331	
	4924,392776388		0,15	64,86862	
	56,1434747236				

effect of convexity	0,00232
	0,00928

both effects	0,066356	-0,061716
	0,137352	-0,118792

$t^2 + T$	$(t^2 + t) \cdot PV\ CF$
2	7,619048
6	21,76871
12	41,4642
20	65,8162
30	94,02314
42	125,3642
56	159,1926
72	194,9297
90	232,0592
110	270,1218
132	308,7107
156	347,4665
182	386,0739
210	424,2571
240	461,7764
272	498,4253
306	534,0271
342	568,4323
380	601,5156
420	633,1743
420	15829,36
	21805,58

effect of convexity	0,002562	both effects	0,067708 -0,062585
	0,010247		0,128695 -0,108201