

## Interest Rate Risk Measures

### Office of Thrift Supervision

#### Risk Modeling and Analysis Division

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The attached tables present the final industry statistics for several measures of interest rate risk (IRR): the Pre-Shock Net Portfolio Value (NPV) Ratio, the Interest Rate Sensitivity Measure, the Post-Shock NPV Ratio, and the Change in NPV Ratio. These measures are defined in footnotes found in the tables. These tables can be used to assess an institution's level of IRR relative to the industry and its respective mutual or stock peer group.

For example, an institution can find its approximate Pre-Shock NPV Ratio ranking by referring to TABLE 1 on the following page. Assume XYZ Savings has a Pre-Shock NPV Ratio of 18%. In the last column of the table, locate the first value that is larger than XYZ's Pre-Shock NPV Ratio. For XYZ Savings, this corresponds to the tenth row of the table.

The first column of the tenth row present XYZ's overall Pre-Shock ranking: XYZ's Pre-Shock NPV Ratio places this institution in the fifth quintile of the industry. The second column shows an institution's rank with greater precision. XYZ's Pre-Shock NPV Ratio is better than approximately 85 percent of the industry for the current quarter.

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The Preliminary Interest Rate Risk Measures report for the December, 2009 cycle will be available on the OTS Web page at <http://www.ots.treas.gov/StatisticalReleases> by February 22, 2010.



# Interest Rate Risk Measures

**TABLE 1: Pre-Shock NPV Ratio\* as of 9/30/2009**

	Quintile	Percent of Industry	*Pre-Shock NPV Ratio
WORST ↑ ↓ BEST	1st	10	9.19
		15	9.86
	2nd	20	10.41
		30	11.43
	3rd	40	12.22
		50	12.97
	4th	60	14.14
		70	15.88
	5th	80	18.03
		90	19.72
			21.86

\* The Pre-Shock NPV Ratio is defined as the base-case (pre-shock) NPV divided by the present value of assets in the base-case.

**TABLE 2: Interest Rate Sensitivity Measure\* as of 9/30/2009**

	Quintile	Percent of Industry	*Sensitivity Measure
WORST ↑ ↓ BEST	1st	10	246
		15	209
	2nd	20	186
		30	141
	3rd	40	108
		50	91
	4th	60	70
		70	58
	5th	80	44
		85	36
			27

\* The Interest Rate Sensitivity Measure is defined as the decline (in basis points) in the NPV ratio caused by a +200 bp increase or -100 bp decrease in rates, whichever produces the larger decline.

**TABLE 3: Post-Shock NPV Ratio\* as of 9/30/2009**

	Quintile	Percent of Industry	*Post-Shock NPV Ratio
WORST ↑ ↓ BEST	1st	10	8.15
		15	8.80
	2nd	20	9.45
		30	10.43
	3rd	40	11.14
		50	11.97
	4th	60	12.98
		70	14.35
	5th	80	16.83
		85	18.26
			20.06

\* The Post-Shock NPV Ratio is defined as the Net Portfolio Value (NPV) ratio after a +200 bp increase or -100 bp decrease in rates, whichever produces the smaller ratio.

**TABLE 4: NPV Ratio\* by Interest Rate Scenario as of 9/30/2009**

	Quintile	Percent of Industry	*NPV Ratio -100 bp +200 bp Less Than:	
WORST ↑ ↓ BEST	1st	10	9.00	8.38
		15	9.66	9.10
	2nd	20	10.25	9.84
		30	11.17	10.76
	3rd	40	12.13	11.42
		50	13.03	12.33
	4th	60	13.95	13.40
		70	16.00	14.76
	5th	80	18.07	17.07
		85	20.01	18.41
			20.40	

\* The NPV ratio for any interest rate scenario is defined as the NPV in that rate scenario divided by the present value of assets in the same rate scenario.

