

### **Project Report on FD (Inflation protected)**

1. This Fixed Deposit Project report is in continuation to the project report on inflation protected schemes on Pension/Loan /Recurring Deposit. This is slightly different from other schemes because the increase in return is periodical (quarterly) rather than annual as per the given inflation percentage.
2. There is a need to redefine the system of rate of interest because the present rate of interest for short term is higher as compared to long term in terms of inflation protection. The present system of rate of interest for different terms is arbitrary and a refined method is provided by the inventor Shri. B N Venkataraman in this project report.
3. Breakeven term period is the period by which the cumulative rate of interest on BNV's scheme is equal to the percentage of the interest applicable in the conventional (present) method of FD calculation.
4. There is periodical rate of interest to be applied for the period only that is increasing as per the inflation rate provided and at the end of the breakeven period it is stabilised at the same rate of interest of last posting.
5. The interest is posted at a lesser rate than the given breakeven rate for first half of the term of the breakeven period and more at later half of the term.
6. The system of interest posting is complicated given the financial year for interest posting is standard for an investment company whereas the fixed deposit start date will be different from the start of financial year and precisely different for the start of the standard period (read quarter).
7. During the first period (generally a quarter year) one has to apply a reduced rate for posting interest than the first period as there will be partial days as the date of fixed deposit may differ from the start of period. Say for example the date of investment can be 15th July and the start of the quarter is 1st July then the number of days for the quarter will be 78 days. Interest has to be posted only for 78 days and simple interest will be calculated based on 365 days standard year and interest rate as applicable for 78 days as per the BNV's scheme for the partial days in the first quarter. Naturally the interest rate will be lesser than that applicable for the full first quarter. Therefore the cumulative effect of posting will be that the cumulative amount after interest posting in subsequent periods will be less than that if the investment started on the first day of the quarter.
8. Subsequently interest will be posted for the full regular periods and during the last quarter a situation similar to that of first quarter will emerge. Now interest will be posted at higher rate than the last posted rate if the last period is within the breakeven period, or it can be same as that last posted if it is beyond breakeven term.
9. An adjustment is effected on the maturity date in order to compensate any loss because of postings at the end of financial periods.
10. In this method of posting, if there is a surrender of fixed deposit receipt then the bank need not charge any penalty as there is lesser posting of interest during the premature periods of the term. Even if it is to charge, the charge can be very nominal as compared to present the penal charge of 1% on investment.
11. Following table gives the indicative periodical as well as cumulative percentage for a selected breakeven term of 5 years at 8.25% as it was a case with a private scheduled bank offering this rate on its 5 year deposits.

Calculation/suggestion for FD(inflation protected)					
				BASIS	
		Inflation %	10.00%	Effective %	8.25%
		inf per Qr	9.645%	Effective %	8.25%
		FaceVal:	100000	for term yrs	5
				Maturity val	150426.39
Year	Qr	intt %pa for the Qr only	run bal	Effective cumulative% upto the period (indicative)	check diff
	16 days	6.392%	100,280.20	6.392%	
	31 days	6.417%	100,545.01	6.417%	
	46 days	6.442%	100,811.87	6.442%	
	61 days	6.467%	101,080.79	6.467%	
	76 days	6.493%	101,351.97	6.493%	
	91 days	6.518%	101,625.04	6.518%	
	1	6.518%	101,629.50	6.518%	
	2	6.675%	103,325.44	6.596%	
	3	6.836%	105,091.27	6.676%	
1 Yr	4	7.001%	106,930.63	6.757%	
	5	7.17%	108,847.36	6.84%	
	6	7.343%	110,845.53	6.924%	
	7	7.52%	112,929.43	7.009%	
2 Yr	8	7.701%	115,103.60	7.095%	
	9	7.887%	117,373.16	7.183%	
	10	8.077%	119,743.22	7.272%	
	11	8.272%	122,219.51	7.363%	
3 Yr	12	8.471%	124,807.81	7.455%	
	13	8.675%	127,514.58	7.549%	
	14	8.885%	130,347.00	7.644%	
	15	9.099%	133,312.07	7.741%	
4 Yr	16	9.318%	136,417.57	7.84%	
	17	9.543%	139,672.15	7.94%	
	18	9.773%	143,084.69	8.041%	
	19	10.009%	146,665.03	8.145%	
5 Yr	20	10.25%	150,423.32	8.25%	3.07
6 Yr	24	10.25%	166,444.55	8.582%	
7 Yr	28	10.25%	184,172.16	8.82%	
8 Yr	32	10.25%	203,787.89	8.999%	
9 Yr	36	10.25%	225,492.84	9.137%	
10 Yr	40	10.25%	249,509.53	9.249%	
11 Yr	44	10.25%	276,084.19	9.34%	
12 Yr	48	10.25%	305,489.26	9.415%	
13 Yr	52	10.25%	338,026.18	9.479%	
14 Yr	56	10.25%	374,028.52	9.534%	
15 Yr	60	10.25%	413,865.39	9.582%	
16 Yr	64	10.25%	457,945.19	9.624%	
17 Yr	68	10.25%	506,719.83	9.661%	
18 Yr	72	10.25%	560,689.34	9.693%	
19 Yr	76	10.25%	620,407.00	9.723%	
20 Yr	80	10.25%	686,485.05	9.749%	

