

## CHAPTER 3

# Valuation Methods versus Allocation Methods Regarding Zogenix

*“The valuation was prepared using the guidance in the American Institute of Certified Public Accounting’s Technical Practice Aid, Valuation of Privately-Held Company Equity Securities Issued as Compensation. This process valued our total equity and then allocated it between our common stock and our preferred stock.”*

—Zogenix 2008 SEC Filing

**T**he epigraph at the start of this chapter, from the Zogenix registration statement filed with the SEC, has three critical pieces of information that impact every investor, founder, and employee of a venture-funded company today:

1. A professional valuation was done, and its preparers relied on guidance from the AICPA’s “Technical Practice Aid, Valuation of Privately-Held Company Equity Securities Issued as Compensation.”
2. Total equity was valued first.
3. Then the total equity value conclusion was allocated between the other securities.

### **SEPARATING ENTERPRISE VALUE FROM THE ALLOCATION OF THAT VALUE**

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The AICPA’s Practice Aid in this area lists a handful of methods that can be used to value Total Equity Value as well as a number of methods for

allocating that value among different classes of preferred stock, options, warrants, and common stock. Although it's tempting to think that valuing a company in its entirety versus allocating that value to specific securities are distinct processes, unless the tasks are undertaken independently, it becomes an iterative process, where the value allocated to a given security will make a professional reconsider the value of an enterprise, and vice versa.

In the simplest sense, though, you can think of the total company equity value as being the value of the whole pie of equity and the allocation being how much your piece of the pie might be worth. But if you think of this for a moment, it's actually in reverse order of how markets generally work, which is one of many reasons people who don't value these types of securities sometimes have issues with the resulting outcomes.

For instance, if I tell you that there are 10 million shares of stock outstanding and they are being purchased for \$5 each, most people will conclude that the company has a value of \$50 million. This value is sometimes referred to as a "market cap" or market capitalization. Indeed, each of Zogenix preferred financing rounds, beginning with the Series A-1, was essentially "valued" in this manner, which we referred to as the traditional VC convention previously. See Exhibit 3.1.

Unfortunately, this same methodology was prevalent in how both founders and VCs perceived their respective ownership stakes in private venture-backed companies, until recently. The obvious flaw is that the VCs get a security with superior rights, including characteristics similar to both debt and equity, whereas founders in a company generally get a callable, forfeitable junior security with no debt-like features. That is just one of the obvious reasons why simply taking the value per share for the superior security, the preferred stock purchased by the VC, and multiplying securities outstanding, derivatives outstanding, and derivatives approved for issuance in the future is not a sound valuation method. We covered this topic briefly in Chapter 1 in a section called "The Pre-Money Myth."

Common Stock Outstanding	13,467,188	\$1.00	Common @ Series A-1 Price = \$13,467,188	"Pre-Money Value"
Unissued Option Pool Deemed Outstanding	5,660,000	\$1.00	Unissued Options @ Series A-1 Price = \$13,467,188	
Series A-1 Stock Issued in New VC Round	68,800,000	\$1.00	\$68,800,000 Consideration Received	
Total Post-money FDS "Capitalization"	82,267,188	\$1.00	\$87,927,188 Post-money Value	"Post-Money Value"

**EXHIBIT 3.1** Pre-Series B Capitalization Allocated Using Traditional VC Convention

Source: Liquid Scenarios, Inc.

Another reason it becomes hard for valuation professionals to objectively separate their conclusion of the enterprise value from their allocation of that value to different classes of securities is that a number of methods in the AICPA's practice guide do in fact contemplate solving for enterprise value and security value in a single step. Moreover, many approaches to getting an idea, or "indication," of enterprise value overlap and rely on allocating portions of the value indicated to market data that applies to both debt, common equity, derivatives, and preferred equity, with each of those securities being rewarded according to different rules and rates. We will discuss some of those methods as we move further along in our review of the Zogenix valuation disclosures. We can quickly illustrate some of these features without the use of software by doing a simple calculation of maximum payout per share for preferred versus common, simply taking the liquidation preference of the Series A-1 on the date it was issued, which is:

**Preferred**

\$30.5MM Liquidation Preference Series A-1, with 2.5X Participation Cap—30.5MM Shares

**Common**

11.39MM Common Shares That "Reverse Vest"—Assume 25% Vest Immediately—3MM Shares

If the company sells at pre-money value the next day, preferred stock gets \$30.55MM, with the balance shared between 30.5MM preferred shares and 3MM common shares, so around \$0.60 per share. Suggesting value of preferred would be 25% greater than \$1.00 per share if sold, and the value of 11.39MM shares of common would be around 90% less.

If, instead of an estimate with respect to the reverse vesting provisions, we used the actual terms, copied below from Zogenix filings, the value of the common stock (using a back of the napkin calculation) would be even lower than 90% of what the pre-money value implies. As stated in Zogenix's S-1 Registration Statement,

*In May and August 2006, in conjunction with the founding of the Company, 11,385,000 shares of common stock were issued to the founders (Founder's Stock) at a price of \$0.001 per share for total proceeds of \$11,000. Of the total Founder's Stock issued, 11,200,000 shares vest over periods between two and four years and the Company has the option to repurchase any unvested shares at the original purchase price upon any voluntary or involuntary termination.*

This difference in values, between the common and the Series A-1 preferred, is reflected in the option grant price of \$0.05 per share that Zogenix

used in February 2007, which is 5% of the price paid in its most recent round of preferred stock. Even if we multiply 100% of the founders' stock by the \$0.05 per share common stock value implied by the option grant price, we'll end up with a substantially lower "value of the company prior to receiving a round of financing" than would be suggested by the traditional definition of pre-money value.

It's important to keep in mind that in February 2007, not all venture-funded companies had started using third-party valuation professionals because the effective dates for 409A were still in question. As we have started to discuss, and will continue to discuss at length, had a 409A valuation been done for Zogenix at the end of 2006, gains upon Zogenix's IPO realized by employees receiving those options would have been materially lower. The same can be said for employees of many venture-backed companies, who may be losing up to \$1 billion per month due to options that were overpriced as a result of the interactions between auditors and valuation professionals as it relates to 409A.

## **VALUING TOTAL EQUITY**

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As noted in the Zogenix disclosure, its valuation professionals "valued our total equity." How they did that is largely what this book is about; fortunately, they go on to tell us the methods they used as of their 2008 and 2010 IPO filings. The 2008 IPO Zogenix filing states, "To arrive at total equity value, the cost approach, the market approach, and the income approach were evaluated." And the 2010 IPO Zogenix Filing states,

*During 2009 and 2010, the valuation methodologies employed by us in the contemporaneous determination of fair value of our common stock were based on three primary factors: (i) market approach using comparable publicly traded companies, (ii) income approach using discounted cash flow analysis, and (iii) cost approach.*

Although Zogenix states it differently year to year, the same three general valuation approaches were used. Those three approaches to valuation are, more or less, the same ones described in the AICPA practice guide. I say more or less because the AICPA is more specific with respect to what an "asset"-based approach is versus what a "cost" approach is. So before getting into how the company describes its application of these methods, now is a good time to introduce the definitions for each of these approaches for readers who are not valuation professionals. We will use the definitions published by the AICPA on the left hand of Exhibit 3.2 and some practical ways to think of these concepts on the right hand of Exhibit 3.2.

**EXHIBIT 3.2** AICPA Practice Aid Definitions of Value Approaches in Plain English**Market Approach – Think “How Much Did My Neighbor’s House Sell for?”**

FASB/AICPA Definition	Real-World Comparison
“A valuation technique that uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities (including a business) . . .”	In the real estate world you will hear the term “comps,” and you will hear the same word used in many cases when people discuss private company “comparables.” While technically using “comps” is just one “method” within the market approach, the idea is easy to relate to for most people

**Income Approach – Think “How Much Is My House Worth if I Get \$X Per Year in Rent Forever?”**

FASB/AICPA Definition	Real-World Comparison
“The income approach uses valuation techniques to convert future amounts (for example, cash flows or earnings) to a single present amount (discounted).”	You buy a \$1,000 Series EE savings bond today for \$500 for your 1-year-old daughter. When she graduates from high school, she redeems it for \$1,000. Bonds are the perfect example of where using an income approach to valuation can produce a result you can literally take to the bank.

