



# **Capitalization Rate Adjustment Factors for Tax-exempt Bond Financed Transactions**

The attached rate adjustment factors are provided for  
use only by Freddie Mac and Program Plus  
Seller/Serviceers.

# Instructions

This workbook is used to determine an adjustment to value associated with tax-exempt bond financing. It includes a series of matrices which provide adjustment factors that are subtracted from market capitalization rates to determine a tax-exempt bond financing capitalization rate. The adjustment factors vary according to whether bonds are variable or fixed rate, the number of years remaining to bond maturity, the gross tax-exempt mortgage rate, the original market capitalization rate and whether or not the transaction includes a taxable tail.

These capitalization rate adjustments apply only when the combined tax-exempt and taxable financing total 85% of market value. If the total financing is less than 85% of market value, contact your Freddie Mac Account Manager for assistance.

Variable rate worksheets are available for 10, 15, 20, 25 and 30 year bond terms and a range of gross tax-exempt mortgage rates. For a variable rate transaction, the gross tax-exempt mortgage rate will include the greater of the 52 week average BMA or current Freddie Mac minimum underwriting index, Freddie Mac credit enhancement fee, Freddie Mac liquidity fee, servicing fee, and any other fees such as issuer or trustee fee. It will not include the 200bps underwriting stress rate or any swap credit enhancement fee.

Fixed rate worksheets are available for 10, 20, and 30 year bond terms and a range of gross tax exempt mortgage rates. The gross tax-exempt mortgage rate will include the fixed rate bond coupon, Freddie Mac credit enhancement fee, servicing fee, and any other fees such as issuer or trustee fee.

Select the sheet corresponding to the remaining term of the tax exempt bonds and the gross tax-exempt mortgage rate for the specific transaction. Use standard rounding conventions to determine the applicable bond term and gross tax-exempt mortgage rate.

Select the row corresponding to the Freddie Mac market rate cap rate . Use standard rounding conventions to determine the applicable market cap rate.

Read across that row to the column corresponding to the ratio of the tax-exempt financing to the total financing as a percentage. Use standard rounding conventions to determine the applicable percentage of total financing or loan to value. For example, the correct column for a transaction consisting of \$10 million in tax-exempt financing and \$2 million in taxable financing would be 85% [ $\$10/(\$10+\$2)=83.3\%$ ].

Deduct the cap rate adjustment shown in that cell from the market cap rate to determine the adjusted cap rate.

Divide the valuation net operating income by the adjusted cap rate to determine the adjusted value.

The maximum allowable loan to value will be specified in applicable credit policy.

December 8, 2004

	A	B	C
1	<b>Adjustment of Market Valuation to Include Value of Tax Exempt Bond Financing</b>		
2	Initial Maximum LTV		85%
3	DCR		1.05
4	After-Tax Equity Return		20.00%
5	<b>Variable Rate:</b>		
6	Lifetime BMA Average		3.69%
7	After Tax Factor for Variable Rate After Tax Spread Calculation		0.65
8	Tax Factor for Variable Rate Taxable Rate		0.35
9	Taxable Variable Rate		5.68%
10	Variable Rate Spread		1.987%
11	<b>Fixed Rate:</b>		
12	After Tax Factor for Fixed Rate After Tax Spread Calculation		0.65
13	Tax Factor for Fixed Rate 10 Year Taxable Rate		0.23
14	Tax Factor for Fixed Rate 15 Year Taxable Rate		0.18
15	Tax Factor for Fixed Rate 20 Year Taxable Rate		0.16
16	Tax Factor for Fixed Rate 30 Year Taxable Rate		0.15
17	Index Rate for 10 Year Fixed Rate		4.300%
18	Taxable Rate for 10 Year Fixed Rate		5.584%
19	Spread		1.284%
20	Index Rate for 15 Year Fixed Rate		4.840%
21	Taxable Rate for 15 Year Fixed Rate		5.902%
22	Spread		1.062%
23	Index Rate for 20 Year Fixed Rate		5.110%
24	Taxable Rate for 20 Year Fixed Rate		6.047%
25	Spread		0.937%
26	Index Rate for 30 Year Fixed Rate		5.200%
27	Taxable Rate for 30 Year Fixed Rate		6.118%
28	Spread		0.918%
29	NOI		\$1,000,000.00
30	Date Revised		8/7/2002