**TABLE 5: Change in NPV Ratio\* by Interest Rate as of 9/30/2009**

	Quintile	Percent of Industry	*Change in NPV Ratio -100 bp +200 bp Less Than:	
WORST ↑ ↓ BEST	1st	10	-68	-243
		15	-56	-207
	2nd	20	-48	-180
		30	-29	-136
	3rd	40	-16	-103
		50	-6	-77
	4th	60	4	-48
		70	15	-19
	5th	80	30	11
		85	40	30
			63	

\* The Change in NPV ratio is defined as the change (in basis points) in the NPV ratio caused by an interest rate shock of either -100 bp or +200 bp.

Note: The NPV ratio for any interest rate scenario is defined as the NPV in that rate scenario divided by the present value of assets in the same rate scenario. An institution's NPV is equal to the estimated present value of assets minus the present value of liabilities plus the net present value of off-balance sheet contracts. These results are based on 730 OTS-regulated institutions for which the Sep 2009 Interest Rate Risk Exposure Reports are available.

Prepared by the Risk Modeling and Analysis Division, OTS, Washington, D.C., 12/24/2009.



Interest Rate Risk Measures - Mutuals

**TABLE 6: Pre-Shock NPV Ratio\* as of 9/30/2009**

	Quintile	Percent of Industry	*Pre-Shock NPV Ratio
WORST ↑ ↓ BEST	1st	10	10.61
		15	11.46
		20	12.00
	2nd	30	12.79
		40	14.02
	3rd	50	15.18
		60	16.72
	4th	70	18.08
		80	20.35
	5th	85	21.11
	90	24.56	

\* The Pre-Shock NPV Ratio is defined as the base-case (pre-shock) NPV divided by the present value of assets in the base-case.

**TABLE 7: Interest Rate Sensitivity Measure\* as of 9/30/2009**

	Quintile	Percent of Industry	*Sensitivity Measure
WORST ↑ ↓ BEST	1st	10	298
		15	256
		20	224
	2nd	30	186
		40	144
	3rd	50	108
		60	86
	4th	70	66
		80	54
	5th	85	48
	90	35	

\* The Interest Rate Sensitivity Measure is defined as the decline (in basis points) in the NPV ratio caused by a +200 bp increase or -100 bp decrease in rates, whichever produces the larger decline.

**TABLE 8: Post-Shock NPV Ratio\* as of 9/30/2009**

	Quintile	Percent of Industry	*Post-Shock NPV Ratio
WORST ↑ ↓ BEST	1st	10	9.24
		15	10.12
		20	10.77
	2nd	30	11.59
		40	12.61
	3rd	50	13.69
		60	15.12
	4th	70	16.83
		80	18.49
	5th	85	19.85
	90	22.42	

\* The Post-Shock NPV Ratio is defined as the Net Portfolio Value (NPV) ratio after a +200 bp increase or -100 bp decrease in rates, whichever produces the smaller ratio.

**TABLE 9: NPV Ratio\* by Interest Rate Scenario as of 9/30/2009**

	Quintile	Percent of Industry	*NPV Ratio -100 bp +200 bp Less Than:	
WORST ↑ ↓ BEST	1st	10	10.38	9.52
		15	11.17	10.21
		20	11.86	10.80
	2nd	30	12.86	11.97
		40	13.69	12.82
	3rd	50	15.24	14.10
		60	16.95	15.33
	4th	70	18.07	16.94
		80	20.55	18.89
	5th	85	21.59	19.85
	90	25.19	22.42	

\* The NPV ratio for any interest rate scenario is defined as the NPV in that rate scenario divided by the present value of assets in the same rate scenario.

**TABLE 10: Change in NPV Ratio\* by Interest Rate as of 9/30/2009**

	Quintile	Percent of Industry	*Change in NPV Ratio -100 bp +200 bp Less Than:	
WORST ↑ ↓ BEST	1st	10	-59	-298
		15	-50	-256
		20	-38	-224
	2nd	30	-18	-186
		40	-11	-144
	3rd	50	-2	-108
		60	8	-81
	4th	70	23	-52
		80	38	-19
	5th	85	50	0
	90	64	14	

\* The Change in NPV ratio is defined as the change (in basis points) in the NPV ratio caused by an interest rate shock of either -100 bp or +200 bp.

