# *Equity Analysis of a Project*

**INPUT SHEET: USER ENTERS ALL BOLD NUMBERS**

| *INITIAL INVESTMENT* | |
|---|---|
| Initial Investment= | **$200,000** |
| Opportunity cost (if any)= | **$7,484** |
| Lifetime of the investment | **10** |
| Salvage Value at end of project= | **$10,000** |
| Deprec. method(1:St.line;2:DDB | **2** |
| Tax Credit (if any )= | **10%** |
| Other invest.(non-depreciable)= | **0** |

| *CASHFLOW DETAILS* | |
|---|---|
| Revenues in year 1= | **$40,000** |
| Var. Expenses as % of Rev= | **50%** |
| Fixed expenses in year 1= | **0** |
| Tax rate on net income= | **40%** |

If you do not have the breakdown of fixed and variable expenses, input the entire expense as a % of revenues.

| *DISCOUNT RATE* | |
|---|---|
| *Approach(1:Direct;2:CAPM)=* | |
| 1. Discount rate = | |
| 2a. Beta | |
| b. Riskless rate= | |
| c. Market risk premium = | |

Discount rate used=

| *WORKING CAPITAL* | |
|---|---|
| Initial Investment in Work. Cap= | **$10,000** |
| Working Capital as % of Rev= | **25%** |
| Salvageable fraction at end= | **100%** |

| *LOAN DETAILS* | |
|---|---|
| Borrowing (if any) = | **$30,000** |
| Interest rate on loan= | **8%** |
| Time period for loan = | **5** |
| Type(1:Term;2:balloon)= | **1** |

*GROWTH RATES*

| | *1* | *2* | *3* | *4* | *5* | *6* | *7* | *8* |
|---|---|---|---|---|---|---|---|---|
| Revenues | Do not enter | **10.00%** | **10.00%** | **10.00%** | **10.00%** | **0.00%** | **0.00%** | **0.00%** |
| Fixed Expenses | Do not enter | **10.00%** | **10.00%** | **10.00%** | **10.00%** | **0.00%** | **0.00%** | **0.00%** |

# CAPITAL BUDGETING WORKSHEET

Default: The fixed expense growth rate is set equal to the growth rate in revenues by default.

| | | YEAR | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| INITIAL INVESTMENT | | | | | | | | | |
| Investment | $200,000 | | | | | | | | |
| - Tax Credit | $20,000 | | | | | | | | |
| Net Investment | $180,000 | | | | | | | | |
| + Working Cap | $10,000 | | | | | | | | |
| + Opp. Cost | $7,484 | | | | | | | | |
| + Other invest. | $0 | | | | | | | | |
| Initial Investmen | $197,484 | | | | | | | | |
| - Borrowing | $30,000 | | | | | | | | |
| Net Initial Inv | $167,484 | | | | | | | | |
| SALVAGE VALUE | | | | | | | | | |
| Equipment | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Working Capital | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| OPERATING CASHFLOWS | | | | | | | | | |
| Lifetime Index | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Revenues | | $40,000 | $44,000 | $48,400 | $53,240 | $58,564 | $58,564 | $58,564 | $58,564 |
| -Var. Expenses | | $20,000 | $22,000 | $24,200 | $26,620 | $29,282 | $29,282 | $29,282 | $29,282 |
| - Fixed Expenses | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| BTCF | | $20,000 | $22,000 | $24,200 | $26,620 | $29,282 | $29,282 | $29,282 | $29,282 |
| - Depreciation | | $40,000 | $32,000 | $25,600 | $20,480 | $16,384 | $13,107 | $10,486 | $8,389 |
| - Interest | | $2,400 | $1,991 | $1,549 | $1,072 | $557 | $0 | $0 | $0 |
| Taxable Income | | ($22,400) | ($11,991) | ($2,949) | $5,068 | $12,341 | $16,175 | $18,796 | $20,893 |
| -Tax | | ($8,960) | ($4,796) | ($1,180) | $2,027 | $4,937 | $6,470 | $7,518 | $8,357 |
| Net Income | | ($13,440) | ($7,195) | ($1,769) | $3,041 | $7,405 | $9,705 | $11,278 | $12,536 |
| + Depreciation | | $40,000 | $32,000 | $25,600 | $20,480 | $16,384 | $13,107 | $10,486 | $8,389 |
| ATCF | | $26,560 | $24,805 | $23,831 | $23,521 | $23,789 | $22,812 | $21,764 | $20,925 |
| - ? Work. Cap | | $0 | $1,000 | $1,100 | $1,210 | $1,331 | $0 | $0 | $0 |
| - Princ. Rep. | | $5,114 | $5,523 | $5,965 | $6,442 | $6,957 | $0 | $0 | $0 |
| NATCF | ($167,484) | $21,446 | $18,283 | $16,766 | $15,869 | $15,501 | $22,812 | $21,764 | $20,925 |
| Discount Factor | 1 | 1.1 | 1.21 | 1.331 | 1.4641 | 1.61051 | 1.771561 | 1.9487171 | 2.14358881 |
| Discounted CF | ($167,484) | $19,497 | $15,110 | $12,596 | $10,839 | $9,625 | $12,877 | $11,168 | $9,762 |

