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Prop. Reg. Section 1.7872-13

Computation of foregone interest

(a) Demand loans outstanding for an entire calendar year.

(1) In general. In the case of a below-market demand loan of a fixed principal amount that remains outstanding for an entire calendar year, the amount of foregone interest (as referred to in §1.7872-6(c)) shall be the excess of-

(i) The result produced when the "blended annual rate" is multiplied by the principal amount of the loan, over

(ii) The sum of all amounts payable as interest on the loan properly allocable to the calendar year (including all amounts of original issue discount allocated to that year under section 1272).

The "blended annual rate" will be published annually by the Commissioner and is determined generally by blending the applicable Federal rates for demand loans outstanding for the entire year.

(2) Example. Paragraph (a)(1) may be illustrated by the following example.

Example. On January 1, 1985, A makes a \$100,000 demand loan to B with stated interest equal to 9 percent. Interest is payable semiannually on June 30, and December 31. The loan remains outstanding for the entire year. On both June 30, and December 31, 1985, B makes a \$4,500 payment of interest to A. Assume that the blended annual rate for 1985 is 10.45 percent. The amount of foregone interest is \$1,450, computed as follows:

$$\text{\$10,450} = \text{\$100,000} \times 10.45 \text{ percent}$$

$$\text{\$1,450} = \text{\$10,450} - \text{\$9,000}$$

(b) Demand loans outstanding for less than an entire calendar year.

(1) In general. In the case of any below-market demand loan outstanding for less than the calendar year, the amount of foregone interest shall be the excess of-

(i) The amount of interest ("I") which would have been payable on the loan for the year if interest accrued on the loan at the applicable Federal rate and were payable on the date specified in section 7872(a)(2) and §1.7872-6(b), over

(ii) The sum of all amounts payable as interest on the loan properly allocable to the calendar year (including all amounts of original issue discount allocated to that year under section 1272).

In general, "I" is determined by assuming daily compounding of interest. However, individual taxpayers who are parties to below-market loans in the aggregate of \$250,000 or less may choose (see §1.7872-11(g)) to compute and report foregone interest under the

approximate method set forth in paragraph (b)(2) of this section. If the taxpayer chooses the approximate method but fails to properly compute the amount of foregone interest under that method, the correct amount of foregone interest will be recomputed under the approximate method.

(2) Approximate method. Under the approximate method, "I" is calculated as follows:

(i) Loan outstanding during one semiannual period only. If a loan is outstanding only during one semiannual period of a calendar year, to determine "I", multiply the principal amount of the loan by one-half the applicable Federal rate based on semiannual compounding in effect for that loan, then multiply the result by a fraction representing the portion of the semiannual period during which the loan was outstanding.

(ii) Example. Paragraph (b)(2)(i) of this section may be illustrated by the following example.

Example. A \$200,000 interest-free demand loan is outstanding on January 1, 1986, and is repaid on March 31, 1986. Assume that the applicable Federal rate (based on semiannual compounding) for demand loans made in January 1986, is 10 percent. The amount of interest that would have been payable on the loan for the year if the loan provided for interest at the applicable Federal rate determined under the approximate method is \$5,000, computed as follows:

$$\$5,000 = \$200,000 \times (.10/2) \times (3/6)$$

Because no interest is payable on the loan, this amount is also the amount of foregone interest.

(iii) Loans outstanding during both semiannual periods. If a loan is outstanding for at least part of each semiannual period (but less than the full calendar year), then, under the approximate method, "I" must be calculated in two steps. First, calculate an amount of interest for the first semiannual period by treating the loan as if it were repaid on June 30, using the approach described in paragraph (b)(3)(i) of this section. Second, add this amount of interest to the principal of the loan, and then calculate an amount of interest for the second semiannual period as if the loan of this higher amount were made on July 1, again using the approach described in paragraph (b)(3)(i) of this section. The sum of these two interest amounts is the value for "I" calculated under the approximate method.

(3) Examples. Paragraph (b)(2) of this section may be illustrated by the following examples.

