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"*The Little Book of Valuation* may not be large but it packs a punch."

—MICHAEL MAUBOUSSIN

Counterpoint Global, Morgan Stanley Investment Management

THE LITTLE BOOK OF VALUATION

How to Value a Company, Pick a Stock, and Profit

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THE LITTLE BOOK OF VALUATION

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How to Value a Company, Pick a Stock, and Profit

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Updated Edition

WILEY

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To all of those
who have been subjected to my long discourses on valuation,
this is my penance.

Contents

Foreword

Do you know what a share in Google, Tesla or NVidia is really worth? What about that condo or house you just bought? Should you care? Knowing the value of a stock, bond, or property may not be a prerequisite for successful investing, but it does help individual investors like you make more informed judgments.

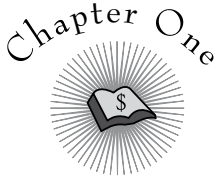
Most investors see valuing an asset as a daunting task—something far too complex and complicated for their skill sets. Consequently, they leave it to the professionals (equity research analysts, appraisers) or ignore it entirely. I believe that valuation, at its core, is simple and anyone who is willing to spend time collecting information and analyzing it, can do it. I hope to show you how in this book. I also hope to strip away the mystique from valuation practices and provide ways in which you can look at valuation judgments made by analysts and appraisers and decide for yourself whether they make sense or not.

While valuation models can be filled with details, the value of a company rests on a few key drivers, which may vary from company to company. In the search for these **value drivers**, I will look not only across the life cycle from young, growth firms such as Zomato, an Indian online food delivery company, to mature companies like Unilever, but also across diverse sectors from commodity companies like Royal Dutch to financial service companies like Citigroup. In a webpage to accompany this book and on a mobile app, you can not only look at the spreadsheets containing these valuations, but you can also change or update the numbers and see the effects. In addition, the webpage gives you access to more resources that you can use, if you want to dig deeper.

Here is the bonus: if you understand the value drivers of a business, you can also start to identify *value plays*: stocks that are investment bargains. By the end of the book, I would like you to be able to assess the value of any company or business that you are interested in buying and use this understanding to become not only a more informed investor but also a more successful one. Will that make you a successful investor or earn you riches? Not necessarily, but it will give you the tools to avoid investing mistakes and to spot investment scams.

Let's hit the road!

Hit the Ground Running—Valuation Basics



Value—More than a Number!

Understanding the Terrain

Oscar Wilde defined a cynic as one who "knows the price of everything and the value of nothing." The same can be said of many investors who regard investing as a game and define winning as staying ahead of the pack.

A postulate of sound investing is that an investor does not pay more for an asset than it is worth.

If you accept this proposition, it follows that you must at least try to value whatever you are buying before buying it. I know there are those who argue that value is in the eyes of the beholder and that any price can be justified if there are other investors who perceive an investment to be worth that amount. That is patently absurd. Perceptions may be all that matter when the asset is a painting or a sculpture, but you buy financial assets for the cash flows that you expect to receive. The price of a stock cannot be justified by merely using the argument that there will be other investors around who will pay a higher price in the future. That is the equivalent of playing an expensive game of musical chairs, and the question becomes: Where will you be when the music stops?

Two Approaches to Valuation

Ultimately, there are dozens of valuation models but only two valuation approaches: *intrinsic* and *relative*. In *intrinsic valuation*, we begin with a simple proposition: the intrinsic value of an asset is determined by the cash flows you expect that asset to generate over its life and how uncertain you feel about these cash flows. Assets with high and stable

cash flows should be worth more than assets with low and volatile cash flows. You should pay more for a property that has long-term renters paying a high rent than for a more speculative property with not only lower rental income but more variable vacancy rates from period to period.

While the focus in principle should be on intrinsic valuation, most assets are valued on a relative basis. In *relative valuation*, assets are valued by looking at how the market prices similar assets. Thus, when determining what to pay for a house, you would look at what similar houses in the neighbourhood sold for. With a stock, that means comparing its pricing to similar stocks, usually in its "peer group." Thus, Exxon Mobil will be viewed as a stock to buy if it is trading at 8 times earnings while other oil companies trade at 12 times earnings. Since this approach to putting a number on a business or asset is philosophically different from intrinsic valuation and determined less by fundamentals and more by what other people are willing to pay, we will use the term "pricing" to describe relative valuation.

Intrinsic valuation provides a fuller picture of what drives the value of a business or stock, but there are times when pricing will yield a more

realistic estimate of what you can get for that business or stock in the market today. While nothing stops you from using both approaches to put a number on the same investment, it is imperative that you understand whether your mission is to value an asset or to price it, since the tool kit that you will need is different.

Why Should You Care?

Investors come to the market with a wide range of investment philosophies. Some are market timers looking to buy before market upturns while others believe in picking stocks based on growth and future earnings potential.

