

CHAPTER 2

Should Venture-Backed Companies Even Consider a DCF Model?

Introducing the Life Science Valuation Case: Zogenix

It might seem like almost every company we will use as a case in this book is going to be an Internet-related company. Although not completely true, the reality is that Internet-related VC investments account for 40% of all venture investments today, as illustrated in Exhibit 2.1.

Perhaps more important than the previous statistic is that these investments account for far more than their fair share of VC returns, both in terms of exits and unrealized gains. That being said, it's critical to examine how conventional practices in venture-capital valuation span all industry categories. For that reason, we start our first in-depth case in this book outside of the Internet space, using a life science company, Zogenix.

In this case we will briefly review the major theoretical and practical valuation methods Zogenix used prior to, and after, filing its registration statements with the SEC. As you can imagine, we will likely come up with results that are different than what the investors, founders, auditors, underwriters, and accountants came up with along the way. That's perfectly OK, assuming you (the reader) can distinguish if our differences were due to variations in data quality, differences in assumptions, or differences in the application of business logic. I will try to highlight those differences when available so that you can readily tell when the results were due to a difference in business logic, since the quality of data and the assumptions are of course subject to privacy and price constraints, whereas the search for better business logic is one of the reasons to use a book like this. The goal

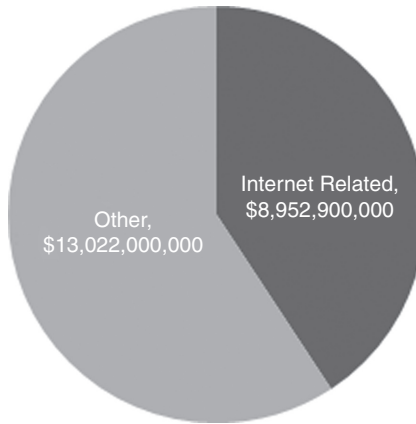


EXHIBIT 2.1 Internet-Related VC Investments in 2010 versus All Other
Data source: NVCA 2010 Year Book

here is not to revalue the company, but rather to examine the approaches and methods Zogenix used so you can consider how they apply to your company, your portfolio, or your client's company.

This case is referred to, in varying degrees, throughout Chapters 3 and 4. If you are familiar with discounted cash flow concepts, you may find it convenient to skip Chapter 3, which provides a refresher on present/future value concepts and other popular valuation concepts.

ZOGENIX: COMPANY BACKGROUND SUMMARY AND HIGHLIGHTS

From an idea in the early 1990s to a quarter-billion-pound valuation at the turn of the century and a second attempt at going public this decade, Zogenix core technology is anything but an overnight success story. Terry Weston invented the technology in the early 1990s and got a seed round from 3i Ventures in Europe to fund Weston Medical in the UK. Additional investors, including a VC arm of Japan's Normura, participated in subsequent rounds leading up to Weston Medical's listing on the London Stock Exchange during one of the worse market pullbacks in recent history (2000).

However, unlike an Internet company, bugs in production for life science companies can kill a venture's value overnight, due to the risk that its products could kill a patient. That's pretty much what happened to Weston Medical, and it cut the company's 250 million British pounds

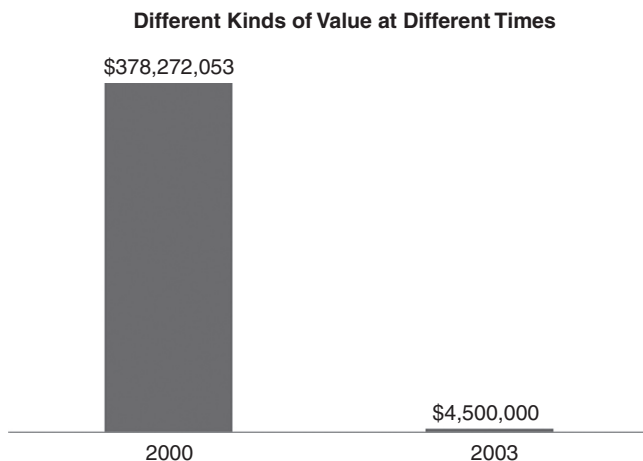


EXHIBIT 2.2 Core Technology Once Valued at \$350 Million Then Just \$4.5 Million

Data source: Liquid Scenarios, Inc.

(around \$350 million) market cap to less than \$4.5 million in liquidation value, which is where the founders and management team from Zogenix come in. See Exhibit 2.2.