**Asset Approach – Think “How Much Would It Cost to Replace My House?”**

FASB/AICPA Definition	Real World Comparison
“A general way of determining a value indication of a business, business ownership interest, or security using one or more methods based on the value of the assets net of liabilities.”	Your home is destroyed by a tornado and the insurer has to pay to have each material purchased and for the labor to combine those materials to replace your home. However, you also have a mortgage equal to 60% of the replacement costs. The value to you might be the difference between the replacement costs and the payoff amount of your mortgage.

Source: AICPA and Liquid Scenarios, Inc.

## The Income Approach

AICPA's *Technical Practice Aid, Valuation of Privately-Held Company Equity Securities Issued as Compensation* states, "The income approach seeks to convert future economic benefits into a present value for the enterprise." There are two primary methods within the income approach literally used millions of times every day throughout the world. The first is the capitalization of earnings method and the second is the discounted cash flow method, which in many cases also relies on the capitalization of earnings method as we'll describe later. In almost every case, a valuation professional will use some derivative of a discounted cash flow model (or DCF) as at least one of the methods employed to value a venture-capital-financed company. Here's how Zogenix described its application of this particular income approach to valuation in its 2010 S1 filing:

*The income approach using a discounted cash flow analysis is based on the residual value and debt-free cash flow from our multi-year forecast discounted to present value based on our calculated weighted average cost of capital, or WACC.*

As short and sweet as that explanation sounds, it's critical that every reader fully understand it. As discussed in Exhibit 3.2 with respect to the income approach, the AICPA describes the income approach as "valuation techniques to convert future amounts (for example, cash flows or earnings) to a single present amount (discounted)." That means there are at least two steps:

1. Estimating the future amounts (cash flows, earnings, or other benefits) and
2. Discounting those amounts.

One of the critical concepts embedded there is the process of discounting the future benefits using a formula. This formula is what I call the hammer of finance:

$$(1 + r)^{-t}$$

where  $r$  = the required rate of return (or interest rate, in which case sometimes the variable  $I$  is used)

$t$  = time or term, which can be expressed in any measurement of time (days, months, quarters, or years)

As you can tell from this formula, valuation math is, generally speaking, incredibly simple. However, it's also "deceptively" simple, because how you apply the basic math to a problem at every step can have profound ramifications into what conclusions you draw about the value of a business or a security.

Every valuation-related issue ultimately will be solved for, tested, compared to, questioned, or otherwise considered in the context of this simple formula one way or another. The use of this simple formula applies to almost all other valuation and allocation methods that are not explicitly considered income approaches.

In this case, as with the others, we will try not to gloss over the details of the basic math for two reasons. One reason is that in my experience when this same basic math is applied to venture-capital valuations, failure to properly model the business logic of these transactions results in erroneous conclusions in 80% to 90% of the cases. This conclusion is consistent with results from research from each of the major accounting and consulting firms, which have long asserted that 80% to 90% of Excel spreadsheets contain material errors. Also, although the math is simple, when you apply it across large numbers of rules and multiple scenarios, both precision and accuracy decrease.

Another issue we see in applying these methods simply involves terminology. The word "discount" is used a lot in finance, sometimes as a noun, sometimes as a verb, and sometimes with up to four meanings. For scientists and engineers, it's usually more meaningful to replace the word "discount" in the context of valuation with the phrase "growth/decay formula," since that's all it really is.