## Capitalization Rate Adjustments for Variable Rate Tax-Exempt Bond Financing

Bond Term (Years)

30

Gross Tax-exempt Mortgage Rate

4.00%

Market Cap Rate	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	49	55	62	69	77	86
7.25%	51	57	64	71	80	89
7.50%	53	59	66	74	82	92
7.75%	55	61	68	76	85	95
8.00%	56	63	71	79	88	98
8.25%	58	65	73	81	91	100
8.50%	60	67	75	84	93	100
8.75%	62	69	77	86	96	100
9.00%	63	71	79	89	99	100
9.25%	65	73	82	91	100	100
9.50%	67	75	84	94	100	100
9.75%	69	77	86	96	100	100
10.00%	70	79	88	99	100	100
10.25%	72	81	91	100	100	100
10.50%	74	83	93	100	100	100

Bond Term (Years)

30

Gross Tax-exempt Mortgage Rate

5.00%

Market Cap	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	47	52	58	65	72	79
7.25%	49	54	60	67	74	82
7.50%	50	56	62	69	77	85
7.75%	52	58	64	72	79	88
8.00%	54	60	67	74	82	91
8.25%	55	62	69	76	84	93
8.50%	57	64	71	78	87	96
8.75%	59	65	73	81	90	99
9.00%	60	67	75	83	92	100
9.25%	62	69	77	85	95	100
9.50%	64	71	79	88	97	100
9.75%	65	73	81	90	100	100
10.00%	67	75	83	92	100	100
10.25%	69	77	85	95	100	100
10.50%	70	78	87	97	100	100

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## Capitalization Rate Adjustments for Variable Rate Tax-Exempt Bond Financing

Bond Term (Years)

25

Gross Tax-exempt Mortgage Rate

4.00%

Market Cap Rate	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	48	53	59	66	73	81
7.25%	49	55	61	68	76	84
7.50%	51	57	63	70	78	86
7.75%	53	59	66	73	81	89
8.00%	54	61	68	75	83	92
8.25%	56	63	70	78	86	95
8.50%	58	65	72	80	89	98
8.75%	60	66	74	82	91	100
9.00%	61	68	76	85	94	100
9.25%	63	70	78	87	96	100
9.50%	65	72	80	89	99	100
9.75%	66	74	82	92	100	100
10.00%	68	76	85	94	100	100
10.25%	70	78	87	96	100	100
10.50%	72	80	89	99	100	100

Bond Term (Years)

25

Gross Tax-exempt Mortgage Rate

5.00%

Market Cap	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	45	51	56	62	68	75
7.25%	47	52	58	64	71	78
7.50%	49	54	60	66	73	81
7.75%	50	56	62	69	76	83
8.00%	52	58	64	71	78	86
8.25%	54	60	66	73	81	89
8.50%	55	61	68	75	83	91
8.75%	57	63	70	78	86	94
9.00%	59	65	72	80	88	97
9.25%	60	67	74	82	90	99
9.50%	62	69	76	84	93	100
9.75%	63	70	78	86	95	100
10.00%	65	72	80	89	98	100
10.25%	67	74	82	91	100	100
10.50%	68	76	84	93	100	100

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## Capitalization Rate Adjustments for Variable Rate Tax-Exempt Bond Financing

Bond Term (Years)  
Gross Tax-exempt Mortgage Rate

20  
4.00%

Market Cap Rate	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	45	50	55	61	67	74
7.25%	47	52	57	63	70	76
7.50%	48	53	59	65	72	79
7.75%	50	55	61	68	74	82
8.00%	51	57	63	70	77	84
8.25%	53	59	65	72	79	87
8.50%	55	61	67	74	82	90
8.75%	56	62	69	76	84	92
9.00%	58	64	71	78	86	95
9.25%	59	66	73	81	89	97
9.50%	61	68	75	83	91	100
9.75%	63	70	77	85	94	100
10.00%	64	71	79	87	96	100
10.25%	66	73	81	89	98	100
10.50%	67	75	83	91	100	100

