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How Much is Your Company Worth?

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Every entrepreneur wants to know the value of their company, especially when raising funds or considering a merger or acquisition. This question is particularly difficult to answer for an early stage biomedical company, because the business typically has no revenue, customers, profits, net worth or assets. Traditional valuation measures focus on discounted cash flow, replacement value or public market comparables. These methods may seem useless for biomedical companies that lack those metrics.

But valuing biomedical companies does not need to be a black art. A combination of methods can be used, depending on company stage. For early stage companies, empirical data such as comparables ("comps") can be used. Then, as companies get close to or actually enter pivotal trials, a variation of the discounted cash flow (DCF) technique can be used that takes into account the risk of a company that may not yet have commercial products or revenue.

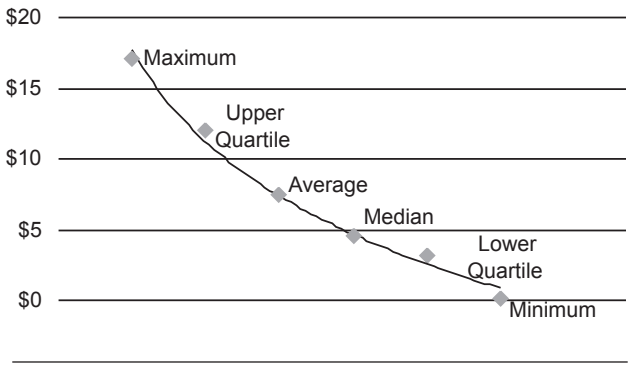

Figure 1. Post Money Valuation – Startup/Seed Companies ($M)

The biomedical sector presents a wide range of risk profiles, strongly influencing value. Risk is affected by the nature of the company's technology or science, its probability of success, the product or service, the market and the company's stage of development. A drug discovery company usually carries higher risk than a medical device company due to the longer time frames and greater money required to develop a new drug as compared to a medical device. Higher risk demands higher reward.

There is also considerable variation in terms of risk assessment and valuation. The process of commercializing a drug or device is a long one – anywhere from five to ten years or more. Obviously, companies with a drug or device in late stage clinical trials are expected to earn revenue much sooner than a company in the early stages of development.

Just as development stage determines risk and valuation, other important factors include:

- **Product pipeline.** Has the company diversified its risk across several products?
- **Cash reserves.** Does the company have enough cash to reach its next major milestone?
- **Quality of research and development.** Has the company won the respect of its peers as shown through grant awards, knowledgeable investors, interest from industry specialists and collaborations with respected research institutions?
- **Regulatory considerations.** Is the company facing the long lead times of drug development or the relatively short pathway of a device?
- **Intellectual property.** Does it have broad patents protecting its IP?
- **Platform technology.** Does the company have a platform that can yield a range of different drug candidates or devices?

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- **Markets.** Is the market for the product open, growing and subject to Medicare reimbursement?
- **Senior management and key staff.** What is management's track record in successfully meeting research milestones?

As one can see, there are many variables affecting the value of a company. Especially for early stage start-ups, empirical data is probably one of the best indicators of value. According to data from Thompson Financial for 33 private company financings in 2006, the average valuation for seed and early stage companies was $7.4 million and the median $4.6 million (see Figure 1). Obviously, if your company falls into the "average" category and you're raising $3 or $4 million, you're giving away more than 50% of your company.

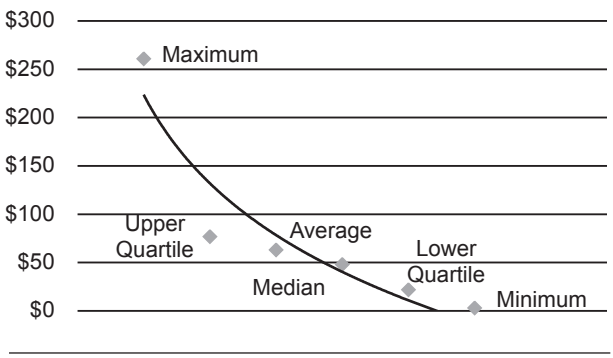

Figure 2. Post Money Valuation – Expansion Stage ($M)

Valuations are higher for expansion rounds. According to the Thompson Financial data, the average valuation for an expansion stage company jumped to $63 million and the median $46 million (see Figure 2). So raising money at this stage is much less expensive to the entrepreneur.

Discounted Cash Flow Approach

Once a company is in (or near) its pivotal clinical trial, the probability of success goes up dramatically. It is now possible to use a traditional approach to value your company using the discounted cash flow approach.

Think of a biomedical company as a collection of one or more experimental drugs or devices – each one represents a potential market opportunity. The basic approach is to estimate the free cash flow (net income + depreciation – changes in working capital – capital expenditures) for each drug or device. Then add the present value of the sums discounted at the minimum required rate of return. This is one estimate of the quantitative value of the company.

Required IRR \ Probability of Success	30%	40%	50%	60%	70%	80%
20%	$ 44	$ 59	$ 74	$ 89	$ 103	$ 118
25%	$ 35	$ 46	$ 58	$ 69	$ 81	$ 92
30%	$ 28	$ 37	$ 46	$ 55	$ 65	$ 74
35%	$ 23	$ 30	$ 38	$ 45	$ 53	$ 60
40%	$ 19	$ 25	$ 31	$ 37	$ 44	$ 50
50%	$ 13	$ 18	$ 22	$ 27	$ 31	$ 36

Figure 3. Estimated Value as a Function of IRR and Probability of Success ($M)

Forecasting Sales Revenue

Forecasting sales revenue is the most important ingredient in determining free cash flow. When making assumptions about a drug's potential market penetration, use your own best judgment. If there is a competitive drug market, with limited advantage offered by the new drug over existing entries, the drug will probably not win substantial market share in its product category. You might assume that it will capture 10% of that total market, or even less. On the other hand, if no other drug addresses the same needs, you might assume the drug will enjoy market penetration of 50% or more.

Estimated Price Tag

Once you have established a sales market size, you need to estimate the sales price. Of course, putting a price tag on a drug that addresses an unmet need will involve some guesswork. But for a drug that will compete with existing products, you should look at the price of the competition. For instance, pharmaceutical giant Roche's recently introduced HIV-inhibitor drug, Fuzeon, costs just over $20,000 per year. Multiplying that price by the estimated number of patients (1 million patients X 10% market penetration = 100,000) equates to annual sales of $2 billion. Let's also assume that our firm chooses to license the drug to a large pharmaceutical company, accepting a 10% royalty. Combining all these factors, annual revenues are $200 million.

If the drug is not out-licensed, a reasonable comp for determining free cash flow is 25% of sales revenue. Sales are forecast for ten years (an average life of a product) followed by an estimate of the terminal value of the company. Terminal values are usually estimated by taking free cash flow at the end point ($50 million) and capitalizing it by the required rate of return.

Figure 3 puts it all together and estimates the company value as a function of the required rate of return and the probability the drug will make it through Phase III, win FDA approval and be commercially marketable. In this case we've assumed our company chooses to take a royalty and partner with a large pharmaceutical company that has the resources necessary to market the drug. The dollar figures estimate the value of the company. It is equal to the DCF or present value of the free cash flow, discounted at different IRRs and different probabilities. For example, if you need a 35% rate of return and you believe the drug has a 60% chance of success, then the company valuation would be $45 million.

Summary

As this article indicates, there are substantial variables in determining the value for a biomedical company. By analyzing these many variables and then comparing the results to empirical data, one is able to get a good feel for the value of the company. A good investment banker can also help you through the valuation process. ■

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