| Investment Measures | |
|---|---|
| **NPV =** | **($40,320)** |
| **IRR =** | **2.64%** |
| **ROE =** | **6.20%** |

# CAPITAL BUDGETING WORKSHEET

## LOAN DETAILS

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Loan life index | | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Total Payment | | $7,514 | $7,514 | $7,514 | $7,514 | $7,514 | $0 | $0 | $0 |
| Interest payment | | $2,400 | $1,991 | $1,549 | $1,072 | $557 | $0 | $0 | $0 |
| Princ. repaid | | $5,114 | $5,523 | $5,965 | $6,442 | $6,957 | $0 | $0 | $0 |
| Rem. Balance | $30,000 | $24,886 | $19,364 | $13,399 | $6,957 | $0 | $0 | $0 | $0 |

## BOOK VALUE & DEPRECIATION

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Book Value (beginning) | | $200,000 | $160,000 | $128,000 | $102,400 | $81,920 | $65,536 | $52,429 | $41,943 |
| Depreciation | | $40,000 | $32,000 | $25,600 | $20,480 | $16,384 | $13,107 | $10,486 | $8,389 |
| BV(ending) | $200,000 | $160,000 | $128,000 | $102,400 | $81,920 | $65,536 | $52,429 | $41,943 | $33,554 |
| - Debt Outstandi | $30,000 | $24,886 | $19,364 | $13,399 | $6,957 | $0 | $0 | $0 | $0 |
| BV: Equity | $170,000 | $135,114 | $108,636 | $89,001 | $74,963 | $65,536 | $52,429 | $41,943 | $33,554 |

ANALYTICAL STATISTICS

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **PV: Net Contribution** | 0.141840368 | 0.15147895 | 0.162081391 | 0.173744075 | 0.186573028 | 0.182440797 | 0.178684223 | 0.175269155 |

| **WHAT IF?** | |
|---|---|
| **Revenues** | **NPV** |
| -1.00% | ($40,986) |
| -2.00% | ($41,652) |
| -3.00% | ($42,318) |
| -4.00% | ($42,985) |
| -5.00% | ($43,651) |
| -10.00% | ($46,982) |
| -20.00% | ($53,643) |
| -25.00% | ($56,974) |
| -50.00% | ($73,628) |

SOME SUGGESTIONS FOR OTHER SENSITIVITY ANALYSES

1. Change the Variable cost as a % of Revenues
2. Change Fixed costs in $ amounts
3. Change the lifetime of the project
4. Change the depreciation method
5. Change the working capital as % of revenues
6. Change working capital salvage %
7. Change borrowing amount
8. Change the discount rate

| |
|---|
| **1** |
| **10%** |
| **0.25** |
| **8.00%** |
| **5.50%** |

| |
|---|
| 10.00% |

| *9* | *10* |
|---|---|
| **0.00%** | **0.00%** |
| **0.00%** | **0.00%** |

| 9 | 10 |
|---|---|
| $0 | $10,000 |
| $0 | $14,641 |
| 1 | 1 |
| $58,564 | $58,564 |
| $29,282 | $29,282 |
| $0 | $0 |
| $29,282 | $29,282 |
| $6,711 | $5,369 |
| $0 | $0 |
| $22,571 | $23,913 |
| $9,028 | $9,565 |
| $13,543 | $14,348 |
| $6,711 | $5,369 |
| $20,254 | $19,717 |
| $0 | $0 |
| $0 | $0 |
| $20,254 | $19,717 |
| 2.357947691 | 2.59374246 |
| $8,589 | $17,102 |

| | |
|---|---|
| 0 | 0 |
| $0 | $0 |
| $0 | $0 |
| $0 | $0 |
| $0 | $0 |
| | |
| $33,554 | $26,844 |
| $6,711 | $5,369 |
| $26,844 | $21,475 |
| $0 | $0 |
| $26,844 | $21,475 |
| | |
| 0.172164549 | 0.141118483 |