Some pore over price charts and classify themselves as technicians, whereas others compute financial ratios and swear by fundamental analysis, in which they drill down on the specific cash flows that a company can generate and derive a value based on these cash flows. Some invest for short-term profits and others for long-term gains. Knowing how to value assets is useful to all these investors, though its place in the process will vary. Market timers can use valuation or pricing tools at the start of the process to determine whether

a group or class of assets (stocks, bonds, or real estate) is under- or overvalued, while stock pickers can draw on valuations of individual companies to decide which stocks are cheap and which ones are expensive. Even technical analysts (including chartists) can use valuations to detect shifts in momentum when a stock on an upward path changes course and starts going down or vice versa.

Increasingly, though, the need to assess value and price has moved beyond investments and portfolio management. There is a role for valuation and pricing at every stage of a firm's life cycle. For small private businesses thinking about expanding, pricing and valuation play a key role when they approach venture capital and private equity investors for more capital. The share of a firm that venture capitalists will demand in exchange for a capital infusion will depend on the value (pricing) they estimate for the firm. As the companies get larger and decide to go public, your assessments of what it is worth will determine the prices at which they are offered to the market in the public offering. Once established, decisions on where to invest, how much to borrow, and how much to return to the owners will all be affected by perceptions of their impact on value. Even accounting

is not immune. The most significant global trend in accounting standards is a shift toward fair value accounting, where assets are valued on balance sheets at their fair values rather than at their original cost. Thus, even a casual perusal of financial statements requires an understanding of valuation fundamentals and pricing basics.

Some Truths about Valuation

Before delving into the details of valuation, it is worth noting some general truths about valuation that will provide you not only with perspective when looking at valuations done by others but also with some comfort when doing your own.

All Valuations Are Biased

You almost never start valuing a company or stock with a blank slate. All too often, your views on a company or stock are formed before you start inputting the numbers into the models and metrics that you use and, not surprisingly, your conclusions tend to reflect your biases.

The bias in the process starts with the companies you choose to value. These choices are not random. It may be that you have read something

in the press (good or bad) about the company or heard from a talking head that a particular company was under- or overvalued. It continues when you collect the information you need to value the firm. The annual report and other financial statements include not only the accounting numbers but also management discussions of performance, often putting the best possible spin on the numbers.

With professional analysts, there are *institutional factors* that add to this already substantial bias. Equity research analysts, for instance, issue more buy than sell recommendations because they need to maintain good relations with the companies they follow and because of the pressures that they face from their own employers, who generate other business from these companies. To these institutional factors, add the *reward and punishment structure* associated with finding companies to be under- and overvalued. Analysts whose compensation is dependent on whether they find a firm to be cheap or expensive will be biased in that direction.

The inputs that you use in the valuation will reflect your optimistic or pessimistic bent; thus, you are more likely to use higher growth rates and see less risk in companies that you are predisposed to like. There is also *post-valuation garnishing*,

where you increase your estimated value by adding premiums for the good stuff (synergy, control, and management quality) or reduce your estimated value by netting out discounts for the bad stuff (illiquidity and risk).

Always be honest about your biases: Why did you pick this company to value? Do you like or dislike the company's management? Do you already own stock in the company? Put these biases down on paper, if possible, before you start. In addition, confine your background research on the company to information sources rather than opinion sources; in other words, spend more time looking at a company's financial statements than reading equity research reports about the company. If you are looking at someone else's valuation of a company, always consider the reasons for the valuation and the potential biases that may affect the analyst's judgments. Generally, the more bias there is in the process, the less weight you should attach to the valuation judgment.

Valuations (Even Good Ones) Are Wrong

Starting early in life, you are taught that if you follow the right steps and use the right models, you

will get the correct answer and that if the answer is imprecise, you must have done something wrong. While precision is a good measure of process quality in mathematics or physics, it is a poor measure of quality in valuation. Your best estimates for the future will not match up to the actual numbers for several reasons. First, even if your information sources are impeccable, you must convert raw information into forecasts, and any mistakes that you make at this stage will cause *estimation error*. Next, the path that you envision for a firm can prove to be hopelessly off. The firm may do much better or much worse than you expected it to perform, and the resulting earnings and cash flows will be different from your estimates; consider this *firm-specific uncertainty*. When valuing Cisco in 2001, for instance, we seriously underestimated how difficult it would be for the company to maintain its acquisition-driven growth in the future, and we overvalued the company as a consequence. Finally, even if a firm evolves exactly the way you expected it to, the macroeconomic environment can change in unpredictable ways. Interest rates can go up or down, and the economy can do much better or worse than expected. Our valuation of Marriott from November 2019 looks hopelessly optimistic,

in hindsight, because we did not foresee the global pandemic in 2020 and the economic consequences for the hospitality business.

