CHAPTER 1

Investing 101

You and I are 50/50 partners in a private equity firm. A friend of ours owns a small manufacturing company that makes outdoor furniture. He wants to retire and has asked us if we would be interested in buying his company. Annual sales are $75 million and he has about 150 employees. He has developed a good management team that will remain after the company is sold. While the U.S. furniture manufacturing industry has been hard hit by low-cost imports, our friend's business appears to be doing very well. After a tour of the plant and product showroom, we decide it is a good idea to spend some time on an analysis of the company's business and its financial statements. Our due diligence analysis is focused on one question: What is the likely return we'll receive on our investment if we buy the outdoor furniture company?

Our investment return from the outdoor furniture company equals the sum of:

1. The difference between the price we pay for the company and the price we receive when we sell it, divided by the price we paid; plus
2. Whatever cash we remove from the company

The cash we take out of the company would be dividends we decide to pay to our firm.

PRICE

The price, both when we buy the company and when we sell it, is primarily determined by two things:

1. The amount of future cash flow the buyer expects the company to generate after the sale closes and
2. The general level of interest rates at the time of the transaction

While we must analyze the company's historical cash flows to understand the company's business, when we buy a company we are not buying its *historical* cash flows. We are buying our right to the company's *future* cash flows. The outdoor furniture company's future cash flows can be divided into two time periods. The first time period is while we own the company. The company's cash flows while we own it will determine how much cash, if any, we can remove from the company to reinvest or spend as we see fit. The second time period is after we sell the company. Our buyer will estimate the company's future cash flows and will agree to pay us a price that enables the buyer to obtain the total return the buyer needs in the years after buying the company. *Cash flow,* unfortunately, is a term that means different things to different people. We will define Free Cash Flow in the next section. The general level of interest rates affects prices of investments. The higher the expected inflation rate during our investment term, the lower the price we should pay for an investment's future cash flows because there will be fewer goods and services we will be able to purchase with the proceeds (dividends plus the net sale proceeds) of our investment. The lower the anticipated inflation rate, the higher the price we can afford to pay without a decline in the future purchasing power of our investment proceeds.

FREE CASH FLOW

When we purchase 100 percent of a company, we are acquiring the right to all of the company's future surplus or Free Cash Flow. By *surplus* and *free* we mean whatever cash remains after the company:

1. Uses cash to pay its operating costs such as employee salaries, wages and benefits, suppliers, utility bills, legal and accounting fees, taxes, interest on debt if any, and so forth
2. Uses cash to extend credit terms to customers and to build inventory, and
3. Uses cash to buy equipment, computers, vehicles, land, and buildings

Once the company has taken care of its obligations in items 1, 2, and 3, the owners—that would be us if we buy the company—can pretty much do what we want with the Free Cash Flow because it is our company. It is not management's company. Management has little or no equity at risk. Management is compensated by salary and bonuses while we depend entirely on our investment return for our compensation. We can tell management

to use the company's Free Cash Flow to pay dividends to our firm, to buy other companies if we decide that is a smart thing to do, to repay debt if there is any or to buy back the company's stock.

Now that we have introduced Free Cash Flow, we can refine our definition of investment return by replacing *cash flow* with *Free Cash Flow*. Our investment return, then, is (1) the difference between the purchase price and the sale price (both of which are determined by expected Free Cash Flow), divided by the purchase price and (2) the amount of the company's Free Cash Flow we decide to pay as dividends to ourselves. Each cash dollar the company spends on its operating costs, customer receivables, inventory, new equipment, new buildings, and other purchases is one less dollar of Free Cash Flow. And one dollar less of Free Cash Flow means less return for us, the owners, because investing is a cash business. We invest cash to buy the furniture company. We expect to receive a cash return on our investment. A Net Income return does not help us because our bank does not accept Net Income deposits. Now that we have defined Free Cash Flow, we can get started on determining the price we are willing to pay for the company.

