

ALI-ABA Course of Study
Sophisticated Estate Planning Techniques

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**Some Interest-Sensitive Estate Planning Techniques
(with an Emphasis on GRATS and QPRTS)**

By

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SOME INTEREST-SENSITIVE ESTATE PLANNING TECHNIQUES
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INTRODUCTION

Since the enactment of section 7520, which became effective on May 1, 1989, estate planning has become particularly sensitive to shifts in prevailing interest rates. Section 7520 requires that in computing the value of most actuarial interests involved in estate planning, an interest rate equivalent to one hundred twenty percent (120%) of the federal mid-term rate in effect at the time of the transaction be used to value all interests. Because some estate planning strategies are more beneficial when interest rates are high and others are more beneficial when interest rates are low, it is important that estate planners be aware of the effect of varying interest rates on various estate planning strategies. That is particularly true given the volatility in interest rates: since the adoption of section 7520, the interest rate has been as high as 11.6% in May, 1989 and as low as 2.0% in February, 2009. The following is a table of all section 7520 rates in effect from 1989 through July, 2009:

7520 Rates Since May 1, 1989

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2009	2.4	2.0	2.4	2.6	2.4	2.8	3.4					
2008	4.4	4.2	3.6	3.4	3.2	3.8	4.2	4.2	4.2	3.8	3.6	3.4
2007	5.6	5.6	5.8	5.6	5.6	5.6	6.0	6.2	5.8	5.2	5.2	5.0
2006	5.4	5.2	5.4	5.6	5.8	6.0	6.0	6.2	6.0	5.8	5.6	5.8
2005	4.6	4.6	4.6	5.0	5.2	4.8	4.6	4.8	5.0	5.0	5.0	5.4
2004	4.2	4.2	4.0	3.8	3.8	4.6	5.0	4.8	4.6	4.4	4.2	4.2
2003	4.2	4.0	3.8	3.6	3.8	3.6	3.0	3.2	4.2	4.4	4.0	4.2
2002	5.4	5.6	5.4	5.6	6.0	5.8	5.6	5.2	4.6	4.2	3.6	4.0
2001	6.8	6.2	6.2	6.0	5.8	6.0	6.2	6.0	5.8	5.6	5.0	4.8
2000	7.4	8.0	8.2	8.0	7.8	8.0	8.0	7.6	7.6	7.4	7.2	7.0
1999	5.6	5.6	5.8	6.4	6.2	6.4	7.0	7.2	7.2	7.2	7.4	7.4
1998	7.2	6.8	6.8	6.8	6.8	7.0	6.8	6.8	6.6	6.2	5.4	5.4
1997	7.4	7.6	7.8	7.8	8.2	8.2	8.0	7.6	7.6	7.6	7.4	7.2
1996	6.8	6.8	6.6	7.0	7.6	8.0	8.2	8.2	8.0	8.0	8.0	7.6

1995	9.6	9.6	9.4	8.8	8.6	8.2	7.6	7.2	7.6	7.6	7.4	7.2
1994	6.4	6.4	6.4	7.0	7.8	8.4	8.2	8.4	8.4	8.6	9.0	9.4
1993	7.6	7.6	7.0	6.6	6.6	6.4	6.6	6.4	6.4	6.4	6.0	6.2
1992	8.2	7.6	8.0	8.4	8.6	8.4	8.2	7.8	7.2	7.0	6.8	7.4
1991	9.8	9.6	9.4	9.6	9.6	9.6	9.6	9.8	9.6	9.0	8.6	8.4
1990	9.6	9.8	10.2	10.6	10.6	11.0	10.6	10.4	10.2	10.6	10.6	10.2
1989	10*	10*	10*	10*	11.6	11.2	10.6	10.0	9.6	10.2	10.0	9.8

By way of background, the computation of the section 7520 rate is not quite as straightforward as it might seem from the statute. Section 7520 provides that the 7520 rate shall be an interest rate (rounded to the nearest two-tenths of one percent) equal to 120% of the federal mid-term rate in effect under section 1274(d)(1) for the month in which the valuation date falls. One would think in reading that language that I could compute the section 7520 rate simply by multiplying the federal mid-term rate by 120%. Although that will usually give the correct answer, it won't in every case. For example, if you look at Revenue Ruling 97-24, you will see that the midterm rate for annual compounding is 6.8%. 120% of that is 8.16%, but the table shows 120% of the AFR as 8.19%. Why is that? The section 7520 rate assumes annual compounding, and the federal mid-term rate prescribed by section 1274 assumes semi-annual compounding. In order to derive the section 7520 rate from the federal mid-term rate, it is necessary to multiply the federal mid-term rate by 120% and then convert it to that rate which would produce an equivalent yield for annual compounding. The final step is to round the result to the nearest two-tenths of one percent. The formula to do the conversion is as follows:

Assume

X = midterm AFR, semiannual compounding

V = valuation rate, annual compounding, prior to rounding

Then, for equivalent yield

$$(1 + v) = \left(1 + \frac{1.2x}{2}\right)^2 \quad \text{or} \quad v = \left(1 + \frac{1.2x}{2}\right)^2 - 1$$

The October, 2008 federal midterm rate for semiannual compounding was 3.14%. Using the above formula,

$$v = \left(1 + \frac{(1.2)(0.0314)}{2}\right)^2 - 1 = (1.018840)^2 - 1 = .0380$$

Fortunately, the Internal Revenue Service publishes the section 7520 for the following month on approximately the 20th of each month.

Brief Introduction to Effect of Interest Rates on Actuarial Interests

Obviously, an income interest will be worth more when interest rates are high. Similarly, remainders after an income interest will be lower. Not only is that true because the income interest is worth more, but because the value of the future interest is discounted more highly. You can think of it either way.

All estate planning lawyers should know the formula for the value of a remainder interest after term of years. That formula is as follows:

$$\left(\frac{1}{1+i}\right)^t$$

where i = the section 7520 rate and t equals the number of years in the term.

The income interest is simply one minus the remainder interest. Note that unlike with annuity and unitrust interests, no frequency of payment adjustment is necessary to value an income interest. An income interest payable annually is worth the same actuarially as an interest stream payable quarterly, because the income beneficiary will be entitled to income earned on undistributed income so at the end of each year the distributee will not be adversely affected by a delay in payment.

Annuity Interests

The value of an annuity interest is the income interest divided by the section 7520 rate. If the annuity interest is paid other than annually at the end of each year, an adjustment must be made to increase the value of the annuity to reflect frequency of payment. Annuity interests are very interest-sensitive: For example, using the high and low points of the section 7520 rate and assuming a \$100,000 charitable remainder annuity trust with payments of 7% made quarterly at the end of each quarter, the value of the deduction for a 65-year old drops from \$51,863.10 to \$1,765—and of course flunks the 10% remainder value test.

When interest rates are low, one particular risk with a charitable remainder annuity trust is the 5% probability of exhaustion test of Rev. Rul. 77-374, 1977-2 C.B. 329. In the above example, the 7% annuity trust payable to a 65-year old donor would actually flunk the exhaustion test. In fact, at the February 2009 section 7520 rate of 2.0%, a quarterly annuity of 6% paid to a 76-year old donor actually flunks the 5% test, and a 72-year old person cannot create a charitable remainder trust at all (assuming quarterly payments)! How is the probability