Part of the confusion around the use of the term "discount" as it relates to valuations is due to the many definitions for discount that can apply to finance in different circumstances. The definition of discount from Wiktionary here reinforces this reality. As a verb:

*to discount* (third-person singular simple present *discounts*, present participle *discounting*, simple past and past participle *discounted*)

1. *To deduct from an account, debt, charge, and the like; to make an abatement of; as, merchants sometimes discount five or six per cent for prompt payment of bills.*
2. *To lend money upon, deducting the discount or allowance for interest; as, the banks discount notes and bills of exchange.*
3. *To take into consideration beforehand; to anticipate and form conclusions concerning (an event).*

4. *To leave out of account; to take no notice of.*
5. *To lend, or make a practice of lending, money, abating the discount; as, the discount for sixty or ninety days.*

And as a noun:

*discount* (plural *discounts*)

1. *A reduction in price.*
2. *A deduction made for interest, in advancing money upon, or purchasing, a bill or note not due; payment in advance of interest upon money.*
3. *The rate of interest charged in discounting.*

So when a valuation professional says he or she is going to “discount” cash flow, take a discount for a lack of marketability, discount management’s estimates, or apply a discount rate, that person can easily end up using the same word several different ways in the same paragraph. This of course makes things confusing, especially since most people think of a discount as some kind of a reduction off the stated or usual price. Most people also think of that reduction being determined by multiplying the subject of the discount by one minus some percentage to arrive at the discounted price. As a result, when we use the word “discount” outside of tables for the rest of this book, we will try to include a formula or contextual support so everyone knows exactly how we are using the term in a particular instance.

## **WACC**

The other key terminology used in the Zogenix valuation disclosure was “weighted average cost of capital, or WACC.” When you see the term “WACC” used to describe a discount rate (required rate of return) applied to a private company, you should be skeptical. When you see it used in the context of a venture-funded company, you should rarely trust the calculation, unless you’ve seen (a) a detailed buildup of how the discount rate was arrived at and (b) an estimate of the equity value that you don’t notice any material flaws in and believe to be accurate as of a specific point in time close to the company going public or being acquired.

Although this may seem like a strong statement against or criticism of the approach, it’s not. Instead, it’s simply recognition that even with publicly traded companies, the WACC is a moving target. In the case of a private company, you can’t arrive at a weighted average cost of capital until you come up with an estimate for the value of the equity. If you are using the



Weighted by Market Value	<b>W</b>	Weighted
Average of Debt and Equity Cost (Interest and Returns)	<b>A</b>	Average
Cost of Equity	<b>C</b>	Cost of
Cost of Debt	<b>C</b>	Capital

**EXHIBIT 3.3** Weighted Average Cost of Capital Mnemonic  
*Source:* Liquid Scenarios, Inc.

income approach, you can't come up with a value for the equity until you arrive at an appropriate discount rate. See Exhibit 3.3.

As the diagram and mnemonic in Exhibit 3.3 illustrate, you need to weight debt and equity by their respective market values in order to apply the WACC. Given the fact that many venture-funded companies are perceived to have little debt in their capital structure, weighting the market value of debt is not usually an issue. Our sample case being used here, the life sciences company Zogenix, does in fact have some debt in its capital structure, around \$20MM by the time the company went public. If the rates on the debt are verified to be market value given the risks, we can often simply look at the stated rates as of the valuation date to very easily determine the cost of debt.

Finding the market value of equity, on the other hand, is quite difficult for a private company or other firm whose common shares don't trade actively in a liquid market. In the case of a venture-capital round that just closed, it's not unreasonable to assume that the price paid for that particular security, for instance the Series C, is a fair approximation of the market value for that particular security as of that date. But six months later, even that data point may be a questionable reference for the value of the Series C, for the reasons we mentioned previously concerning progress towards the company's goals. Assuming the Series C original issue price is equal to the Series C market value, what does that say about the market value of the Series B, Series A-1, options at various grant prices, and common stock outstanding?

