

Introducing Intangibles

All firms, no matter how big or how small they are, have both tangible and intangible assets. The desks, computers, factories, and inventory of a business are certainly tangible assets. At the same time, firms might possess some well-known intangibles—assets such as patents, copyrights, contractual obligations, customer lists, or other intellectual property. Many of these intangible assets show up on firms' financial statements.

But firms might possess another kind of intangible asset, one that is harder to classify and value. Perhaps a company has long-established customers, or exclusive supplier agreements, an experienced and loyal workforce, a great location, or a chief operating officer with superlative organizational skills. These are surely assets, but they cannot be touched or felt, and they probably do not appear anywhere on the company's financial statements. How can they be valued?

HOW THIS BOOK IS ORGANIZED

This book is organized into 11 chapters. The remainder of Chapter 1 provides an overview as well as a brief introduction to the theory of the three main valuation approaches: income, market, and cost.

Chapter 2 presents the taxonomy and historical context of intangible assets. This chapter introduces readers to the classification and nomenclature generally found in the literature on intangibles.

Chapter 3 covers the economics of intangibles, measurements of their growth, and selected research data. It discusses the efforts that accountants and economists have made to understand why intangibles matter and how they affect value.

Chapter 4 presents a summary of the latest accounting methodology and rules for the treatment of intangible assets under generally accepted

accounting principles (GAAP). Topics include revenue recognition, asset impairment, amortization, and remaining useful life. As we shall see, the new accounting rules can have a large effect on a firm's treatment of intangibles.

Chapter 5 introduces the idea of a firm's portfolio of intangible economic benefits (PIE-B). In this chapter, the conceptual jumping-off point for the remainder of the book, the process of identifying intangibles takes center stage.

Chapter 6 begins the presentation of valuation methods, starting with the income approach. This chapter introduces the discounted cash flow (DCF) methodology and applies it to intangible assets. It also presents an options valuation method.

Chapter 7 presents the second common valuation method, which uses comparable assets, companies, and "market multiples" to benchmark the value of an intangible. This method is sometimes called the market method because the appraiser considers how the market will value similar assets.

Chapter 8 presents the third common valuation method, the calculation of the cost of the intangible asset. This chapter discusses book cost, replacement cost, and the functionally equivalent or "design-around" cost of intangible assets.

Chapter 9 shows some of the ways intangibles are valued in litigation. The so-called Panduit test, the horizontal merger guidelines, and the Georgia Pacific factors provide useful frameworks for thinking about the valuation of intangibles in terms of lost profits, market definition, and reasonable royalty calculation. The chapter also discusses important recent trademark law.

Chapter 10 discusses strategy and securitization of intangibles.

Chapter 11 presents a theory of ephemeral assets.

WHAT IS VALUATION ANYWAY?

According to *Merriam Webster's Collegiate Dictionary*, value can be defined as "1: a fair return or equivalent in goods, services, or money for something exchanged; 2: the monetary worth of something; marketable price; 3: relative worth, utility, or importance."¹ As we shall see, the concepts of a fair return, the marketable price, relative worth, or utility are central to the three basic valuation methodologies. But before we begin looking at intangibles in earnest, it is worth spending a little time considering the concept of value. After all, there are valuation experts, valuation and appraisal societies, and Web sites devoted to nothing but this mysterious black box called valuation.

Let us start with something tangible. Suppose that you own a car that you wish to sell yourself, perhaps in the local newspaper, and you want to

know how much to ask; that is, you want to know its value. Suppose, further, that it is a 1997 silver Toyota Camry, with 50,000 miles. The first thing you might do is look up what a third-party source, such as *Kelley Blue Book* or the National Automobile Dealers Association, reports for a car like yours in the same condition with the same set of options. The source might report a private party value of \$5,000. How does it arrive at this amount?

Market Approach

Automobile valuation guides examine comparables. Used-car evaluators would likely look at retail and wholesale sales prices of other 1997 Toyota Camrys with the same mileage, or they may construct comparable sales transactions, say, from other Japanese-branded sedans, or other 1997 cars, or other Toyotas, or other cars with about 50,000 miles. They probably will take into account the color, too. (Generally, used green cars sell at a greater discount!) The sales that are economically comparable give a pretty good indication of what your Toyota is worth. Why? Because if prospective buyers are interested in your car, they should be willing to pay only the market price; and the value in a trade now should closely resemble prices from the recent past.

This simple example introduces in a general way the concept of *market efficiency*. If you try to ask much more than \$5,000 for your car, and potential buyers know what other like cars are selling for (and there is no shortage of similar cars), those buyers simply will buy the silver Camry down the block. The fact that other cars just like yours sell for around \$5,000 limits any premium you may be able to get. There may be other reasons that you can charge more than similar cars for sale; in fact, there may be intangibles associated with your car, but let us not complicate things too much just yet.

The *Blue Book* evaluators may also report a wholesale price or a trade-in price that is less than the retail \$5,000. These prices reflect different transactions. Dealers who think they can sell your car to someone else or are willing to take your car in trade when you buy a new car from them are working with a different set of assumptions, a different equation for considering what your car is worth *to them*. For example, they might need to recondition your car in order to sell it to someone else. This might cost them \$500, so they would be willing to pay you at most \$4,500. Or they might be willing to give you the full \$5,000 because they are going to make it up on the sale of a new car to you.