Bond Term (Years)  
Gross Tax-exempt Mortgage Rate

20  
5.00%

Market Cap	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	43	48	53	58	64	70
7.25%	45	49	55	60	66	72
7.50%	46	51	56	62	68	74
7.75%	48	53	58	64	70	77
8.00%	49	55	60	66	73	79
8.25%	51	56	62	68	75	82
8.50%	52	58	64	70	77	84
8.75%	54	60	66	72	79	87
9.00%	55	61	68	74	82	89
9.25%	57	63	70	77	84	92
9.50%	59	65	71	79	86	94
9.75%	60	67	73	81	88	97
10.00%	62	68	75	83	91	99
10.25%	63	70	77	85	93	100
10.50%	65	72	79	87	95	100

## Capitalization Rate Adjustments for Variable Rate Tax-Exempt Bond Financing

Bond Term (Years)

15

Gross Tax-exempt Mortgage Rate

4.00%

Market Cap Rate	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	41	45	49	54	59	64
7.25%	42	46	51	56	61	66
7.50%	43	48	53	58	63	69
7.75%	45	49	54	60	65	71
8.00%	46	51	56	62	67	73
8.25%	48	53	58	63	69	75
8.50%	49	54	60	65	71	78
8.75%	51	56	61	67	73	80
9.00%	52	57	63	69	76	82
9.25%	54	59	65	71	78	85
9.50%	55	61	67	73	80	87
9.75%	57	62	68	75	82	89
10.00%	58	64	70	77	84	91
10.25%	59	66	72	79	86	94
10.50%	61	67	74	81	88	96

Bond Term (Years)

15

Gross Tax-exempt Mortgage Rate

5.00%

Market Cap	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	39	43	47	52	56	61
7.25%	41	45	49	53	58	63
7.50%	42	46	51	55	60	65
7.75%	43	48	52	57	62	68
8.00%	45	49	54	59	64	70
8.25%	46	51	56	61	66	72
8.50%	48	52	57	63	68	74
8.75%	49	54	59	64	70	76
9.00%	50	55	61	66	72	78
9.25%	52	57	62	68	74	81
9.50%	53	59	64	70	76	83
9.75%	55	60	66	72	78	85
10.00%	56	62	67	74	80	87
10.25%	57	63	69	76	82	89
10.50%	59	65	71	77	84	91

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## Capitalization Rate Adjustments for Variable Rate Tax-Exempt Bond Financing

Bond Term (Years)

10

Gross Tax-exempt Mortgage Rate

4.00%

Market Cap Rate	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	33	36	40	43	46	50
7.25%	34	38	41	44	48	52
7.50%	36	39	42	46	50	54
7.75%	37	40	44	48	51	55
8.00%	38	42	45	49	53	57
8.25%	39	43	47	51	55	59
8.50%	40	44	48	52	56	61
8.75%	42	45	49	54	58	63
9.00%	43	47	51	55	60	64
9.25%	44	48	52	57	61	66
9.50%	45	49	54	58	63	68
9.75%	46	51	55	60	65	70
10.00%	48	52	57	61	66	72
10.25%	49	53	58	63	68	73
10.50%	50	54	59	64	70	75

Bond Term (Years)

10

Gross Tax-exempt Mortgage Rate

5.00%

Market Cap	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	32	35	38	42	45	48
7.25%	34	37	40	43	47	50
7.50%	35	38	41	45	48	52
7.75%	36	39	43	46	50	54
8.00%	37	40	44	48	51	55
8.25%	38	42	45	49	53	57
8.50%	39	43	47	50	55	59
8.75%	41	44	48	52	56	60
9.00%	42	45	49	53	58	62
9.25%	43	47	51	55	59	64
9.50%	44	48	52	56	61	66
9.75%	45	49	53	58	63	67
10.00%	46	51	55	59	64	69
10.25%	47	52	56	61	66	71
10.50%	49	53	58	62	67	73

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## Capitalization Rate Adjustments for Fixed Rate Tax-Exempt Bond Financing

Bond Term (Years)

30

Gross Tax-exempt Mortgage Rate

6.00%

Market Cap	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	21	24	26	29	33	36
7.25%	22	25	27	30	34	37
7.50%	23	26	28	32	35	39
7.75%	24	26	29	33	36	40
8.00%	24	27	30	34	37	41
8.25%	25	28	31	35	38	42
8.50%	26	29	32	36	40	44
8.75%	27	30	33	37	41	45
9.00%	27	31	34	38	42	46
9.25%	28	31	35	39	43	48
9.50%	29	32	36	40	44	49
9.75%	30	33	37	41	45	50
10.00%	31	34	38	42	47	52
10.25%	31	35	39	43	48	53
10.50%	32	36	40	44	49	54

