



Applicable Federal Rates September 1997

Deriving the Section 7520 Rate

Under Internal Revenue Code section 7520, the rate to be used for valuing annuities, life interests or interests for terms of years and remainder or reversionary interests is based upon an interest rate determined by reference to the midterm applicable federal rate for the month in which the valuation date occurs. Implementing regulations prescribe that the pertinent rate is 120 percent of the midterm applicable federal rate, using annual compounding, rounded to the nearest two-tenths of one percent.

Unfortunately, one cannot derive the valuation rate from the midterm rates by multiplying the midterm rate for annual compounding by 1.2 because the rates are based upon semi-annual compounding with the rates for other compounding periods derived to produce an equivalent yield. One must instead take 120 percent of the midterm rate using semi-annual compounding, adjust that new rate to produce an equivalent yield for annual compounding and then round to the nearest two-tenths of one percent.

Let,

x = midterm AFR, semi-annual compounding
v = valuation rate, annual compounding, prior to rounding

Then, for equivalent yield

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

For the June 1997 AFRs the midterm rate for semi-annual compounding is 6.69%. Using the formula,

$$v = \left(1 + \frac{(1.2)(.0669)}{2}\right)^2 - 1 = (1.04014)^2 - 1 = .0818912196$$

Note that 8.19% is shown in Revenue Ruling 97-24 as 120% of the midterm rate for annual compounding, not 8.16% which is 120 percent of 6.8%, the midterm rate for annual compounding. Note also that 8.19% rounded to the nearest two-tenths of one percent is 8.2%, the rate shown in Table 5 of Revenue Ruling 97-24 as the June 1997 section 7520 rate.

For more information on the applicable federal rates contact any of the Pillsbury Madison & Sutro LLP tax lawyers. The firm's applicable federal rate material can be found at www.pmstax.com/afr on the world wide web.