

RISK ASSESSMENT—THE NEW REALITY SHOW

As he tried to quench his thirst ... he saw an image in the pool, and fell in love with that embodied hope, and found a substance in what was only shadow."

Narcissus

Continuing a theme started last month, we are going to explore a method of using spreadsheets that gives the end user better insight into the risks going forward in the business rather than the usual rosy view that most portray.

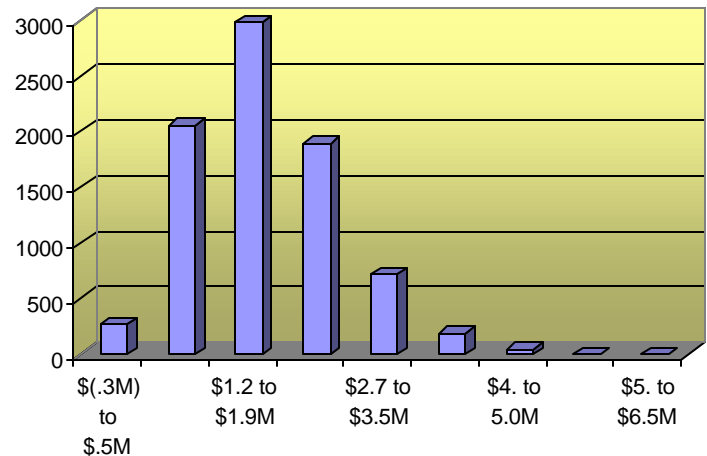
THE PROJECT

On a recent assignment, we developed a standard financial model with the usual balance sheet, cash flow and income statement in a spreadsheet format. The business had invested in a new facility, which it had acquired for \$10,000,000 in debt and we now had to decide on the amount of equity required to attract bank financing.

We took a less conventional approach in trying to decide on the right amount of equity. For the main cost and revenue drivers, rather than pick just one value, we set up a range of values for each one so that the spreadsheet picked a different value from each of the ranges each time it ran. We then ran it 1000 times. The chart below shows the resulting range of EBITDA values, showing a future that is more of a distribution of probabilities than a march forward to financial heaven.

We had good market data from the industry to set the range of values for the main cost and revenue drivers. We then increased the ranges on each side to get a better feel for what could go wrong.....or right.

EBITDA Values



WHERE IS THIS TYPE OF ANALYSIS USEFUL?

- A company can look at the amount of equity that it currently has, and determine in what percentage of cases will it be adequate for the financial metrics being imposed by its banks or lenders. It can apply this analysis to any metric for that matter.
- Venture Capitalists determining the appropriate amount to invest and what percentage of the company they should get in order to earn an acceptable return.
- Treasurers determining the risks in investing in a new plant or an acquisition.
- Project managers in bidding situations to determine the likely probability of a potential project being profitable, and then deciding whether to submit a bid.
- Bank managers considering approval of a loan might recommend the appropriate equity to be invested prior to approving a loan.

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THE ANALYSIS

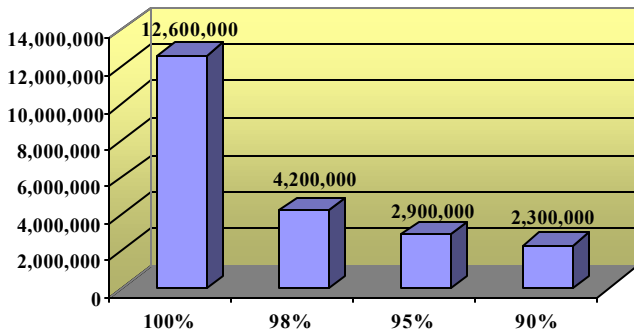
We used the above type of approach to estimate the following;

- The amount of equity that should be invested in this business;
- The rate of return that could be expected in most cases;
- The chances of several things going wrong at once.

EQUITY REQUIRED

To estimate the amount of equity required, we set the equity amount to '0' to start and ran the spreadsheet 1000 times. We then looked at the generated potential values for Current Assets, Current Liabilities, Current Ratio and Bank Line. The first run showed that 80% of the time the Current Ratio was worse than our minimum target of 1.25.