The answer depends on a number of factors, many of which relate to rights and preferences of those particular securities as compared to the rights and preferences of the Series C. However, even after we've allocated the relative values to each of those other securities, using the Series C as

a market input for example, we still don't truly know what the cost, or required rates of return expressed as percentages, are for the Series C, Series A, Series B, options, and common stock. Instead, we just know how we might weight their respective required returns, but how do we differentiate the required returns for one series compared to those of another? To put the steps involved into a context, we can quickly look at how you might determine the WACC for a publicly traded company, compared to doing the same for a private company in the same industry. This is an example of a WACC formula for most public companies and the debt and equity inputs required follow.

$$\text{WACC} = \text{Weighted Cost of Debt (\%)} + \text{Weighted Cost of Equity (\%)}$$

Debt inputs required:

- Market Value of Interest-Bearing Debt
- Rates/Yields on Interest-Bearing Debt
- Marginal Tax Rate

Equity inputs required include (with very simplified definitions for now):

- Equity Market Cap (price per share quoted times number of shares outstanding)
- Beta (the volatility of the stock compared to volatility of the market)
- Risk-free Rate ( $R_{fr}$ —for now, just consider this the rate on U.S. Government Securities)
- Long-term Market Return ( $R_m$ —generally the S&P 500 return over a long period)

For now, we'll focus on how the equity market capitalization, beta, the risk-free rate, and long-term market return are used to arrive at a cost of equity. These variables are most often expressed in the Capital Asset Pricing Model to arrive at a cost of equity for a public company, as follows:

$$K_e = R_{fr} + \beta(R_m - R_{fr})$$

As you can see, we need two elements, one of which we can only gather directly from publicly traded companies that have been trading for a long enough period from which to derive a meaningful correlation between the volatility of the stock compared to the stock volatility of the broader market. Beta is very easy to interpret for a publicly traded company. If Beta is great than 1, we expect more volatility in the stock than in the market; if Beta is less, we expect less volatility in the stock than in the market of reference.

But without enough data, you can't reliably compare the stock's movements to the overall market's movement. With this in mind, using a beta from publicly traded companies in established industries with established product lines and customers as a "proxy" for privately held companies in emerging industries or product segments is, of course, highly questionable. Still, in the case of a traditional privately held company, the beta can be a useful input in determining a floor of reasonable required returns within an industry.

Without going any further, you can easily see how applying WACC determining to most venture-funded companies requires an increasingly large set of assumptions to arrive at an estimated collection of "costs" or returns for the different types of securities. After all of that effort, we may not be comfortable using the weights implied by the respective market values to appropriately discount the cash flows to the company, or cash flows to the firm.

In a world with lots of computers and a virtually unlimited supply of applications to match any situation, complexity alone should not be a barrier to applying any valuation method that gets us a better conclusion. But the quality of logic and accessibility of relevant, observable inputs into assumptions is a barrier to making decisions that will make money versus those that will ultimately generate losses or smaller returns than one might otherwise realize. That being said, the WACC and the CAPM (capital asset pricing model) can help us prove the reasonableness of other value indications we arrive at, even if they are not ideally suited to explicitly solving for equity and capital costs for venture funded companies. With that in mind, we will transition into the actual income approach methods of valuation that require rates of return, or costs of capital, in order to give us clues to possible values.

## **USING FUTURE VALUE (FV) AND PRESENT VALUE (PV) TO VALUE FUTURE CASH FLOWS TODAY**

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Let's consider the statement "I bought this house for \$300,000 in 1975 and today it's worth a million." If "today" is 2010, then you've essentially lost money on the home. If today is 1976, then you've not only beat record inflation, but you've managed to beat most alternative asset returns. In 1975, we have cash flow of  $-\$300,000$ . In the exit year, either 2010 or 1976, we have an asset that we can liquidate for  $\$1,000,000$ . Note that we've assumed that the true market value of the house is in fact  $\$1,000,000$  on that terminal date.