**CALCULATION OF INFLATION(10%) PROTECTED FIXED DEPOSIT  
(Breakeven Term: 8.25% PER ANNUM IN 5 Years )**

**(Investment Tem:- FD Amt-Rs.100,000.00 start date 15-04-2011 3 Years 6 Months maturity date  
15-10-2014 Maturity Amt:Rs. 130,345.15)  
(last period effective cumulative Rate of Interest is 7.644%)**

**SUMMARY**

FIRST PERIOD PARTIAL DAYS RATE OF INTEREST

For FIRST period partial days      For FIRST period partial days      For FIRST period partial days

Rate of Interest		Rate of Interest		Rate of Interest	
days	%pa	days	%pa	days	%pa
1	6.367%	31	6.417%	61	6.467%
2	6.368%	32	6.418%	62	6.469%
3	6.37%	33	6.42%	63	6.471%
4	6.372%	34	6.422%	64	6.472%
5	6.373%	35	6.423%	65	6.474%
6	6.375%	36	6.425%	66	6.476%
7	6.377%	37	6.427%	67	6.477%
8	6.378%	38	6.428%	68	6.479%
9	6.38%	39	6.43%	69	6.481%
10	6.382%	40	6.432%	70	6.482%
11	6.383%	41	6.434%	71	6.484%
12	6.385%	42	6.435%	72	6.486%
13	6.387%	43	6.437%	73	6.487%
14	6.388%	44	6.439%	74	6.489%
15	6.39%	45	6.44%	75	6.491%
16	6.392%	46	6.442%	76	6.493%
17	6.393%	47	6.444%	77	6.494%
18	6.395%	48	6.445%	78	6.496%
19	6.397%	49	6.447%	79	6.498%
20	6.398%	50	6.449%	80	6.499%
21	6.4%	51	6.45%	81	6.501%
22	6.402%	52	6.452%	82	6.503%
23	6.403%	53	6.454%	83	6.504%
24	6.405%	54	6.455%	84	6.506%
25	6.407%	55	6.457%	85	6.508%
26	6.408%	56	6.459%	86	6.51%
27	6.41%	57	6.46%	87	6.511%
28	6.412%	58	6.462%	88	6.513%
29	6.413%	59	6.464%	89	6.515%
30	6.415%	60	6.466%	90	6.516%
				91	6.518%

The number of partial days from 15-04-2011 to 30-06-2011 is +77 and the interest rate applied is 6.494%.  
(refer table above).

