## Funding a Cross Purchase Agreement With Discounted Dollars

For: Donna James

Among all the plans used to fund financial obligations at death, a life insurance policy is usually the most efficient. There are typically three alternatives to fund financial obligations at death.
They are: 1. Life Insurance;
2. Cash;
3. Borrowed Funds.

Using a financial evaluation method called "Discounted Dollars", it is possible to compare the three strategies mathematically in order to establish the preferred choice.

## Life Insurance

With life insurance, the sum of the policy's premium, divided by the policy's death benefit, gives a "cost-per-dollar-of-benefit" solution that is useful when analyzing the insurance option.
For example, if the premium for a $\$ 100,000$ life insurance policy is $\$ 1,200$, the Discounted Dollars calculation divides the $\$ 1,200$ by the $\$ 100,000$. This
results in an answer of 1.2 cents, meaning that, with this insured, if death occurs in the first year, each $\$ 1.00$ of death benefit has cost 1.2 cents.
With similar calculations, the costs of delivering each $\$ 1.00$ of death benefit can be measured through all policy years. A factor for forgone interest is usually part of the overall analysis.

## Cash and Borrowed Funds

In all years, $\$ 1.00$ of cash costs $\$ 1.00$. Furthermore, each $\$ 1.00$ of borrowed funds costs more than $\$ 1.00$ - due to the addition of loan interest costs.

## Conclusion

The accompanying analysis compares the three methods of funding, and the calculations examine each method's costs of providing needed dollars at various points in time. In this study, it is apparent that life insurance is consistently the most efficient mechanism for funding the dollars required.


Funding a Cross Purchase Agreement With Discounted Dollars Using Cash Value Insurance (CVI)

Flow Chart
(Alternative Sources of Funds)

## Life Insurance Option



Cash Option
Borrowed Funds Option

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## Summary

| Purchaser's | Forgone | CVI |
| :---: | :---: | :---: |
| Tax Bracket | Interest Yield | Interest Rate |
| $30.00 \%$ | $6.00 \% \%^{*}$ | $8.50 \%$ |


| Year | Female <br> Age | Cost per \$1.00 of Funding |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | (1) <br> Life Insurance | (2) <br> Cash | (3) Borrowed Funds |
| 1 | 50 | 1.2 Cents | 100.0 Cents | 109.8 Cents |
| 2 | 51 | 2.5 Cents | 100.0 Cents | 109.8 Cents |
| 3 | 52 | 3.8 Cents | 100.0 Cents | 109.8 Cents |
| 4 | 53 | 5.1 Cents | 100.0 Cents | 109.8 Cents |
| 5 | 54 | 6.4 Cents | 100.0 Cents | 109.8 Cents |
| 6 | 55 | 7.8 Cents | 100.0 Cents | 109.8 Cents |
| 7 | 56 | 9.1 Cents | 100.0 Cents | 109.8 Cents |
| 8 | 57 | 10.5 Cents | 100.0 Cents | 109.8 Cents |
| 9 | 58 | 11.9 Cents | 100.0 Cents | 109.8 Cents |
| 10 | 59 | 13.3 Cents | 100.0 Cents | 109.8 Cents |
| 11 | 60 | 14.7 Cents | 100.0 Cents | 109.8 Cents |
| 12 | 61 | 16.1 Cents | 100.0 Cents | 109.8 Cents |
| 13 | 62 | 17.6 Cents | 100.0 Cents | 109.8 Cents |
| 14 | 63 | 19.0 Cents | 100.0 Cents | 109.8 Cents |
| 15 | 64 | 20.4 Cents | 100.0 Cents | 109.8 Cents |
| 16 | 65 | 21.8 Cents | 100.0 Cents | 109.8 Cents |
| 17 | 66 | 23.2 Cents | 100.0 Cents | 109.8 Cents |
| 18 | 67 | 24.6 Cents | 100.0 Cents | 109.8 Cents |
| 19 | 68 | 25.9 Cents | 100.0 Cents | 109.8 Cents |
| 20 | 69 | 27.3 Cents | 100.0 Cents | 109.8 Cents |


|  | Cost per $\$ 1.00$ <br> of Funding |
| :--- | ---: |
| Life Insurance | 27.3 Cents |
| Cash | 10.0 Cents |
| Borrowed Funds | 109.8 Cents |