The amount and type of uncertainty that you face can vary across companies, with consequences for investors. One implication is that you cannot judge a valuation by its precision, since you will face more uncertainty when you value a young growth company than when you value a mature company. Another is that avoiding dealing with uncertainty will not make it go away. Refusing to value a business because you are too uncertain about its future prospects makes no sense, since everyone else looking at the business faces the same uncertainty. Finally, collecting more information and doing more analysis will not necessarily translate into less uncertainty, since the uncertainty does not just come from estimation mistakes but also reflects real uncertainty about the future.

Simpler Can Be Better

Valuations have become more and more complex over the last two decades because of two developments. On the one side, computers and calculators

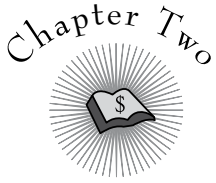
are more powerful and accessible than they used to be, making it easier to analyze data. On the other side, information is both more plentiful and easier to access and use.

A fundamental question in valuation is how much detail to bring into the process, and the trade-off is straightforward. More detail gives you a chance to use specific information to make better forecasts, but it also creates the need for more inputs, with the potential for error on each one, and it generates more complicated and opaque models. Drawing from the principle of parsimony, common in the physical sciences, here is a simple rule: when valuing an asset, use the simplest model that you can. If you can value an asset with three inputs, don't use five. If you can value a company with three years of forecasts, forecasting 10 years of cash flows is asking for trouble. Less is more.

Start Your Engines!

Most investors choose not to value companies and offer a variety of excuses: valuation models are too complex, there is insufficient information, or there is too much uncertainty. While all these reasons have a kernel of truth to them, there is no reason

why they should stop you from trying. Valuation models can be simplified, and you can make do with the information you have and—yes—the future will always be uncertain. In hindsight, will you be wrong? Of course, but so will everyone else. Success in investing comes not from being right but from being less wrong than everyone else.



Power Tools of the Trade

Time Value, Risk, and Statistics

Should you buy NVIDIA (NVID), a company that pays no dividends now but has great growth potential and lots of uncertainty about its future, or Altria (MO), a high dividend–paying company with limited growth prospects and stable income? Is Altria cheap, relative to other tobacco companies? To make these assessments, you must compare cash flows today to cash flows in the future, to

evaluate how risk affects value, and be able to deal with a large amount of information. The tools to do so are provided in this chapter.

Time Is Money

The simplest tools in finance are often the most powerful. The notion that a dollar today is preferable to a dollar in the future is intuitive enough for most people to grasp without the use of models and mathematics. The principles of *present value* enable us to calculate exactly how much a dollar sometime in the future is worth in today's terms and to compare cash flows across time.

There are three reasons why a cash flow in the future is worth less than a similar cash flow today.

1. People prefer consuming today to consuming in the future.
2. Inflation decreases the purchasing power of cash over time. A dollar in the future will buy less than a dollar would today.
3. A promised cash flow in the future may not be delivered. There is risk in waiting.

The process by which future cash flows are adjusted to reflect these factors is called

discounting, and the magnitude of these factors is reflected in the *discount rate*. The discount rate can be viewed as a composite of the expected *real return* (reflecting consumption preferences), expected inflation (to capture the purchasing power of the cash flow), and a premium for uncertainty associated with the cash flow.

The process of discounting converts future cash flows into cash flows in today's terms. There are five types of cash flows—simple cash flows, annuities, growing annuities, perpetuities, and growing perpetuities.

A *simple cash flow* is a single cash flow in a specified future period. Discounting a cash flow converts it into today's dollars (or present value) and enables the user to compare cash flows at different points in time. The present value of a cash flow is calculated thus:

$$\text{Present Value} = \frac{\text{Cash flow in future period}}{(1+\text{Discount rate})^{\text{Number of periods}}}$$

Thus, the present value of $1,000 in 10 years, with a discount rate of 8 percent, is:

$$\frac{1000}{(1.08)^{10}} = \$463.19$$

Other things remaining equal, the present value of a cash flow in the future will decrease the further into the future it is and the more uncertain you feel about getting it.

An *annuity* is a constant cash flow that occurs at regular intervals for a finite period. While you can compute the present value by discounting each cash flow and adding up the numbers, you can also use this equation:

$$\text{Annual cash flow}\left[\frac{1-\frac{1}{(1+\text{Discount rate})^{\text{Number of periods}}}}{\text{Discount rate}}\right]$$

To illustrate, assume again that you have a choice of buying a car for $10,000 cash down or paying installments of $3,000 a year, at the end of each year, for five years, for the same car. If the discount rate is 12 percent, the present value of the installment plan is:

$$\$3{,}000\left[\frac{1-\frac{1}{(1.12)^{5}}}{.12}\right]=\$10{,}814$$