Aradigm Acquires Weston Intraject Assets for Pennies on the Dollar

Following the crash of Weston Medical's stock, and the inability to raise financing from other sources, Hayward, California-based Aradigm acquired the Intraject technology out of bankruptcy for around \$3 million, including transaction and transfer costs (see Exhibit 2.3). At the time of the acquisition Aradigm's stock was bouncing above and below the threshold for NASDAQ National Market listing requirements (see Exhibit 2.4). Today the company's stock is on the OTCBB and was trading at under \$0.20 when Zogenix filed for its IPO.

Zogenix Gets Funded—Big Time

At least two of the founders of Zogenix met while working on the Intraject technology at Aradigm. They arranged to acquire certain rights to the technology in exchange for \$4 million up front to Aradigm, provided they could secure \$15 million in VC financing. The founders exceeded that hurdle by 100% to 300%, depending on how you value the deal. Zogenix closed a

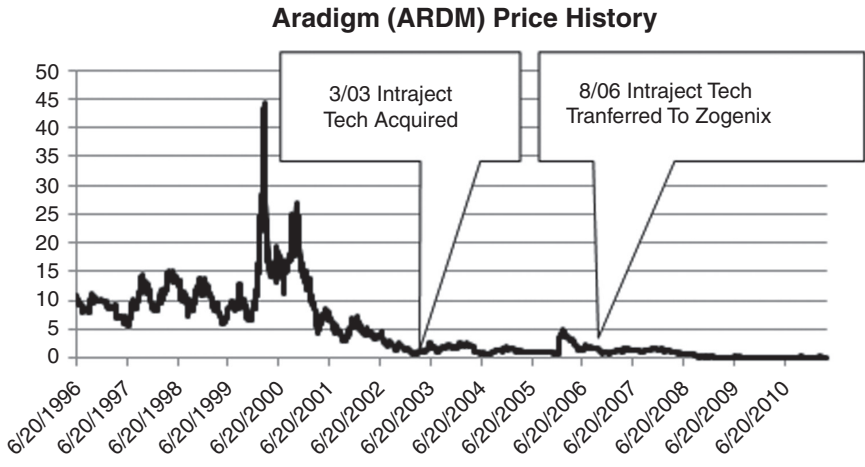


EXHIBIT 2.3 Aradigm Price When Intraject Technology Acquired and When Sold
 Source: Liquid Scenarios, Inc. with data from Finance.Yahoo.com.

Series A-1 for approximately \$30MM, including the conversion of a \$500,000 bridge loan, in August 2006. As part of the deal, Series A-1 holders were issued a “Right” to purchase an equivalent number of shares for the same price, under various conditions. One way to look at this right is as 100% warrant coverage on the Series A-1, with the strike price equal to the Series A-1 issue price. Since warrants issued as part of a round are generally added to the post-money value, as opposed to the pre-money value, one

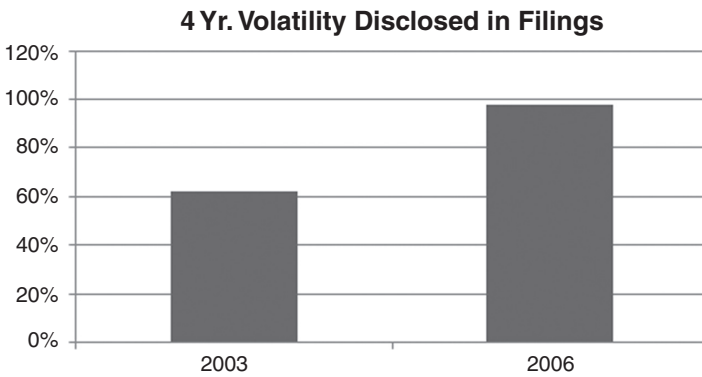


EXHIBIT 2.4 Change in Aradigm Volatility Disclosed in SEC Filings
 Source: Liquid Scenarios, Inc. with data from SEC files.

EXHIBIT 2.5 Hypothetical Post-Money Capitalization (Shares) without Rights/Warrants

Security/Class	Shares Issued	Shares Issuable	Fully Diluted Shares
Pre-Money Shares			
Common	11,385,000		11,385,000
Options Pool Increase		20,340,000	20,340,000
Pre-Money Totals	11,385,000	20,340,000	31,725,000
Series A-1	30,775,000		30,775,000
Post Money Capitalization	42,160,000	20,340,000	62,500,000

Source: Liquid Scenarios, Inc. with data from SEC files.

way to view the capitalization of the company after this round might be as shown in Exhibit 2.5.