## Life Insurance Analysis

Forgone
Interest Yield
$6.00 \%$
CVI
Interest Rate
$8.50 \%$

| Initial | Initial |
| :---: | :---: |
| Payment | Death Benefit |
| 30,000 | $2,500,000$ |


| Year |  | Payment Analysis |  |  | Death Benefit Analysis |  | Living Values |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Female Age | (1) <br> Net Payment | (2) <br> Cumulative <br> Net <br> Payments | (3) <br> Effective Cumulative Net Payments*** | (4) <br> Death Benefit for Cross Purchase | (5) <br> Cost per \$1.00 of Funding** | (6) <br> Year End Accum Value* | (7) <br> Year End Cash Value* |
| 1 | 50 | 30,000 | 30,000 | 31,260 | 2,525,266 | 1.2 Cents | 25,266 | 0 |
| 2 | 51 | 30,000 | 60,000 | 63,833 | 2,552,343 | 2.5 Cents | 52,343 | 0 |
| 3 | 52 | 30,000 | 90,000 | 97,774 | 2,581,230 | 3.8 Cents | 81,229 | 6,729 |
| 4 | 53 | 30,000 | 120,000 | 133,140 | 2,612,058 | 5.1 Cents | 112,058 | 37,558 |
| 5 | 54 | 30,000 | 150,000 | 169,992 | 2,644,910 | 6.4 Cents | 144,910 | 70,410 |
| 6 | 55 | 30,000 | 180,000 | \|| 208,392 | 2,679,936 | 7.8 Cents | 179,936 | 109,161 |
| 7 | 56 | 30,000 | 210,000 | \|| 248,404 | 2,717,300 | 9.1 Cents | 217,300 | 150,995 |
| 8 | 57 | 30,000 | 240,000 | - 290,097 | 2,757,119 | 10.5 Cents | 257,118 | 196,028 |
| 9 | 58 | 30,000 | 270,000 | - 333,542 | 2,799,519 | 11.9 Cents | 299,519 | 244,389 |
| 10 | 59 | 30,000 | 300,000 | - 378,810 | 2,844,671 | 13.3 Cents | 344,671 | - 296,246 |
| 11 | 60 | 30,000 | 330,000 | - 425,980 | 2,892,760 | 14.7 Cents | 392,760 | - 351,785 |
| 12 | 61 | 30,000 | 360,000 | - 475,131 | 2,943,957 | 16.1 Cents | 443,957 | - 411,176 |
| 13 | 62 | 30,000 | 390,000 | $\square 526,347$ | 2,998,384 | 17.6 Cents | 498,384 | $\square$ - 474,544 |
| 14 | 63 | 30,000 | 420,000 | $\square 579,714$ | 3,056,270 | 19.0 Cents | 556,270 | - 542,115 |
| 15 | 64 | 30,000 | 450,000 | $\square 635,322$ | 3,117,802 | 20.4 Cents | 617,802 | $\square$ 617,802 |
| 16 | 65 | 30,000 | 480,000 | $\square$ 693,265 | 3,183,214 | 21.8 Cents | 683,214 | $\square$ 683,214 |
| 17 | 66 | 30,000 | 510,000 | $\square 753,642$ | 3,252,323 | 23.2 Cents | 752,323 | $\square$ 752,323 |
| 18 | 67 | 30,000 | 540,000 | $\square 816,555$ | 3,325,243 | 24.6 Cents | 825,243 | $\square 825,243$ |
| 19 | 68 | 30,000 | 570,000 | $\square$ 882,110 | 3,402,069 | 25.9 Cents | 902,068 | $\square 902,068$ |
| 20 | 69 | 30,000 | 600,000 | $\square 950,419$ | 3,482,931 | 27.3 Cents | 982,931 | 982,931 |

*This is an example of a "supplemental" life insurance illustration. In actual presentations, this footnote will refer you to an accompanying "basic" illustration from a specific life insurance company.
**Column (3) divided by column (4) is equal to column (5).
***Including after tax forgone interest on column (2). (Foregone interest is a hypothetical interest rate that the policy owner could earn if the life insurance is not acquired.)

Funding a Cross Purchase Agreement With Discounted Dollars Using Cash Value Insurance (CVI)

## Borrowed Funds Analysis



$\overline{2,500,000} \overline{1,237,500}$| 866,250 |
| :--- |
| $3,366,250$ |

*Assumes annual payments at end of year shown.

Rounding may cause minor math inconsistencies.
**Column (7) divided by the total dollars required equals Column (8). If the total dollars required changes but all other assumptions remain constant, the cost per $\$ 1.00$ of funding will remain the same.

# Funding a Cross Purchase Agreement With Discounted Dollars Using Cash Value Insurance (CVI) 



|  | At Year 20 |
| ---: | :---: |
| Cost of Funding each \$1.00 of Life Insurance | 27.3 Cents |
| Cost of Funding each $\$ 1.00$ of Cash | 100.0 Cents |
| Cost of Funding each $\$ 1.00$ of Borrowed Funds | 109.8 Cents |

Funding a Cross Purchase Agreement With Discounted Dollars Using Cash Value Insurance (CVI)

## Life Insurance




