

Algebraic proof that leaving 10% of the taxable estate to charity always only costs your children 24% of the bequest

The 76% effective rate of relief is independent of the size of the estate and the amount of the nil rate band.

It is purely a function of the 10% requirement and the inheritance tax rates of 40% and 36%.

Terms

E = amount of the estate, N = amount of nil rate band.

Step 1

Tax without the charitable gift = $(E-N) \times 0.4$

Charitable gift = $0.1 \times (E-N)$

Step 2

Tax with the charitable gift = $(E - 0.1(E-N) - N) \times 0.36$

Step 3 compute the reduction in tax

Tax saved = $(E-N) \times 0.4 - (E - 0.1(E-N) - N) \times 0.36$

$= 0.4E - 0.4N - (E - 0.1E + 0.1N - N) \times 0.36$

$= 0.4E - 0.4N - (0.9E - 0.9N) \times 0.36$

$= 0.4E - 0.4N - 0.36 \times 0.9E + 0.36 \times 0.9N$

$= 0.076E - 0.076N$

$= 0.076(E-N)$

Step 4 compute the effective rate of tax saving

Effective rate of tax saving = amount of tax saved / amount of charitable gift

$= 0.076(E-N) / 0.1(E-N)$

$= 0.076 / 0.1$

$= 0.76$

$= 76\%$

Cost to children = $1 - 0.76 = 0.24 = 24\%$

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