If the discounting formula we described earlier is the hammer of finance,  $(1 + r)^{-t}$ , then projected cash flows are the nails. Exhibit 3.4 shows one view of the cash flows we've described above at a high level:  $\$300,000$  cash out in period 0 and  $\$1,000,000$  cash in for period n.

**EXHIBIT 3.4** Cash-on-Cash Return Multiples, Present Values and Discounted Cash Flow

Assuming Exit in 2010	Period 0 (1975)	Period 25 (2010)
Cash In	\$0	\$1,000,000
Cash Out	\$300,000	\$0
Cash Flow	(\$300,000)	\$1,000,000
Discount Factor @ 7.5%	$(1 + 0.075)^{-0} = 1$	$(1 + 0.075)^{-1} = 0.16397906$
Present Value	(\$300,000)	\$163,979
$\Sigma$ Discounted Cash Flows	(\$136,021)	
Cash-on-Cash Multiple	$\$1,000,000/\$300,000 = 3.33$	
Assuming Exit in 1976	Period 0 (1975)	Period 1 (1976)
Cash In	\$0	\$1,000,000
Cash Out	\$300,000	\$0
Cash Flow	(\$300,000)	\$1,000,000
Discount Factor @ 7.5%	$(1 + 0.075)^{-0} = 1$	$(1 + 0.075)^{-1} = 0.930232558$
Present Value	(\$300,000)	\$930,233
$\Sigma$ Discounted Cash Flows	\$630,233	
Cash-on-Cash Multiple	$\$1,000,000/\$300,000 = 3.33$	

By applying our financial hammer, the present value formula, to a simple set of assumptions we were able to improve our understanding of value quickly and easily. At the assumed discount rate, we would lose at least \$136,021 immediately on our investment if it took 25 years to get \$1,000,000 in net proceeds from our \$300,000 purchase price, assuming a required return of 7.5%. This compares to a present value of more than double our investment if our time horizon is one year and we are able to sell the same property for \$1,000,000 in net proceeds within 12 months of our purchase.

There are several key things you've probably observed from the previous sample. First, since there's only two time periods (the cash in and cash out periods), we could simply get the present value of the cash in and subtract the amount we invested (purchase price) from the discounted cash flow in the

last year to determine the present value. You will sometimes see the formula expressed like that  $[\text{Purchase Price} - \text{Net Sales Proceeds} * (1 + r)^{-t}]$ .

You also probably noticed that we used a discount rate (or required rate of return) of 7.5% but didn't say where that rate came from. Required rate of return is critical to present value calculations. The higher the required rate,  $r$ , the lower the present value (all things being equal). You can view the required rate of return as having two key elements:

1. **The Risk-Free Rate:** This would be the rate of return you would demand if return of your initial investment (principal) were virtually guaranteed. In most cases, this is the yield (or return if purchased today) on a U.S. Treasury
2. **The Risk Premium:** In the simplest sense, this is the additional rate of return you require because an investment does not guarantee a return of 100% of your principal. The higher the probability of losing your principal, the greater the risk principal and therefore the greater the required rate of return, resulting in a lower present value compared to a less risky investment with comparable cash flows.

We will review ways to determine an appropriate risk premium later in this book. However, since we can all assume that a real estate investment of any kind has greater risk than a U.S. Treasury, it's fair to say that our actual required rate of return in 1975 would have been higher than 7.5%, which was the 10-year Treasury rate at the time.

You probably also observed that for the longer return horizon, 25 years, there were probably a lot of cash flows in between our purchase date and our exit date. Some of those would have been negative, such as maintenance, repairs, insurance, and so forth, and others may have been positive, such as rental income or having a place to live without paying rent for 25 years. As mentioned before, if the present value formula is the hammer of finance, projected cash flows are the nails, and those are details we would need to nail down further if the 25-year time horizon was otherwise attractive to us.

As a result of this simplifying assumption with respect to cash flows, you will notice that the term "Cash-on-Cash" is used and the amount is the same under both scenarios. This is of particular importance, since investing partners at VC firms are generally more interested in cash-on-cash return multiples than they are in IRR. You will notice, later, that IRR is influenced by time, the same way our discounted cash flows are impacted by time. The longer the time period, the lower our IRR and the lower our Net Present Value, or NPV.