Bond Term (Years)

30

Gross Tax-exempt Mortgage Rate

7.00%

Market Cap	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	20	23	25	28	30	33
7.25%	21	23	26	29	32	35
7.50%	22	24	27	30	33	36
7.75%	23	25	28	31	34	37
8.00%	23	26	29	32	35	38
8.25%	24	27	29	33	36	39
8.50%	25	27	30	34	37	41
8.75%	25	28	31	34	38	42
9.00%	26	29	32	35	39	43
9.25%	27	30	33	36	40	44
9.50%	28	31	34	37	41	45
9.75%	28	31	35	38	42	47
10.00%	29	32	36	39	44	48
10.25%	30	33	37	40	45	49
10.50%	31	34	38	41	46	50

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## Capitalization Rate Adjustments for Fixed Rate Tax-Exempt Bond Financing

Bond Term (Years)

20

Gross Tax-exempt Mortgage Rate

6.00%

Market Cap	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	20	22	25	27	30	33
7.25%	21	23	26	28	31	34
7.50%	22	24	26	29	32	35
7.75%	22	25	27	30	33	36
8.00%	23	26	28	31	34	37
8.25%	24	26	29	32	35	38
8.50%	25	27	30	33	36	40
8.75%	25	28	31	34	37	41
9.00%	26	29	32	35	38	42
9.25%	27	30	33	36	39	43
9.50%	27	30	33	37	40	44
9.75%	28	31	34	38	41	45
10.00%	29	32	35	39	43	47
10.25%	30	33	36	40	44	48
10.50%	30	34	37	41	45	49

Bond Term (Years)

20

Gross Tax-exempt Mortgage Rate

7.00%

Market Cap	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	19	21	23	26	28	31
7.25%	20	22	24	27	29	32
7.50%	21	23	25	28	30	33
7.75%	21	24	26	29	31	34
8.00%	22	24	27	29	32	35
8.25%	23	25	28	30	33	36
8.50%	24	26	29	31	34	37
8.75%	24	27	29	32	35	38
9.00%	25	27	30	33	36	39
9.25%	26	28	31	34	37	41
9.50%	26	29	32	35	38	42
9.75%	27	30	33	36	39	43
10.00%	28	31	34	37	40	44
10.25%	28	31	34	38	41	45
10.50%	29	32	35	39	42	46

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## **Capitalization Rate Adjustments for Fixed Rate Tax-Exempt Bond Financing**

Bond Term (Years)  
 Gross Tax-exempt Mortgage Rate

15  
 6.00%

Market Cap Rate	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	21	23	25	27	30	32
7.25%	22	24	26	28	31	33
7.50%	22	24	27	29	32	35
7.75%	23	25	28	30	33	36
8.00%	24	26	29	31	34	37
8.25%	25	27	30	32	35	38
8.50%	25	28	30	33	36	39
8.75%	26	29	31	34	37	40
9.00%	27	29	32	35	38	42
9.25%	27	30	33	36	39	43
9.50%	28	31	34	37	40	44
9.75%	29	32	35	38	42	45
10.00%	30	33	36	39	43	46
10.25%	30	33	37	40	44	47
10.50%	31	34	38	41	45	48

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Bond Term (Years)  
Gross Tax-exempt Mortgage Rate

15  
7.00%

Market Cap Rate	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	20	22	24	26	28	31
7.25%	21	23	25	27	29	32
7.50%	22	24	26	28	30	33
7.75%	22	24	27	29	32	34
8.00%	23	25	28	30	33	35
8.25%	24	26	28	31	34	36
8.50%	24	27	29	32	35	37
8.75%	25	28	30	33	36	38
9.00%	26	28	31	34	37	40
9.25%	27	29	32	35	38	41
9.50%	27	30	33	36	39	42
9.75%	28	31	34	37	40	43
10.00%	29	31	34	37	41	44
10.25%	29	32	35	38	42	45
10.50%	30	33	36	39	43	46

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## Capitalization Rate Adjustments for Fixed Rate Tax-Exempt Bond Financing

Bond Term (Years)