The first column in Exhibit 2.5 shows the security name, along with subtotals. The next column, Shares Issued, is a number that should match the company's stock ledger, either maintained by a law firm or a transfer agent in some cases. I include a third column, Shares Issuable, to specifically identify shares that are assumed or deemed to be outstanding for purposes of pricing the current round of financing. This column should include the following items:

- Options granted, which can be further broken down into two more categories.
 - Vested Options (those that the holder/grantee has fully earned)
 - If the company sold the day after the round closes, the holder would get proceeds based on his or her adjusted pro-rata ownership. It's important to note that under an M&A (merger or acquisition) scenario, this amount would be higher than his or her pro-rata ownership on a "fully diluted basis" in most cases.
 - Unvested Options (those that the holder/grantee has not earned)
 - So if the company sold the day after the round closes, and there were no "accelerated vesting provisions," the holder would get \$0 proceeds as a result of his or her unvested options. It's worth noting that the unvested options would still represent a liability for the acquiring firm and, as a result, theoretically be a portion of the acquisition cost/price

Traditionally, VCs didn't really keep an eye on which options were vested and unvested. In fact, many firms didn't even keep a close eye on the

ratio of grants, but instead would focus attention in general to the total size of the option pool as a percentage of “fully diluted shares” outstanding. That practice has started to change as parties have become more focused on specific cash flow potential from period to period, particularly at well-capitalized funds.

Since this is the first round of financing, it’s not uncommon to have a completely unissued option pool, so 100% of the pool is simply “reserved” for future issuance. Other items that might populate this column, of “issuable” shares needed to determine fully diluted shares outstanding, would include warrants issued prior to the close of the transaction, or pre-money and any reserved shares issuable to series of preferred stock as a result of conversion price adjustments that cause their conversion ratio to be something other than 1:1. So, for example, if a prior series was issued for \$1, but had the conversion price adjusted to \$0.50, due to anti-dilution provisions for instance, the original conversion ratio would change from 1:1 to 2:1 and the additional shares “reserved” to satisfy this adjusted price would be included in the issuable column.

It’s worth mentioning briefly that the assumed, or “deemed,” shares outstanding are defined differently depending on what the calculation is being used for. In this example we are talking about pricing a new round that is not price dilutive, or not a down round, since no prior financing rounds existed. In cases of a dilutive financing, or down round, the number of shares deemed outstanding is generally something less than the fully diluted shares deemed outstanding for purposes of calculating the pre-money value.

Rights and Warrants

There are two key elements still missing from the summary capitalization in Exhibit 2.5. One of the items you don’t see in the post-capitalization exhibit presented thus far is the rights or warrants we mentioned earlier. These rights give the investors the option to buy in at the same price, \$1.00 per share, at a future date. This raises a number of valuation issues that will impact every holder, whether things go well or not so well in the months following the financing round.

- a. Do we simply add the warrants to the post-money value to obtain the post-money “capitalization” of the company?
- b. Is the right to an additional superior (preferred) share for each share I currently hold, at a predetermined price, worth more or less than the common stock? Is it worth more or less than the underlying preferred stock?
- c. If you were given the choice, which security would you prefer to have, the Series A-1 or the Series A-1 right/warrant?

We'll start with the answer to question a: "Do we add these warrants to get the post-money value?" In general, warrants offered to sweeten a new round of financing are typically included post-money impacting the pricing of the next round of financing. With 100% warrant coverage, or 50% warrant coverage depending on how you calculate it, it's obvious that simply multiplying the post-money fully diluted shares by \$1, including the warrants, will describe a value that makes little sense to anyone. In fact, you could easily argue that the warrants actually decrease the value of the company on a fully diluted pro-rata basis, since if the company appreciates rapidly as expected, that growth will go only to the shareholders that hold the warrants.

The next question is how the value of the warrants on the Series A-1 preferred stock compares to the value of the common and the value of the Series A-1 preferred stock. In most cases, the Series A-1 shares, assuming they are the first round of financing, will of course be of greater value than the common stock. Most people would also assume that if the close date for the underlying Series A-1 is the same as the issue date for the warrants then the Series A-1 shares are worth more than the Series A-1 warrants and comparable in value to the common stock. However, there's no way to know the true answer to these questions concerning relative value from one security to another without accurately calculating a payout model first.