The chart below shows the maximum amount of equity required to meet the Current Ratio target of 1.25 in the percentage of cases shown. In other words, if one invests \$2.9 million in the business, the current ratio target will be met in 95% of the cases. In any exercise like this there will always be outlying values that are much higher or lower than the norm. As long as the equity is acceptable in the vast majority of cases, then one should be satisfied that the risk is adequately covered off.

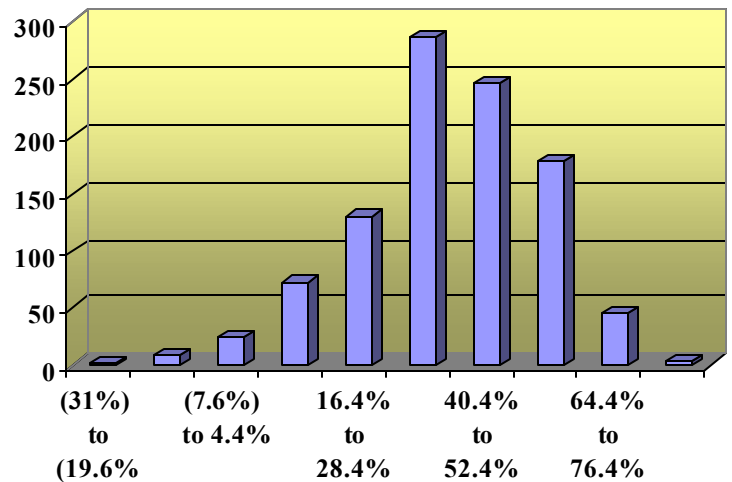


Equity Required

We added the \$2.9 million in equity to the spreadsheet and ran the scenarios again. With the addition of the equity, the current ratio was actually met 94% of the time. In further analyzing the data set we took a look at Cash Flow Coverage and found that prior to an equity injection it was only acceptable 78% of the time based on a target ratio of 1.5. After the investment, the Cash Flow Coverage was above 1.5 in 92% of the cases. We should now be satisfied that with an injection of \$2.9 million that the company would likely be onside with the lenders and the bank.

RATE OF RETURN ON INVESTMENT

To estimate the rate of return we will take a 5 year time horizon from investment, and calculate it based on 5 times EBITDA plus the excess cash in the bank after paying down the debt.



Range of Investment Return Values

You can see that the majority of the returns are in the 16-64% range which is adequate if you own 100% of the business. If you were asked to be less than a 50% owner, it may not represent an attractive rate of return based on the spread of risks shown. This should give an investor, a better perspective on what the range of returns might be on an investment.

THE VENTURE CATALYSTS: YOUR BUSINESS DEVELOPMENT PARTNER**“*&!*#\$\$@#&” HAPPENS – BUT WHAT ARE THE CHANCES??**

In our example there were three main cost drivers accounting for 75% of the costs in this particular business. What is the probability of all three cost drivers going against the company at any one time? We had a little over 8000 values in this sample set and on 9 occasions all three cost drivers were at their worst at the same time. Those are pretty good odds!

CONCLUSION

This analysis can give the user greater insight into the risks present in his business. However, it is in the end, only a sophisticated “what if” analysis and is only as good as the ranges put in. Management still counts and reality has a way of going beyond what we thought were the widest of possible outcomes. If unrealistic ranges are put in for the cost and revenue drivers then you still run the risk of falling love with your own reflection. We highly recommend this type of analysis anytime that management is considering a significant investment of resources.[§]

§ Final Notes

The incremental time frame to set up a model in this fashion is about 10-20% over the time to construct a more standard model. Setting up a model for a wide range of contingencies tends to show up all the flaws in logic in the spreadsheets that then have to be corrected. This adds an indeterminate amount of time to the construction. Running 1000 scenarios takes less than 10 minutes, even on the author’s old machine.

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