10

Gross Tax-exempt Mortgage Rate

6.00%

Market Cap	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	21	23	25	27	29	31
7.25%	22	23	25	28	30	32
7.50%	22	24	26	29	31	33
7.75%	23	25	27	29	32	34
8.00%	24	26	28	30	33	35
8.25%	25	27	29	31	34	36
8.50%	25	27	30	32	35	38
8.75%	26	28	31	33	36	39
9.00%	27	29	32	34	37	40
9.25%	27	30	33	35	38	41
9.50%	28	31	33	36	39	42
9.75%	29	32	34	37	40	43
10.00%	30	32	35	38	41	44
10.25%	30	33	36	39	42	45
10.50%	31	34	37	40	43	46

Bond Term (Years)

10

Gross Tax-exempt Mortgage Rate

7.00%

Market Cap	Tax-Exempt Financing as a Percentage of Total Financing					
	75%	80%	85%	90%	95%	100%
7.00%	20	22	24	26	28	30
7.25%	21	23	25	27	29	31
7.50%	22	24	26	28	30	32
7.75%	22	24	26	29	31	33
8.00%	23	25	27	29	32	34
8.25%	24	26	28	30	33	35
8.50%	25	27	29	31	34	36
8.75%	25	28	30	32	35	37
9.00%	26	28	31	33	36	38
9.25%	27	29	32	34	37	39
9.50%	28	30	32	35	38	41
9.75%	28	31	33	36	39	42
10.00%	29	31	34	37	40	43
10.25%	30	32	35	38	41	44
10.50%	30	33	36	39	42	45

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## Formulae for Calculation of Tax Exempt Bond Valuation

Cap Rate Adjustment :  $\frac{\text{NOI}}{(\text{Market Value} + \text{TEB Value})} - \text{Market Cap Rate}$

Market Value :  $\frac{\text{NOI}}{\text{Market Cap Rate}}$

TEB Value :  $\text{Market Value} \times \text{Maximum Initial LTV} \times \% \text{ of TEB Financing} \times \text{Spread Annuity Factor}$

Spread Annuity Factor :  $\text{After Tax Spread} \times \frac{1}{\frac{\text{Weighted Avg Cost of Capital}}{12}} \times \left[ 1 - \frac{1}{(1 + (\text{Weighted Average Cost of Capital}/12))^{(\text{Bond Term} \times 12)}} \right]$

After Tax Spread :  $\frac{\frac{\text{Spread}}{\text{DCR}}}{12} \times \text{After Tax Factor for Spread Calculation}$

Spread for Variable Rate :  $\frac{\text{Lifetime Average BMA}}{\text{After Tax Factor}} - \text{Lifetime Average BMA}$

Spread for Fixed Rate :  $\frac{\text{Bloomberg AAA Tax-Exempt Series Index}}{\text{After Tax Factor}} - \text{Bloomberg AAA Tax-Exempt Series Index}$

After Tax Factor :  $1 - \text{Tax Factor}$

Bloomberg Tax-Exempt AAA Series : Bloomberg AAA, tax-exempt, insured municipal bond series for 10, 15, 20 or 30 year bond maturities from January 1995 to the present

Weighted Average Cost of Capital :  $(\text{Debt Component} \times \text{TEB Mortgage Rate}) + ((1 - \text{Debt Component}) \times \text{After Tax Equity Rate of Return})$

Debt Component :  $\frac{(\text{Market Value} \times \text{Maximum Initial LTV} \times \% \text{ of TEB Financing})}{\text{Market Value}}$

