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Alternate Compensation Plan

The following is a comparison of the costs associated with two compensation plans: salary-based and loan-based. To aid comparison, both costs will be stated relative to a given salary amount.

Salary-based

If a salary-based compensation plan is used, the costs are increased by the additional burden of Social Security (6.2% of income paid by employer, with income capped at $87900 in 2004) and Medicare (1.45% of income paid by employer) taxes.

$$\begin{aligned} Cost_{fica-med} &= 6.2\% * Minimum(87900, Salary) + 1.45\% * Salary \\ &= 7.65\% * Salary \text{ for 2004 incomes less than or equal 87900} \end{aligned}$$

But since salary cost is expensed, the sum of $Cost_{fica-med}$ and $Salary$ is then offset by the tax benefit at the company's income tax rate (the offset value is 1 - 35% = 65%). This is the final cost of salary-based compensation.

$$\begin{aligned} Cost_{salary} &= 65\% * (Salary + Cost_{fica-med}) \\ &= 69.97\% * Salary \text{ for 2004 incomes less than or equal to 87900} \end{aligned}$$

Loan-based

In this scenario, the employee is compensated with a fixed-rate, non-callable loan with interest and principal due in 30 years. Since the company has earned the money it will loan, the company must first pay income tax on the loan amount.

$$Cost_{loan} = 35\% * Salary$$

And in 30 years, when the interest and principal are repaid, the interest counts as income in that year. In order to preserve the original value of the loan, the interest earned must be 1/0.65 times the inflation-adjusted value of the loan. The long-run US inflation rate is just under 3.4%.[1]

$$\begin{aligned} Inflation\ Multiplier &= (1 + 3.4\%)^{30} \\ &= 2.8067 \\ Minimum\ Loan\ Rate &= (2.8067/0.65)^{1/30} - 1 \\ Minimum\ Loan\ Rate &= 4.89\% \end{aligned}$$

For the IRS to approve this plan, the loan's interest rate must be compounded semi-annually and be above market[2] rates, i.e. above the 10-year US Treasury bill rate.[3] As of December 12th, 2003, the 10 year US Treasury bond was 4.238%.

Given these two scenarios, the company should choose loan-based compensation at a rate of 4.89%. This will save the company 34.97% of current salary-based compensation.

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[1] http://www.bls.gov/data/home.htm
[2] http://www.irs.gov/pub/irs-pdf/p550.pdf Chapter 1, page 6
[3] Title 26 of the US Code §1274 (2003)