Introduction to Valuation
Unit 2: Valuation methods & models
Lesson 1: The methods & models

The methods and models

Now we're going to take a look at a few qualitative, or subjective, methods for valuing companies, as well as the most frequently used quantitative, or objective models. We'll also review supporting approaches and considerations when engaging in the valuation exercise. We'll cover the following:

- Venture Capital Method
- First Chicago Method
- Berkus Method
- Scorecard Method
- Use of Comparable Transactions
- The Role of Negotiation
- Discounted Cash Flow (DCF) Method

Are you ready? We'll be covering a lot of content. We suggest you pause after each section so you can take notes and check out the links we've provided for supplementary learning.

Let's jump into the content now.

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Lesson 2: Venture Capital Method

We'll start with the Venture Capital Method. It was developed by Harvard Business School professor Bill Sahlman. As its name might imply, it's often used by venture capital professionals, or VCs.

It's primarily used to value early-stage companies, usually in the absence of historical revenue and earnings. It's based on the premise that if we know the value of something in the future and we know what kind of return on investment is needed to induce an investor to invest, then we can figure out a company's "present value."

Present value (PV) = Current (pre-money or pre-investment) valuation

The Venture Capital Method incorporates some elements of discounted cash flow methods insomuch that one must apply a risk premium (expressed as a return or discount rate), and it makes some assumptions related to future performance to determine present value. But, it is based on future terminal, or "exit," value rather than cash flows.

Before we go any deeper into the Venture Capital Method, there are some key terms to understand:

Pre-money valuation: The valuation of the company just before closing a new round of investment, including the value of the idea, the intellectual property, the assembled management team and the opportunity

Post-money valuation: The valuation of the company immediately *after* a round of investment is closed

Terminal value: The valuation of the company at exit. That is, the proceeds of the sale of the company via a merger or acquisition or an initial public offering and at which time the investors and other shareholders' ownership can be liquidated

Return on investment, or ROI: The cash-on-cash return on investment expected for such an investment in the year of the harvest, or exit. ROI is commonly expressed as a multiple of invested cash—for example, 10 times, or "10x"—regardless of the time since investment

So how does this method work? Like many mathematical formulas, we can look at the exercise from different angles. We can use the related formulae to calculate exit value, post-money value, percentage ownership, and, of course, pre-money value.

Let's dive into a case study for a better understanding of how this works.

In the following case study, a VC is considering investment in three different companies, but she is unwilling to invest unless she can obtain a return on investment, or ROI, of 30% from her proposed $1,000,000 investment.

So let's say you're Company A. You're building a company and expect to be making $15 million in net income when you sell the company in five years. First, we need to multiply this value by a price/earnings ratio, which should be selected based upon benchmarks for similar public companies. For the purposes of this exercise, let's choose a price/earnings ratio of 6x.

$15 million × 6 = Terminal value of $90 million

Then we divide this number by our anticipated ROI to get the post-money valuation. Let's use the investor's target of 30x for this example. We divide the terminal value by this anticipated ROI to get the post-money valuation.

$90 million/30 = $3,000,000 post-money valuation

Finally, we need to subtract the investment amount from this post-money valuation to calculate the pre-money valuation.

$3,000,000 – $1,000,000 = $2,000,000 pre-money valuation

As you can see, the Venture Capital Method may produce a more optimistic pre-money valuation than other methods. It's based upon future projections, which may or may not be accurate and realistic. The Berkus and Scorecard Methods, which we will discuss a little bit later, focus more on the current state of affairs.

For downloadable spreadsheets to help you with calculations using the VC Method, please see the links we've provided with this video.

Activity:

Download the VC Method spreadsheet and play around with some of the input fields to get a better understanding of the relationship between pre-money, post-money, terminal (or, exit) value and ROI, and the associated calculations.