To understand NPV, simply consider the EE bond example we gave earlier, where you purchase a \$1,000 face bond that matures in 17 years

for \$500 today. Now, assume that another savings bond is available for the same face amount (\$1,000), but only costs you \$100. Which would you chose? The answer probably depends on who the issuer is. If it's another U.S. savings bond, you of course accept the \$100 dollar savings bond and the NPV for the other savings bond would decrease. If the issuer is the Central Bank of Iceland, then perhaps you are better off paying \$500 for the U.S. savings bond.

When gamblers engage a game of chance, like roulette for instance, and the wheel spins, they are hoping for a return on their investment expressed as a multiple of the amount of money they placed as a bet. In most cases, it will be just a matter of minutes before they know whether 100% of that bet will be lost or if they will get double their money, get five times their money back, or even 100 times their money in certain games. In exchange for a lower chance of losing a given bet, they might bet on red or black, which has a 48% of paying them double their money. If the player chooses to bet on a specific number, their odds of losing 100% of their bet increase dramatically, but so does the payoff multiple (cash-on-cash return) if they are successful.

For better or for worse, all good investors have to make a similar decision with respect to what classes of investments they choose to allocate their assets to in an attempt to realize growth. In the case of venture capitalists, the perception is that they are attempting to get the equivalent of a 35-to-1 payback in roulette, while spreading the risks across multiple bets, or portfolio companies. In reality, only the very best firms have the learned to conduct business in this asset class with that risk profile. As a result of demands from limited partners, the learning curve in transitioning from a successful entrepreneur or engineer into a successful investor and the ever-changing payout table that's tied largely to when you get into an investment and what the larger economy is doing when you'd like to be getting out of that investment means that the majority of VCs actually start out playing Red/Black or Odd/Even (2X returns) on most investments.

So who is the house? By extension, I would have to say the house is really the greater economy, which would include the VCs, the entrepreneurs that founded the companies, the limited partners, the employees they hire, and the customers they serve. In aggregate, the house always wins, which in the case of VC investments generally means that society wins.

## **SUMMARY**

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$$(1 + r)^t$$

If an investment grows at a given rate per period, how much cash will you accumulate at the end of a given number of periods? Although the variables

here are quite simple, this is probably the most important calculation in of all finance, and is used, to one extent or another, in just about every valuation analysis.

In reality, the simple formula just mentioned applies to valuing venture-backed companies in the earliest stages, but it also kind of depends on the industry. For many venture-backed industries, such as Internet, software, or hardware, you will rarely see investors seriously looking at a pure DCF model in the early stages. Instead, what they will look at is the management team first and foremost, then the market opportunity, and finally the potential competitive advantage, the initial business plan, and proposed product contemplated. Each of these variables is reduced to a required rate of return that the investing partners sponsoring the deal express internally as a multiple of the cash they put in.

So for instance, like in our gambling analogy, the actual investing professionals are thinking, “Can I get 10 times my money on this deal when the company gets acquired five years from now?” This is a key distinction from how other types of investing professionals and hypothetical “financial buyers” make decisions. We’ll get more into these details as we explore the Zogenix case, and others, further. However, several key points to keep in mind are as follows:

- Venture-capital fund IRR depends on valuation, and it does so now more than ever.
- Most general partners (GPs), especially early-stage ones, look at cash-on-cash multiples primarily.
- Limited partners (LPs) look at IRR.
- Inexperienced founders tend to focus on “pre-/post-valuation”; whereas experienced founders tend to focus on who’s putting the money in and what terms are fair in light of who’s putting the money in.

\* \* \*

Having introduced some of the considerations for the income approach to valuation and the discounted cash flow (DCF) method in this chapter, we’re now ready to go a little further into considering when and if the DCF is applicable to venture-capital and angel-backed companies.