RISK AND RETURN

We use the yields on U.S. Treasury securities to help us set a ballpark purchase price for the outdoor furniture company. A risk assessment of Treasuries is elementary. If the U.S. Treasury cannot return our principal and interest in full and on time, then our money probably is not worth anything anyway. Say we are thinking of owning and running the furniture company for about 10 years. The company generates $10 million of annual Free Cash Flow and is expected to do as well or better over the next few years. We are confident we can cut some costs and reduce capital utilization. To be conservative, we will ignore any such improvements as well as any sales growth potential in our analysis. Assume the 10-year Treasuries are currently yielding 5 percent. Ignoring the effect of interest reinvestment, that is 5 percent of virtually risk-free Free Cash Flow each year for 10 years followed by the return at maturity of 100 percent of our investment. Given all of the risks involved in owning our new company, it is obvious that our anticipated return on our investment in the outdoor furniture company must be substantially higher than the 10-year Treasuries' 5 percent yield. What if the company were overwhelmed by new competitors and vaporized in three years? We would be left with nothing but the furniture on our patio.

THE RETURN MULTIPLE

We need to decide *how much* riskier we think our investment in the furniture company is likely to be compared to an investment of the same amount and maturity in U.S. Treasuries. Do we think the purchase of the company is two times, four times, or 10 times riskier than buying Treasuries? Let's say we think ownership of the outdoor furniture company would be at least four times riskier than owning Treasuries. A 4× Return Multiple means we should be getting four times the Treasuries' annual 5 percent return, or an annual return of about 20 percent from owning the outdoor furniture company. Many investors expect around a 15 percent return on public company stocks. Our friend's company is a small private company, so its shares are much less liquid than the shares of a public company. That additional risk suggests a 20 percent return target is not way out of line. As we learn more about the company in our due diligence, we can adjust our Return Multiple up or down if we learn the company's business offers more or less risk than our original estimate.

RETURN AND PRICE

We now know our required return on investment is roughly 20 percent. What price should we pay to generate a 20 percent annual return on our investment in the furniture company? Let's start with the formula for the simple annual yield, or return, of any investment:

$$\text{Return on Investment} = \frac{\text{Annual Free Cash Flow}}{\text{Investment}} \tag{1.1}$$

The price we pay for the company is the investment in the formula above. To calculate the investment, we divide $10 million of Free Cash Flow by our required 20 percent return and get an investment, or price, of $50 million:

$$\text{Investment} = \frac{\text{Annual Free Cash Flow}}{\text{Required Return}} = \frac{\$10 \text{ million}}{20\%} = \$50 \text{ million} \tag{1.2}$$

To keep things as simple as possible, we are not incorporating the time value of money in our calculations. Our investment return formula incorporates:

1. The expected Free Cash Flows generated by the investment
2. The price we are paying for the investment

3. The market's perception of future risk-free interest rate levels for 10 years
4. The relative risk of the investment (the risk relative to 10-year Treasuries)

Our 4× Return Multiple incorporates items (3) and (4). Our assessment of an investment's ability to generate Free Cash Flow is our critical starting point because we are investing cash and we want to receive our return in cash. Equally critical is the price we pay for the investment. If we overpay for a company, even for a company with outstanding Free Cash Flow prospects, we may not get our expected return. If we pay $60 million for the company, our return will be 18.75 percent, not 20 percent. Or, in other words, a $60 million price would give us a 20 percent return on the first $50 million. What would our return be on the last $10 million? It would be a zero percent return.

By applying our required 4× Return Multiple to the current Treasuries' yield for the appropriate term, we are reflecting the market's expectation of the inflation rate during the term of our investment. Again, the higher the expected inflation rate during our investment term, the lower the price we should pay for the Free Cash Flow we are buying because there will be fewer goods and services we will be able to purchase with the proceeds (dividends plus net sale proceeds) of our investment. The lower the anticipated inflation rate, the higher the price we can afford to pay without a decline in the future purchasing power of our investment proceeds. By comparing our investment's risk to Treasuries in the Return Multiple, we are attempting to ensure we are sufficiently rewarded for the incremental risk we are taking in our equity investment as compared to our investment in Treasuries. We are taking a lot more risk when we buy stocks and we must receive a lot more return. Comparing our expected return on our acquisition opportunity to a Treasuries' yield may at first seem strange. Our entire analysis is cash-based. We are investing cash and we expect to receive a cash return. We measure our investment's value by its Free Cash Flow generation and so we must use a cash benchmark return.