	10 Year	15 Year	20 Year	30 Year
Average	4.85%	5.30%	5.52%	5.62%
Jan-95	5.89%	6.34%	6.55%	6.67%
Feb-95	5.56%	5.93%	6.11%	6.20%
Mar-95	5.46%	5.89%	6.07%	6.17%
Apr-95	5.44%	5.87%	6.05%	6.16%
May-95	5.18%	5.64%	5.82%	5.94%
Jun-95	5.26%	5.76%	6.00%	6.12%
Jul-95	5.20%	5.73%	5.97%	6.11%
Aug-95	5.06%	5.67%	5.96%	6.10%
Sep-95	5.03%	5.66%	5.95%	6.09%
Oct-95	4.93%	5.51%	5.77%	5.89%
Nov-95	4.80%	5.35%	5.59%	5.71%
Dec-95	4.82%	5.25%	5.47%	5.59%
Jan-96	4.78%	5.21%	5.41%	5.52%
Feb-96	4.79%	5.31%	5.54%	5.65%
Mar-96	5.11%	5.65%	5.88%	5.99%
Apr-96	5.19%	5.71%	5.94%	6.05%
May-96	5.27%	5.76%	5.99%	6.10%
Jun-96	5.18%	5.65%	5.86%	5.97%
Jul-96	5.12%	5.56%	5.77%	5.88%
Aug-96	5.15%	5.61%	5.82%	5.93%
Sep-96	5.07%	5.51%	5.72%	5.82%
Oct-96	5.01%	5.43%	5.62%	5.71%
Nov-96	4.84%	5.32%	5.51%	5.60%
Dec-96	4.91%	5.39%	5.58%	5.67%
Jan-97	5.01%	5.45%	5.64%	5.74%
Feb-97	4.91%	5.35%	5.53%	5.63%
Mar-97	5.21%	5.65%	5.83%	5.93%
Apr-97	5.21%	5.58%	5.76%	5.84%
May-97	5.02%	5.43%	5.60%	5.67%
Jun-97	4.93%	5.34%	5.51%	5.58%
Jul-97	4.63%	5.04%	5.22%	5.29%
Aug-97	4.86%	5.27%	5.45%	5.52%
Sep-97	4.74%	5.15%	5.33%	5.40%
Oct-97	4.69%	5.10%	5.28%	5.35%
Nov-97	4.68%	5.10%	5.28%	5.35%
Dec-97	4.51%	4.93%	5.11%	5.18%
Jan-98	4.46%	4.86%	5.06%	5.13%
Feb-98	4.50%	4.91%	5.11%	5.18%
Mar-98	4.59%	4.97%	5.18%	5.24%
Apr-98	4.71%	5.09%	5.28%	5.33%
May-98	4.55%	4.92%	5.10%	5.15%
Jun-98	4.57%	4.95%	5.15%	5.19%
Jul-98	4.57%	4.95%	5.11%	5.17%
Aug-98	4.41%	4.79%	4.97%	5.03%
Sep-98	4.29%	4.73%	4.91%	4.97%
Oct-98	4.21%	4.69%	4.95%	5.03%
Nov-98	4.28%	4.73%	4.97%	5.05%
Dec-98	4.28%	4.77%	5.01%	5.11%
Jan-99	4.21%	4.68%	4.95%	5.06%

Feb-99	4.26%	4.76%	5.07%	5.18%
Mar-99	4.35%	4.80%	5.10%	5.21%
Apr-99	4.40%	4.85%	5.11%	5.21%
May-99	4.58%	4.97%	5.22%	5.32%
Jun-99	4.93%	5.23%	5.45%	5.50%
Jul-99	4.89%	5.24%	5.48%	5.55%
Aug-99	5.10%	5.49%	5.76%	5.82%
Sep-99	5.07%	5.51%	5.80%	5.84%
Oct-99	5.30%	5.80%	6.07%	6.15%
Nov-99	5.19%	5.65%	5.93%	6.06%
Dec-99	5.28%	5.73%	6.02%	6.14%
Jan-00	5.37%	5.84%	6.13%	6.25%
Feb-00	5.36%	5.74%	6.01%	6.10%
Mar-00	5.19%	5.52%	5.79%	5.88%
Apr-00	5.24%	5.59%	5.85%	5.94%
May-00	5.48%	5.85%	6.09%	6.19%
Jun-00	5.21%	5.56%	5.78%	5.90%
Jul-00	5.03%	5.43%	5.65%	5.77%
Aug-00	4.85%	5.30%	5.56%	5.68%
Sep-00	4.94%	5.39%	5.64%	5.76%
Oct-00	4.89%	5.33%	5.56%	5.68%
Nov-00	4.90%	5.31%	5.55%	5.67%
Dec-00	4.58%	4.99%	5.21%	5.32%
Jan-01	4.43%	4.94%	5.18%	5.28%
Feb-01	4.46%	4.95%	5.19%	5.29%
Mar-01	4.41%	4.92%	5.14%	5.24%
Apr-01	4.65%	5.14%	5.36%	5.46%
May-01	4.58%	5.08%	5.29%	5.39%
Jun-01	4.54%	5.04%	5.25%	5.35%
Jul-01	4.37%	4.90%	5.14%	5.22%
Aug-01	4.23%	4.78%	5.02%	5.11%
Sep-01	4.30%	4.85%	5.18%	5.26%
Oct-01	4.17%	4.72%	5.06%	5.14%