Example (1). On March 1, 1986, A makes a \$100,000 interest-free demand loan to B. The loan remains outstanding on December 31, 1986. Assume that the applicable Federal rate for a demand loan made in March 1986, based on semiannual compounding, for the first semiannual period in 1986 is 9.89 percent and that the applicable Federal rate, based on semiannual compounding, for a demand loan outstanding in July 1986 is 10.50 percent. The amount of foregone interest under the exact method is \$8,691.76, calculated as follows:

$$\$100,000 \times [(1 + .0989/2)^{4/6} (1 + .1050/2) - 1] = \$8,691.76$$

Example (2).

- (i) Assume the same facts as in Example (1). The amount of foregone interest under the approximate method is \$8,719.92, calculated as follows:
- (ii) For the short period March 1 to June 30, 1986, the amount of foregone interest is
\$3,296.67, calculated as follows:

$$\$3,296.67 = \$100,000 \times (.0989/2) \times (4/6)$$
- (iii) For the second semiannual period in 1986, the amount of foregone interest is computed by first adding the interest for the first semiannual period (\$3,296.67) to the original principal amount to obtain a new principal amount of \$103,296.67. Foregone interest for the second semiannual period is then \$5,423.08, computed as follows:

$$\$5,423.08 = \$103,296.67 \times (.1050/2)$$
- (iv) Using the approximate method, the amount of foregone interest for 1986 is \$8,719.75 (\$3,296.67 + \$5,423.08).

(c) Demand loans with fluctuating loan balances. If a demand loan does not have a constant outstanding principal amount during a period, the amount of foregone interest shall be computed according to the principles set forth in paragraph (b) of this section, with each increase in the outstanding loan balance being treated as a new loan and each decrease being treated as first a repayment of accrued but unpaid interest (if any), and then a repayment of principal.

(d) Examples. This provision of paragraph (c) of this section may be illustrated by the following examples.

Example (1).

(i) On October 1, 1984, C makes a \$50,000 interest-free demand loan to D. On October 1, 1985, C makes an additional interest-free demand loan of \$25,000 to D. Assume that section 7872 applies to both loans, that the blended annual rate for 1985 is 10.45 percent, and that the applicable Federal rate based on semiannual compounding for demand loans made in October 1985, is 10.50 percent. The amount of foregone interest for 1985 is calculated as follows:

(ii) \$50,000 is outstanding for the entire year. The foregone interest on this amount is

$$(\$50,000 \times .1045) = \$5,225.00$$

(iii) \$25,000 is outstanding for the last three months of 1985. Under the exact method, the amount of foregone interest on this portion of the loan is \$647.86, computed as follows:

$$\$25,000 \times [(1 + .1050/2)^{3/6} - 1] = \$647.86$$

Under the approximate method, the amount of foregone interest is \$656.25, computed as follows:

$$\$25,000 \times (.1050/2) \times (3/6) = \$656.25$$

(iv) The total amount of foregone interest is \$5,872.86 (\$5,225.00 + \$647.86) under the exact method, and \$5,881.25 (\$5,225.00 + \$656.25) under the approximate method.

Example (2).

(i) On September 1, 1985, E makes a \$100,000 interest-free demand loan to F. The loan agreement requires F to repay \$10,000 of the principal amount of the loan at the end of each month that the loan is outstanding. Assume that section 7872 applies to the loan and that the applicable Federal rate based on semiannual compounding for demand loans made in September 1985, is 10.50 percent. The amount of foregone interest for 1985 is calculated as follows:

(ii) \$70,000 is outstanding for four months. Under the exact method, the amount of foregone interest on this portion of the loan is \$2,429.05, computed as follows:

$$\$70,000 \times [(1 + .1050/2)^{4/6} - 1] = \$2,429.05$$

Under the approximate method, the amount of foregone interest on this portion of the loan is \$2,450.00, computed as follows:

$$\$70,000 \times (.1050/2) \times (4/6) = \$2,450.00$$

(iii) \$10,000 is outstanding for 3 months. Under the exact method, the amount of foregone interest on this portion of the loan is \$259.14, computed as follows:

$$\$10,000 \times [(1 + .1050/2)^{3/6} - 1] = \$259.14$$

Under the approximate method, the amount of foregone interest on this portion of the loan is \$262.50, computed as follows:

$$\$10,000 \times (.1050/2) \times (3/6) = \$262.50$$

(iv) An additional \$10,000 is outstanding 2 months. Under the exact method, the amount of foregone interest on this portion of the loan is \$172.02, computed as follows:

$$\$10,000 \times [(1 + .1050/2)^{2/6} - 1] = \$172.02$$

Under the approximate method, the amount of foregone interest on this portion of the loan is \$175.00, computed as follows:

$$\$10,000 \times (.1050/2) \times (2/6) = \$175.00$$

(v) A final \$10,000 is outstanding for 1 month. Under the exact method, the amount of foregone interest on this portion of the loan is \$85.65, computed as follows:

$$\$10,000 \times [(1 + .1050/2)^{1/6} - 1] = \$85.65$$

Under the approximate method, the amount of foregone interest on this portion of the loan is \$87.50, computed as follows:

$$\$10,000 \times (.1050/2) \times (1/6) = \$87.50$$

(vi) The total amount of foregone interest is \$2,945.86 under the exact method, and \$2,975.00 under the approximate method.

(e) Gift term loans and certain loans conditioned on future service.

(1) In general. In the case of any gift term loan or any term loan that is treated as a demand loan as provided in § 1.7872-10(a)(5), the amount of foregone interest for income tax purposes shall be computed as if the loan were a demand loan, except that:

(i) In applying paragraph (a)(1)(i) of this section, use the applicable Federal rate based on annual compounding in effect on the day the loan is made instead of the blended annual rate, and

(ii) In applying paragraph (b) of this section, use the applicable Federal rate based on semiannual compounding in effect on the day the loan is made instead of the applicable Federal rate for demand loans in effect during the period for which foregone interest is being computed.

(2) Example. The provisions of this paragraph (e) may be illustrated by the following examples:

Example (1). On January 1, 1986, parent P makes a \$200,000 gift term loan to child C. The loan agreement provides that the term of the loan is four years and that 5 percent simple interest is payable annually. Both P and C are calendar year taxpayers, and both are still living on December 31, 1986. Assume that the Federal mid-term rate based on annual compounding in effect on January 1, 1986, is 11.83 percent. The loan is a below-

market loan. The amount of foregone interest for each year is \$13,600.00, computed as follows:

$$(\$200,000) \times .1183 = \$23,660.00 \quad \$23,660.00 - \$10,000.00 = \$13,660.00$$

For gift tax purposes, an imputed gift is treated as made on January 1, 1986, and is equal to the excess of the amount loaned (\$200,000) over the present value of all payments due under the loan, discounted at 11.83 percent compounded annually (\$153,360.82), or \$41,639.82. For rules for determining the computation of present value, see § 1.7872-14.

Example (2). Assume the same facts as in Example (1) except that C repays the loan on September 30, 1987, along with an interest payment of \$7,500. For income tax purposes, the imputed payments are treated as transferred on December 31, 1986 and September 30, 1987. The amount of the imputed payments for 1986 are the same as in Example (1). For 1987, under the exact method the amount of foregone interest is \$9,994.73, computed as follows:

$$\$17,494.73 = \$200,000 \times [(1 + .1183)^{9/12} - 1] \quad \$17,494.73 - \$7,500 = \$9,994.73$$

For gift tax purposes, the imputed gift is treated as made January 1, 1986, and is the same as in Example (1).

(f) Allocation of stated interest. If interest that is payable on a demand loan is properly allocable to a period which includes more than one calendar year, the amount of interest to be allocated to each calendar year is determined by using any reasonable method of allocation.

(g) Counting conventions.

(1) Whole periods. All whole periods, whether expressed annually, semiannually, quarterly, or monthly, shall be treated as having equal length. For example, a leap year shall be treated as having the same number of days as a non-leap year; all months shall be treated as having the same number of days.

(2) Short periods. in computing the length of a short period, any reasonable convention may be used. See §1.7872-12(c)(3) for a list of conventions commonly used.