The Return Multiple provides yet another benefit. It helps us manage the chances of paying too much for stocks. This is especially important at the peak of strong equity markets when many investors are overpaying for stocks. In that type of market climate, dependence on comparative Price-to-Earnings ratios (PEs)—almost all of which are too high—leads to rude disappointments. Like all financial metrics, the Return Multiple is by no means foolproof. In periods of financial market turbulence, the utility of interest rates as a proxy for future inflation is sometimes diminished. But the Return Multiple does help us take a step back, assess a company's

expected Free Cash Flows in the context of the relative risk and return of alternative investments, and ask: Does this investment really make sense? Well, we offered our friend $50 million for the furniture company and he accepted. Now that we are the owners, we have some decisions to make, but first we need to understand what other financial variables affect our return on investment.

DEBT

Most companies at some time need more cash than they are generating in Free Cash Flow. Our furniture company may need to make significant increases in customer credit and inventory because of seasonal fluctuations in the business. Or it may need additional cash for receivables and inventory if it is rapidly expanding the scale of its operations. We may decide to expand manufacturing or service capacity by building a new plant or by opening new stores. If we, the owners, are not able or willing to invest additional cash in the company to meet its needs, then the company must try to obtain the required cash by borrowing from a bank. There are two ways the company's use of debt can increase or reduce our investment return.

The first way is the loan interest cost. Let's say we want to build a new plant that will cost $5 million and it will take one year to build. The new plant is expected to generate $1 million of annual Free Cash Flow in addition to the company's current Free Cash Flow of $10 million. Also assume that none of the $10 million in Free Cash Flow is available to fund the new plant (you and I are both building new houses and we need all the cash we can get our hands on). Adding the $1 million increase to the existing $10 million makes $11 million in total Free Cash Flow in the year after the plant is finished. That represents a 10 percent increase in Free Cash Flow. If the company's use of the loan proceeds results in increased Free Cash Flow after the loan interest has been paid to the bank, our investment return will benefit from the use of debt. Our return will benefit from higher future Free Cash Flows because: (1) we will be able to take more cash out of the company if we want to, (2) we will have more options to grow the company by using its Free Cash Flow for new capacity or acquisitions, and (3) the higher Free Cash Flow will hopefully persuade our eventual buyer that the company's future Free Cash Flows are likely to be higher. Recall that interest on debt is included in the operating costs enumerated in the definition of Free Cash Flow provided earlier. Case 1 on the next page assumes no plant is built. Case 2 and 3 assume the plant is built and has been in operation for one year.

Case 1

- Company has no debt. No plant is built.
- Free Cash Flow is $10 million.

Case 2

- Company has borrowed $5 million at 10 percent interest (after tax benefit) to build a new plant.
- Loan interest is $500,000 ($5 million × 10 percent).
- New plant has increased Free Cash Flow by $1 million (excluding $500,000 interest on bank loan).

Free Cash Flow	$11.0 million (excluding interest)
Less	0.5 million interest
Net Free Cash Flow	$10.5 million (including interest)

Case 3

- Company has borrowed $5 million at 10 percent interest (after tax benefit) to build new plant.
- Loan interest is $500,000 ($5 million × 10 percent).
- New plant has increased Free Cash Flow by $0.2 million (excluding $500,000 interest on bank loan).

Free Cash Flow	$10.2 million (excluding interest)
Less	0.5 million interest
Net Free Cash Flow	$9.7 million (including interest)

Everything else being equal, Case 2 appears to be better than Case 1 and Case 3. In Case 2, the Net Free Cash Flow generated by the new plant covers the interest cost on the new debt. If our investment in our plant cannot cover its interest cost, why would we want to build the plant? In Case 3, the new plant, for whatever reason(s), increases Free Cash Flow by only $200,000. That increase does not cover the $500,000 interest cost. If that is our best judgment, we should probably rethink a new plant.

The interest our company must pay on the bank loan is one of the two ways debt can affect our return on investment. Here's the second way. Let's say we decide we must sell the company three years after the plant opens but *before* the bank loan has been repaid in full. If the debt has not been

repaid in full by the time we sell the company, the cash purchase payment we receive from the buyer of our company will be reduced by the balance of the company's debt. That is because our bank must be repaid in full at the sale's closing. Our bank's decision to make a loan to our company assumed we would continue to be the company's owners and our management team would stay on. If the company is going to have new owners, the bank wants its loan repaid. The same thing happens when we sell a house. In the escrow closing, we receive whatever is left of the sale price after our mortgage lender has been paid in full and all transaction costs have been paid by the escrow company. If our company's use of the loan proceeds resulted in a higher assessment by the buyer of our company's future Free Cash Flows (and therefore resulted in a higher price), *and* the amount of that higher price exceeded the loan balance at closing, our return on investment would likely benefit from borrowing the funds. If, on the other hand, the loan balance exceeded the amount of the price increase, our cash proceeds from the sale escrow would be less than it would have been had we not built the plant. We will use the Case 1 and Case 2 numbers again and relabel them Case 4 and Case 5, respectively.