The other missing element from Exhibit 2.5 is the presence of two initial tranches for the Series A-1, in the amounts of approximately \$15.4 million each; with a future commitment for an equal amount including the warrant exercises, so a total of \$60.8 million. Tranches always have pricing and valuation implications. However, those implications are not represented in the form of a changing price per share, since typically the original issue price per share stays the same for each tranche. In this case, the tranches were issued from August 2006 through September/December 2007, so over a year. One year is not a long time for many companies, but for high-growth companies receiving such a large amount of capital at the early stage, you would hope that the value would grow significantly over that period of time. Unfortunately, the reality is that the value could also decrease over that period of time. These changes in the value of the firm, including debt plus equity, or changes in the value of the company's total equity excluding debt, represent volatility, which is a key input to future expectations for venture-backed companies.

Varying Probabilities

One of the unique features of many life-science companies, as opposed to other venture-backed companies, is a sequence of regulatory hurdles that are perceived to represent probabilities of success. There's very reliable data

with respect to expected costs for each phase and usable data with respect to how the probability of ultimately being approved for marketing improves as firms move through one stage, or phase in the case of pharmaceuticals, to another stage. Each of these changes can be a clue as to expected volatility, although both are generally used by valuation professionals and analysts to adjust discrete future cash flows and bring them to a present value, which we will discuss further in Chapters 3 and 4.

So why are these varying probabilities so important in the cases of large tranches spread over the course of a year? Because it means that capital appreciation is being earned at a higher rate by those purchasers of these tranches, the VC investors, than it is by the founders and debt holders, under a good scenario. Under a bad scenario, it means that value is being lost at a lower rate for the VCs and a higher rate for founders and employees. As a result, the reliability of recent primary transactions in the company's stock as a market input to find a clue, or indication, of the total equity value of the company diminishes.

Exhibit 2.6 illustrates this by allocating the pre-money and post-money value to each shareholder using the traditional VC convention, which as we've stated is primarily a means of explaining how the new round of financing is explained on a price per share basis, as opposed to truly explaining the value of the company before or after a new round of financing. This is easily proven by simply assuming the company sold for its post-money value, which we do later in this case. Exhibit 2.6 could be effective any time between the initial close of the Series A-1 and the Series A-2, and the implied company value using the traditional VC convention would be the same, even though the amount of cash actually invested, the options granted, and a number of other variables would be different.

We will revisit the implications of this traditional perspective later in this section, but for now you can ask yourself, if the company reached each of its regulatory milestones, would the first tranche issued at \$1.00 per share in August 2006 have the same value as the fourth tranche issued in September/December 2007?

LEAPING FORWARD JUST 20 MONTHS, THE COMPANY FILES FOR AN IPO

Less than two years after the first tranche of financing, the new company, Zogenix, was ready to go public. Unfortunately, when it filed its registration statement in March 2008, no one knew it would turn out to be the worst year on record for venture-backed IPOs and one of the worse for securities of any kind. As a result, the company had to raise another round of funding to

EXHIBIT 2.6 Pre-Series B Capitalization Allocated Using Traditional VC Convention

Shareholder	Pre-Money			FDS %	Invested	FDS %	Avg. Cost
	Invested	Value	FDS %				
Domain Associates, L.L.C.	\$75	\$75,000	0.39%	\$21,100,075	24.08%	\$1.00	
Stephen J. Farr, Ph.D.	\$3,000	\$3,000,000	15.68%	\$3,000	3.41%	\$0.00	
Roger Hawley	\$2,100	\$2,100,000	10.98%	\$102,100	2.50%	\$0.05	
Gamer Investments, LLC	\$1,850	\$1,850,000	9.67%	\$101,850	2.22%	\$0.05	
Hale Biopharma Ventures LLC	\$100	\$100,000	0.52%	\$100,100	0.23%	\$0.50	
Windamere LLC III				\$100,000	0.11%	\$1.00	
Clarus Ventures				\$21,000,000	23.88%	\$1.00	
Scale Ventures				\$14,000,000	15.92%	\$1.00	
Thomas McNerney				\$12,000,000	13.65%	\$1.00	
Scott N. Wolfe				\$4,167	0.00%	\$1.00	
Faye Hunter Russell Trust				\$4,166	0.00%	\$1.00	
Cheston Larson				\$4,167	0.00%	\$1.00	
VP Company Investments				\$12,500	0.01%	\$1.00	
Life Science Angels				\$235,000	0.27%	\$1.00	
WSGR/Other				\$40,000	0.05%	\$1.00	
Founder	\$6,342	\$6,342,188	33.16%	\$6,342	7.21%	\$0.00	
Total Existing	\$13,467	\$13,467,188	70.41%	\$68,813,467	93.56%	\$0.84	
New Investors	\$19,113,721	\$5,660,000	29.59%	\$19,113,721	6.44%	\$3.38	
Series A-1 Totals	\$19,127,188	\$19,127,188	100.00%	\$87,927,188	100.00%	\$1.00	