The calculated interest for the partial days of the FIRST period is Rs.1,369.97  
(also refer postings table at later pages)

**CALCULATION OF INFLATION(10%) PROTECTED FIXED DEPOSIT  
(Breakeven Term: 8.25% PER ANNUM IN 5 Years )**

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15-10-2014 Maturity Amt:Rs. 130,345.15)  
(last period effective cumulative Rate of Interest is 7.644%)**

**SUMMARY**

LAST PERIOD PARTIAL DAYS RATE OF INTEREST

For LAST period partial days		For LAST period partial days		For LAST period partial days	
Rate of Interest		Rate of Interest		Rate of Interest	
days	%pa	days	%pa	days	%pa
1	8.887%	31	8.957%	61	9.028%
2	8.89%	32	8.96%	62	9.03%
3	8.892%	33	8.962%	63	9.032%
4	8.894%	34	8.964%	64	9.035%
5	8.897%	35	8.967%	65	9.037%
6	8.899%	36	8.969%	66	9.039%
7	8.901%	37	8.971%	67	9.042%
8	8.904%	38	8.974%	68	9.044%
9	8.906%	39	8.976%	69	9.047%
10	8.908%	40	8.978%	70	9.049%
11	8.911%	41	8.981%	71	9.051%
12	8.913%	42	8.983%	72	9.054%
13	8.915%	43	8.985%	73	9.056%
14	8.918%	44	8.988%	74	9.058%
15	8.92%	45	8.99%	75	9.061%
16	8.922%	46	8.992%	76	9.063%
17	8.925%	47	8.995%	77	9.065%
18	8.927%	48	8.997%	78	9.068%
19	8.929%	49	8.999%	79	9.07%
20	8.932%	50	9.002%	80	9.073%
21	8.934%	51	9.004%	81	9.075%
22	8.936%	52	9.006%	82	9.077%
23	8.939%	53	9.009%	83	9.08%
24	8.941%	54	9.011%	84	9.082%
25	8.943%	55	9.014%	85	9.084%
26	8.946%	56	9.016%	86	9.087%
27	8.948%	57	9.018%	87	9.089%
28	8.95%	58	9.021%	88	9.092%
29	8.953%	59	9.023%	89	9.094%
30	8.955%	60	9.025%	90	9.096%
				91	9.099%

The number of partial days from 01-10-2014 to 14-10-2014 is 14 and the interest rate applied is 8.918%.  
(refer table above).

The calculated interest for the partial days of the LAST period is Rs.442.15  
(also refer postings table at later pages)

**CALCULATION OF INFLATION(10%) PROTECTED FIXED DEPOSIT  
(Breakeven Term: 8.25% PER ANNUM IN 5 Years )**

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15-10-2014 Maturity Amt:Rs. 130,345.15)  
(last period effective cumulative Rate of Interest is 7.644%)**

**SUMMARY**

<b>year</b>	<b>cumulative %pa</b>
0	0%
1	6.757%
2	7.095%
3	7.455%
4	7.84%
5	8.25%
6	8.582%
7	8.82%
8	8.999%
9	9.138%
10	9.249%
11	9.34%
12	9.415%
13	9.48%
14	9.535%
15	9.582%
16	9.624%
17	9.661%
18	9.693%
19	9.723%
20	9.749%
<b>TOTAL</b>	<b>8.25%</b>

**CALCULATION OF INFLATION(10%) PROTECTED FIXED DEPOSIT  
(Breakeven Term: 8.25% PER ANNUM IN 5 Years )**

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**(Years 1 to 3 contd..)**

**PERIODICAL  
RATE OF  
INTEREST  
(Year 1)  
Year 1 of 5**

period	Interest %pa for the period	cumulative %pa
Prev.Yr	0%	0%
1Q	6.518%	6.518%
2Q	6.675%	6.596%
3Q	6.836%	6.676%
4Q	7.001%	6.757%
summary		
<b>year</b>	<b>cumulative %pa</b>	
1	6.757%	

**PERIODICAL  
RATE OF  
INTEREST  
(Year 2)  
Year 2 of 5**

period	Interest %pa for the period	cumulative %pa
Prev.Yr	7.001%	6.757%
1 Yr1Q	7.17%	6.84%
1 Yr2Q	7.343%	6.924%
1 Yr3Q	7.52%	7.009%
1 Yr4Q	7.701%	7.095%
summary		
<b>year</b>	<b>cumulative %pa</b>	
2	7.095%	