In thinking about your own company and fundraising goals, ask yourself several questions related to valuation:

1. Does your expected exit timeline align with that investors desire?
2. Can you validate the growth rates and comparable forecast terminal (or, exit) value for investors?
3. Can the forecasted exit value provide an investor with the target return they would need to make an investment?
4. Given the ROI investors need, and the portion of equity they would demand to achieve that return, is there sufficient equity left to motivate you (as a founder) to invest the next five to seven years to scale the company and facilitate a liquidity event for the benefit of shareholders?

If you were an investor and you could invest in Company A, B or C, which would you choose? And why? Assuming no additional investment, which company produces the greatest return for the venture investor?

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Lesson 3: First Chicago Method

First Chicago is a method that has been used since the 1990s. It's based on the premise that we don't really know if a company will:

a) Be successful
b) Fail to meet its primary growth objectives
c) Bump along and survive, neither fulfilling its initial projections nor dying

We'll call the latter scenario "survival." At the earliest stages of growth, predicting the future is guesswork at best!

The First Chicago approach assumes that one of the three scenarios outlined above *will* transpire and assigns a probability to each potential outcome. This method provides for three different projections: best, worst and survival scenarios.

Let's look at a quick example applying the following probabilities:

Success: 10% chance
Failure: 20% chance
Survival: 70% chance

When utilized, the First Chicago method results in a *separate* valuation for each of the three potential outcomes. It produces a weighted average for these three different scenarios. These are then added together, and the valuation and pricing is determined.

One might call it a "hybrid" methodology because it employs some subjective measures. The probability of success or failure is applied by the user; future projections that define terminal value are but predictions, and even the discount or risk rate applied to the formula can be applied arbitrarily by the user. As such, one can always debate the accuracy of the end results.

The First Chicago method also borrows from more quantitative methods for valuation—using the concept of discounting future cash flows to find a present value. As you can

see, we call it a hybrid method because it employs both qualitative measures and quantitative methods to arrive at the present value of a company.

First Chicago is most accurate when a company already enjoys some level of revenue, which makes predicting future performance less risky. This method can thus be used throughout the evolution of a company.

It's easiest to understand how First Chicago works when presented in a spreadsheet model, which how most entrepreneurs and investors use it.

When using the spreadsheet template, you should provide inputs in the fields highlighted in yellow. For example, let's start with a base revenue of $1 million. Then we apply revenue growth rate for each of the three probabilities, based upon internally generated projections. We do the same for after-tax profit margin. Those will differ by company and industry type, but you can do some research to see what the margins looks like for a successful company, and discount it appropriately for "survival" status. Same for the price/earnings ratios in field 5.

The discount rate, field 6, represents a risk discount for investors and can be looked at as being the same as their target return or investment goal. *What ROI do they need to induce them to make an investment?*

In field 7, we punch in our probability rates. These can vary. In the last field, we plug in the proposed investment. In this example, it's half a million dollars.

The algorithms behind the spreadsheet do the rest of the work. Revenue growth after three and five years is projected for each probability. Net income at time of a liquidity event (like an acquisition) is based upon profit margin. The terminal value, or future value, of the company is predicted based on price/earnings ratios.

The present value under each scenario is then calculated and the probability applied, resulting in a valuation—in this case, $1.6 million. The spreadsheet also identifies the ownership (or equity) an investor will need to make, given their return-on-investment objective.

Both the VC Method and the First Chicago Method result in a valuation that is

defensible because it's based on realistic forecasts of revenue and earnings. Therefore, in order to utilize these methods you'll need to know:

- Your revenue model and product/service pricing
- The market demand and associated growth rates
- The sales cycle or customer adoption rate
- Overhead, selling and administrative expenses that are aligned with growth

Without an accurate pro forma profit/loss model, the accuracy of a couple of the models fall short and can be challenged. You will soon learn why.

And, while not covered in this course, it **is** important for entrepreneurs to first learn to prepare accurate and supportable pro forma forecasts.

You will find links to resources related to pro forma development on the page below.