Note: The NPV ratio for any interest rate scenario is defined as the NPV in that rate scenario divided by the present value of assets in the same rate scenario. An institution's NPV is equal to the estimated present value of assets minus the present value of liabilities plus the net present value of off-balance sheet contracts. These results are based on 279 OTS-regulated institutions for which the Sep 2009 Interest Rate Risk Exposure Reports are available.

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Interest Rate Risk Measures - Stock

**TABLE 11: Pre-Shock NPV Ratio\* as of 9/30/2009**

Quintile	Percent of Industry	*Pre-Shock NPV Ratio
1st	10	8.68
	15	9.30
	20	9.84
2nd	30	10.79
	40	11.48
3rd	50	12.20
	60	12.92
4th	70	13.89
	80	15.76
5th	85	17.54
	90	19.87

WORST  
 ↑  
 ↓  
 BEST

**TABLE 12: Interest Rate Sensitivity Measure\* as of 9/30/2009**

Quintile	Percent of Industry	*Sensitivity Measure
1st	10	207
	15	182
	20	156
2nd	30	118
	40	98
3rd	50	80
	60	66
4th	70	51
	80	40
5th	85	31
	90	22

WORST  
 ↑  
 ↓  
 BEST

**TABLE 13: Post-Shock NPV Ratio\* as of 9/30/2009**

Quintile	Percent of Industry	*Post-Shock NPV Ratio
1st	10	7.72
	15	8.36
	20	8.81
2nd	30	9.78
	40	10.67
3rd	50	11.16
	60	11.93
4th	70	12.98
	80	14.35
5th	85	16.21
	90	18.43

WORST  
 ↑  
 ↓  
 BEST

\* The Pre-Shock NPV Ratio is defined as the base-case (pre-shock) NPV divided by the present value of assets in the base-case.

\* The Interest Rate Sensitivity Measure is defined as the decline (in basis points) in the NPV ratio caused by a +200 bp increase or -100 bp decrease in rates, whichever produces the larger decline.

\* The Post-Shock NPV Ratio is defined as the Net Portfolio Value (NPV) ratio after a +200 bp increase or -100 bp decrease in rates, whichever produces the smaller ratio.

**TABLE 14: NPV Ratio\* by Interest Rate Scenario as of 9/30/2009**

Quintile	Percent of Industry	*NPV Ratio	
		-100 bp	+200 bp
1st	10	8.39	7.93
	15	9.12	8.48
	20	9.61	9.12
2nd	30	10.55	10.25
	40	11.24	10.94
3rd	50	12.06	11.43
	60	12.88	12.38
4th	70	13.74	13.44
	80	15.96	15.06
5th	85	17.51	16.73
	90	19.91	19.12

WORST  
 ↑  
 ↓  
 BEST

\* The NPV ratio for any interest rate scenario is defined as the NPV in that rate scenario divided by the present value of assets in the same rate scenario.

**TABLE 15: Change in NPV Ratio\* by Interest Rate as of 9/30/2009**

Quintile	Percent of Industry	*Change in NPV Ratio	
		-100 bp	+200 bp
1st	10	-71	-202
	15	-62	-169
	20	-53	-144
2nd	30	-35	-108
	40	-22	-85
3rd	50	-10	-59
	60	1	-30
4th	70	12	2
	80	25	33
5th	85	35	57
	90	51	87

WORST  
 ↑  
 ↓  
 BEST

\* The Change in NPV ratio is defined as the change (in basis points) in the NPV ratio caused by an interest rate shock of either -100 bp or +200 bp.

Note: The NPV ratio for any interest rate scenario is defined as the NPV in that rate scenario divided by the present value of assets in the same rate scenario. An institution's NPV is equal to the estimated present value of assets minus the present value of liabilities plus the net present value of off-balance sheet contracts. These results are based on 451 OTS-regulated institutions for which the Sep 2009 Interest Rate Risk Exposure Reports are available.

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