Source: Liquid Scenarios, Inc. with data from SEC files.

bridge the gap between a withdrawn IPO and continued needs as its offering was commercialized.

VCs Double-Down on Zogenix Convertible Debt

2008, and much of 2009, was probably a record year for convertible debt financings of venture-backed companies for obvious reasons. However, most of those deals converted at discounts to the next round of financing or with multiple liquidation preferences. Those discounts yielded substantial returns for their investors (see the Tesla case in this book). The VCs that invested in Zogenix's latest venture round, along with certain PE investors, did so without any explicit discounts and without any special liquidation preferences (other than those implicit in the Series B financing).

The original issue prices for these convertible debt rounds were only at a slight increase, or step up, in value over the Series A-1 financing. This relatively flat per share pricing is common in private equity, or "PE," deals but not so popular with venture investors outside of certain life science funds. It's important because, as in the case of the large tranches, the reliability of the original issue price per share as an input to the total equity value of the company is decreased. One might argue that the importance of who was participating in those convertible debt rounds, which is always important, was even a more important consideration from a valuation perspective as a result of the relatively flat round to round pricing. See Exhibit 2.7.

VCs Even Offer to Purchase a Portion of the Offering

Similarly, an increasing number of venture-backed IPOs have the VCs as selling shareholders, which is reasonable if there's sufficient market demand

EXHIBIT 2.7 Convertible Debt Purchasers

Investor	2010 Convertible Debt Purchased	Convertible Debt Discount%
Domain Associates	\$3,440,206	0%
Clarus Lifesciences	\$3,423,902	0%
Chicago Growth Partner	\$2,299,963	0%
Scale Venture Partners	\$2,282,541	0%
Thomas, McNerney Partners	\$2,057,675	0%
Abingworth Bioventures	\$1,495,713	0%

Source: Liquid Scenarios, Inc. with data from SEC files.

since these parties took the early risk with the promise of a liquidity event. However, this deal was also unique in that the VCs behind it even offered to purchase a portion (up to \$15 million) of the IPO shares being issued.

Some people were skeptical of this willingness to pile cash into a deal at what appears to be essentially the same pricing. And, indeed, in the case of private transactions, such a move can have a profound impact on the perceived value of the enterprise, which we will get into later. On the other hand, others would take these actions to indicate the longer-term value these existing investors see in Zogenix. At the conclusion of this case, you will have the capacity to decide for yourself at every stage of the company's development if you would risk resources as the founder, as an angel, as one of the venture capitalists, or as an investment bank based on changes in the company's value.

ORDER OF VALUATIONS PRESENTED IN THIS CASE

As noted, we are going to examine some of the major theoretical and practical valuation methods Zogenix applied. We will do this across the evolution of the company, including the founding date of the company, the first round of venture-capital financing, subsequent rounds of venture capital financing, convertible debt and venture debt warrant issuances, issuances of employee options, and ultimately the company's IPO.

We could simply start at the beginning, when Zogenix was founded, or start at the end, the date of the public offering. However, I decided to start with the Zogenix IPO disclosures as they are introduced by the company in its SEC filing. For each concept introduced, we will give a background, apply it to the company and security values for Zogenix at different stages, and suggest shortcut ways for trying to do the calculations yourself. Along the way we will identify common pitfalls of both valuation professionals and non-finance professionals in trying to apply these concepts, and how to avoid making those mistakes.

* * *

In Chapter 3 we look at the three approaches to valuation, the asset approach, the income approach, and the market approach, disclosed in the registration statements of most venture-funded companies using Zogenix as an example. We also look at how these indications of value are intertwined with the value allocation methods used by virtually all venture-backed companies in the United States.