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Lesson 4: Berkus Method

The Berkus Method is a simple and convenient method to provide an estimate of the value for your company. It's best suited for very early-stage, even pre-revenue companies. It was designed by Dave Berkus, a renowned author, speaker and angel investor.

Like all methods, it has its limitations and shortcomings. One of which being that it still requires *subjective* evaluation and/or assessment of key metrics that define *value* in a company.

The Berkus Method is based on the premise that the achievement of key value metrics when a company is seeking investment defines the company's fundamental value at that point in time.

Let's take a closer look at the metrics that impact value and serve as good predictors of a company's potential.

The metrics in the left column are not absolute, but many investors (angel and institutional VCs) tend to agree on these six.

Obviously, not all companies at any given point in time will be able to define, defend and quantify achievement of *all* of these metrics. But achievement of any, some or all of these metrics represents a point of value that can measured. You may have a sound technology platform and a prototype, and have sold your first product to a paying customer. But you may not yet have recruited a full board and may have some gaps in your management organizational structure. No worries. You can still defend value based on what you *have* achieved to date.

The underlying monetary values, captured in the right-hand column, are not absolute either and may or may not be accepted. They are, however, a reasonable benchmark.

Yet, this method is still very helpful in framing the status of a company's achievement of key value metrics and performance indicators. Adding up the key value metrics provides a sound baseline for further negotiation and dialogue with potential investors.

Let's give the Berkus Method a try. Evaluate your company on the basis of the metrics Berkus uses and apply the value benchmarks in the right column. How do you stack up?

For more information about the history and application of the Berkus Method, we recommend taking a look at: berkonomics.com.

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Lesson 5: Scorecard Method

The Scorecard Method is another model best suited for startups. It's also sometimes referred to as the Bill Payne Method, after its creator. It's not so much a valuation model as it is a method for comparing companies using the same value metrics.

Scorecard Method borrows many of the same metrics and criteria that we used in the

Berkus Method. Those criteria are themselves weighted and based upon their overall impact on the success of the project. The weighted average value is adjusted for similar companies whose value we ***do*** know.

Remember, values differ by market and region. We have to look at average pre-money company values, from angel and other seed investors, for our area and by industry vertical. For example, drug development and therapeutics, whose potential exit might be measured in the *billions*, might achieve a relatively higher valuation at a similar stage than that of a B2B SaaS company.

Let's have a quick look.

As you can see, we've identified those metrics considered important in the far left column. The "range" places a relative value on the "importance of achievement" to each of the value metrics.

The "company" column is a little more complicated, so let's walk through an example.

Assume a company has an "average" product and technology. We'll call that 100% of the norm. A strong team might represent 125% of the norm, and a substantial market opportunity 150% of the norm. This company projects that it can get to positive cash flow with a single angel round of investment, which is anticipated, making it 100% of the norm. And when we look at the strength of the competition in the market, we can see that the target is weaker—75% of the norm, but early customer feedback on the product is excellent. We see this in the chart under "Other" showing at 100%. From this chart, we can also see that the company needs to work on building sales channels and partnerships, placing them at 80% of the norm.

Using this data, we can support a conclusion that this company is marginally above average and better than a comparable company in the context of its achievements to date, and its potential. If we multiply the sum factor of 1.075 by the average comparable valuation, we get a present value for the company.

The Scorecard Method is also a good way for investors to evaluate *multiple* companies to determine which might be the best to invest in. Angel investors, for example, often

look at opportunities in presentation venues where numerous entrepreneurs might pitch for investment.

On the page accompanying this video, we've linked to a resource where you can learn more about the Scorecard Method.

Apply what you've learned about the Scorecard Method to your company so you can get a ballpark valuation. Do you know of similar companies, including competitors, who have either raised investment capital or sold to a third party? Do you have any intel on the valuation achieved? How does your company compare, based on the Scorecard Method?

To return to **Introduction to Valuation**, or to find our other free courses, visit learn.marsdd.com.