Case 4

- Company has no debt. No plant is built.
- Free Cash Flow is $10 million.
- Our buyer's required annual Return on Investment is 18 percent.
- We sell the company for $55.6 million.

$$\text{Price} = \frac{\text{Annual Free Cash Flow}}{\text{Buyer's Required Return}} = \frac{\$10 \text{ million}}{18\%} = \$55.6 \text{ million} \tag{1.3}$$

- We receive cash proceeds (net of $1.6 million transaction costs) of $54 million.

Sale Price	$55.6 million
Less	1.6 million transaction costs
Cash Proceeds	$54.0 million

Case 5

- Company has borrowed $5 million at 10 percent interest (after tax benefit) to build new plant.

- New plant has increased Free Cash Flow by $1 million (excluding $500,000 interest on bank loan).

Free Cash Flow	$11.0 million (excluding interest)
Less	0.5 million interest
Net Free Cash Flow	$10.5 million (including interest)

- Three years later, we sell the company to a buyer whose required annual Return on Investment is 18 percent.
- We sell the company for $61.1 million.
- The loan balance is $4 million. Because the loan is repaid in full at the sale escrow, the buyer excludes the $400,000 interest cost and uses a Free Cash Flow number of $11 million.

$$\text{Price} = \frac{\text{Annual Free Cash Flow}}{\text{Buyer's Required Return}} = \frac{\$11 \text{ million}}{18\%} = \$61.1 \text{ million} \tag{1.4}$$

- We receive cash proceeds (net of loan payoff and transaction costs) of $55.5 million.

Sale Price	$61.1 million
Less	1.6 million transaction costs
Less	4.0 million loan balance
Cash Proceeds	$55.5 million

Investors must understand how *all* of the key financial variables influence investor return. The cash proceeds in Case 5 turn out to be higher than the cash proceeds in Case 1, the no-plant scenario. But what if the loan balance at closing is higher? What if the new plant performs poorly and generates no incremental Free Cash Flow? Debt can enable a company to accomplish good things but it does carry risks for the owners and investors.

EQUITY

What if our company is unable to borrow the needed funds from a bank? Perhaps the local banks are not interested in adding to their exposure to manufacturing companies. Or maybe the banks have so many problem loans they do not want to add new borrowers. If new debt is not an option, the

company may be able to sell new shares of common stock to new shareholders. If we think our company can use the new cash received from the sale of stock to increase the company's future Free Cash Flow by a greater percentage than the percentage increase in the number of shares outstanding resulting from the stock sale, then issuing new shares may well be a good idea.

We again use our example of the $5 million new plant. The new plant is expected to generate an incremental $10 million in Free Cash Flow. If we think we can raise $5 million in new equity while increasing the total number of shares by less than 10 percent, our investment return should benefit. But if we have to give up more than 10 percent of the company to attract $5 million of new equity, we are going to lose some return because our Free Cash Flow per share will decline. Assuming the company currently has 10 million shares of common stock, here is the math:

Case 6

We have 100 percent ownership of 10 million shares:

$$\text{Free Cash Flow per share} = \frac{\text{Annual Free Cash Flow}}{\text{Number of Shares}} = \frac{\$10 \text{ million}}{10 \text{ million}} = \$1 \tag{1.5}$$

Case 7

After selling 500,000 new shares to investors for $5 million and the new plant is up and running for one year:

$$\text{Free Cash Flow per share} = \frac{\text{Annual Free Cash Flow}}{\text{Number of Shares}} = \frac{\$11 \text{ million}}{10.5 \text{ million}} = \$1.05 \tag{1.6}$$

Case 8

After selling 1.5 million shares to investors for $5 million and the new plant is up and running for one year:

$$\text{Free Cash Flow per share} = \frac{\text{Annual Free Cash Flow}}{\text{Number of Shares}} = \frac{\$11 \text{ million}}{11.5 \text{ million}} = \$0.96 \tag{1.7}$$

If the plant is less successful than anticipated, then we will see a lower-than-anticipated Free Cash Flow per share. Sales and net income may be higher after the new plant is running but if the end result is lower Free Cash Flow per share, then the value of our equity investment has declined.