**PERIODICAL  
RATE OF  
INTEREST  
(Year 3)  
Year 3 of 5**

period	Interest %pa for the period	cumulative %pa
Prev.Yr	7.701%	7.095%
2 Yr1Q	7.887%	7.183%
2 Yr2Q	8.077%	7.272%
2 Yr3Q	8.272%	7.363%
2 Yr4Q	8.471%	7.455%
summary		
<b>year</b>	<b>cumulative %pa</b>	
3	7.455%	

**CALCULATION OF INFLATION(10%) PROTECTED FIXED DEPOSIT  
(Breakeven Term: 8.25% PER ANNUM IN 5 Years )**

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**(last period effective cumulative Rate of Interest is 7.644%)**

**(Years 4 to 5 contd..)**

**PERIODICAL  
RATE OF  
INTEREST  
(Year 4)  
Year 4 of 5**

period	Interest %pa for the period	cumulative %pa
Prev.Yr	8.471%	7.455%
3 Yr1Q	8.675%	7.549%
3 Yr2Q	8.885%	7.644%
3 Yr3Q	9.099%	7.741%
3 Yr4Q	9.318%	7.84%
summary		
<b>year</b>	<b>cumulative %pa</b>	
4	7.84%	

**PERIODICAL  
RATE OF  
INTEREST  
(Year 5)  
Year 5 of 5**

period	Interest %pa for the period	cumulative %pa
Prev.Yr	9.318%	7.84%
4 Yr1Q	9.543%	7.94%
4 Yr2Q	9.773%	8.041%
4 Yr3Q	10.009%	8.145%
4 Yr4Q	10.25%	8.25%
summary		
<b>year</b>	<b>cumulative %pa</b>	
5	8.25%	

**CALCULATION OF INFLATION(10%) PROTECTED FIXED DEPOSIT  
(Breakeven Term: 8.25% PER ANNUM IN 5 Years )**

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**(Years 1 to 3 contd..)**

**INTEREST  
POSTING  
(yr ending  
31-03-2012)  
Year 1 of 4**

For FIRST period postings

Sample account statement			
date	%pa	posted intrest	run balance
15-04-2011	B/F	*	100,000.00 CR
30-06-2011	6.494%	1,369.97 CR	101,369.97 CR
30-09-2011	6.518%	1,651.82 CR	103,021.79 CR
31-12-2011	6.675%	1,719.18 CR	104,740.97 CR
31-03-2012	6.836%	1,790.02 CR	106,530.99 CR

**INTEREST  
POSTING  
(yr ending  
31-03-2013)  
Year 2 of 4**

For NEXT period postings

Sample account statement			
date	%pa	posted intrest	run balance
01-04-2012	B/F	*	106,530.99 CR
30-06-2012	7.001%	1,864.56 CR	108,395.55 CR
30-09-2012	7.17%	1,942.99 CR	110,338.54 CR
31-12-2012	7.343%	2,025.54 CR	112,364.08 CR
31-03-2013	7.52%	2,112.44 CR	114,476.52 CR

**INTEREST  
POSTING  
(yr ending  
31-03-2014)  
Year 3 of 4**

For NEXT period postings

Sample account statement			
date	%pa	posted intrest	run balance
01-04-2013	B/F	*	114,476.52 CR
30-06-2013	7.701%	2,203.96 CR	116,680.48 CR
30-09-2013	7.887%	2,300.65 CR	118,981.13 CR
31-12-2013	8.077%	2,402.53 CR	121,383.66 CR
31-03-2014	8.272%	2,510.21 CR	123,893.87 CR

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(Years 4 to 4 contd..)

**INTEREST  
POSTING  
(yr ending  
31-03-2015)  
Year 4 of 4**

For NEXT period postings

Sample account statement			
date	%pa	posted intrest	run balance
01-04-2014	B/F	*	123,893.87 CR
30-06-2014	8.471%	2,623.76 CR	126,517.63 CR
30-09-2014	8.675%	2,743.85 CR	129,261.48 CR
14-10-2014	8.918%	442.15 CR	129,703.63 CR
15-10-2014	Adjustment	641.51 CR	130,345.15 CR