In any event, because we would be bringing in additional investors to the company's equity ownership, we must now shift our focus from the company's *total* Free Cash Flow to its Free Cash Flow *per share*. Before, our private equity firm was the 100 percent owner and our focus was therefore on the company's total Free Cash Flow. But if the company is going to have multiple owners, whether it is a private or public company, we must shift our primary focus to Free Cash Flow per share because changes in the amount of Free Cash Flow and in the total number of shares that divide up the company's Free Cash Flow affect the value of our shares in the company.

DEBT VERSUS EQUITY

If we know we can fund the new plant with either debt or with new stock, how do we determine whether debt or new equity would have the more favorable impact on our investment return? We would do the same type of new debt analysis and new equity analysis we have just done to see how each affects incremental Free Cash Flow per share. The debt route will often increase Free Cash Flow per share more than the equity route because with new debt we would not be issuing new common stock shares. If we went with debt, our existing 10 million shares would enjoy all of the incremental benefits (and costs) of the new plants. Debt interest is an incremental cost not incurred with new equity, but such interest is at least tax deductible. Yet debt involves certain risks the company would not face were it to choose new equity. We want to be sure our company will be able to pay the interest and principal to the lenders as required by the repayment schedule. We would need to build a cushion in the loan repayment schedule so that when unexpected setbacks occur in the business, our company will have enough cash to meet the repayment schedule. And do not forget what happens if we must sell the company before the debt is repaid. The loan balance is deducted from our sale proceeds. If that occurs before the expected incremental Free Cash Flows have materialized (or at least are judged by the buyer to be a given), our investment return may well suffer. We have already hit on three financial variables that affect our investment return: expected Free Cash Flow, the number of shares, and the amount of debt. As investors, we are very concerned about these three numbers. We are even more concerned about the

expected changes in these numbers because it is really *the future changes* in these three numbers and several other variables that determine our returns.

PRIVATE COMPANY VERSUS PUBLIC COMPANY

The outdoor furniture company is a private company. As the only owners of a private company, we have full control over all the major business decisions, including the disposition of the company's Free Cash Flow. Therefore, our analysis of our expected return on investment focuses on the furniture company as a whole: its total Free Cash Flow, its total dividend payments, its total debt, and so forth.

As owners of public company shares, however, we have no control over anything other than the price at which we buy and sell our shares (setting aside shareholder voting rights and proxy fights, and so on). Our only decision is to accept or not accept the market price. Because we are buying and selling shares, we must focus our analysis on changes in the value of each share, not just the changes in the company's overall financial results and parameters. But other than our *per share* focus, our analysis of our public company shares will be essentially the same analysis we used in analyzing our furniture company investment.

We are investing cash in public company shares to obtain a cash return. If we are a buyer, we will buy the public company's shares at the market price if our analysis suggests the company's expected Free Cash Flow per share when combined with the impact of other expected changes in the company's finances (such as debt levels and dividends) will give us our *required return* on investment. The Return Multiple can help us define *required*. If we own the stock, we will sell the stock if our analysis suggests the company's future performance will not enable us to meet our required return on investment.

This book's objective is to provide the investor with the tools needed to determine if a public company's common stock is likely to meet the required return on investment. To estimate a company's future Free Cash Flow, we first need to understand its historical and current Free Cash Flows. Fortunately for investors, the SEC requires public companies to provide financial statements each quarter. Unfortunately for investors, the SEC mandates financial statements be prepared in accordance with generally accepted accounting principles (GAAP). If we think of GAAP as a pyramid of rules, the bottom of the pyramid is occupied by the rules of accrual accounting. The rest of the pyramid consists of rules that dictate how public companies

apply accrual accounting in preparing financial statements. Now, that is all well and good except for one problem. The primary purpose of accrual accounting makes our focus on Free Cash Flow somewhat more challenging than necessary. But challenges are fun. And more important, investors who surmount challenges often hold an advantage over those investors who do not even know the challenges exist. What, then, is the primary purpose of accrual accounting?