These alternative prices introduce a couple of additional important valuation concepts. First is that valuation must reflect value *to someone*. In

other words, the asset's value is in the context of a transaction. For example, what do the prospective buyers want to do with the asset? Are they under pressure to buy fast? A young couple eloping that very night face a different set of transportation constraints than, say, a casual shopper looking for second family car.

Second, the transaction inherently reflects costs-benefits analysis. In our example, the car dealers are thinking about (at least) these inputs:

- Whether you know what your car is worth to a private party
- How much it might cost them to recondition your car for sale
- How likely they will be able to sell your car in an acceptable amount of time
- Whether they are giving up a better opportunity for the use of cash
- Whether you are going to purchase a new car from them at the same time

At the end of the day, if they will make money on the entire transaction the dealers should be willing to do the deal. In the terminology of finance, car dealers should be calculating the *net present value* of the deal, and the basis for their valuation is the analysis of what the market will bear—hence, this approach is called the market approach to valuation. (We will discuss net present value more in Chapter 6 and the market approach in Chapter 7.)

One last comment on valuation through comparables: It need not require the advice or analysis of third parties, such as car appraisers in the previous example. You might just as easily look in the newspaper yourself or go online to auction sites such as eBay to determine the market price, although of course you will need to consider that the newspaper listings and reserve prices on eBay are asking prices, not transaction prices.

Income Approach

The market approach to valuing the car may seem the most intuitive. But it is not necessarily correct. In fact, it would be wrong in the next context.

Suppose that you and your neighbor are both applying for a temporary job as a pizza delivery person. Your potential employer will pay you the same hourly rate and also will pay for your gas. In all regards you and your neighbor are equally qualified for the job. The only difference is that she drives a gas guzzler that gets 10 miles per gallon while your Toyota gets 25. Now, the value of your car to your potential employer has little to do with the value we calculated in the sales example. The pizzeria owner is not interested in buying a car; he is interested in how much two different cars will cost him.

The right valuation in this case would be based on the income approach. From the employer's perspective, the calculation is simply how much more hiring your neighbor will cost than hiring you, or, alternatively, how much more he will make by hiring you. In other words, he is calculating different income streams based on the fuel efficiency of the two different cars.

For simplification, let us suppose that the job is going to require 1,000 miles of driving and gas is \$1 per gallon. If the pizzeria owner hires you, it will cost him \$40 in gas, versus \$100 if he hires your neighbor. In this context, your car is valued at \$60 more than your neighbor's. (This simple example ignores any discount for the fact that in either case, the cost of fuel is spread out over time.)

Cost Approach

Let us think about one more approach to valuing the car. Suppose for a moment that you have been involved in an accident in which your car has been badly damaged. The other party is at fault, and the person's insurance company has agreed to cover the "value" of your loss. In this context, that value could have different definitions. It might be the cost to repair your car. The damage may be \$3,000 to fix, making your car worth only \$2,000. The value of the insurance policy is \$3,000 if it covers the value of the loss as measured by repair cost.

Value might mean the cost to replace the car with another silver Toyota Camry. Depending on how the insurance policy is written, that replacement cost could be the cost of a new Toyota, or perhaps the policy specifies that you will be entitled only to a car of similar year, make, and model to your loss. If there really are a lot of similar Camrys in the market, that replacement cost is going to be identical to the value derived under the market approach. The repair cost, however, could even exceed the replacement cost.

The point here, again, is not to assume that all valuation roads lead to Rome. The context of a transaction or the meaning of a contract can imply very different asset valuations. As we will soon see, these three basic valuation approaches—market, income, and cost—are the same tools we use in analyzing the value of intangible assets.

Arm's-Length Transactions

In many valuations, the terms "arm's-length negotiation" or "arm's-length transaction" are invoked. These terms mean that a transaction taking place is between two unrelated parties, or at least two parties who are trying to maximize their side of the bargain. This does not mean that each party has

equal information about what an asset is worth; in other words, there can be *information asymmetry*. Indeed, because intangibles often are harder to value than tangibles, information asymmetry plays an important role in negotiating acquisitions where intangibles loom large. But to be at arms' length, whatever price eventually is reached is not the result of a nonmarket relationship or agreement between the two parties. A simple exception is when a parent sells the family home to a child for a price below market. An intangible asset example might be when a corporation licenses at a heavy discount some piece of intellectual property, such as a trademark, to a subsidiary or franchisee.

Appraisals and Fairness Opinions

Often appraisals and valuations are discussed at the same time. For purposes of this book, we consider appraisals and appraisal techniques to be a type of valuation, largely confined to tangible assets and, in particular, real estate. This is not to say that a real estate appraiser goes through a different analysis than does someone valuing a firm's copyrights, for example. In fact, the two evaluators may both consider market, income, and cost approaches. Nonetheless, appraisal institutes (i.e., the American Society of Appraisers) and their members often have specific procedural steps that characterize their work; those features may not apply to the general economic analysis that this book seeks to describe.

Similarly, the parties in a transaction often seek a fairness opinion. Financial institutions that are party to a deal often require such an opinion; they seek either explicit indemnification or just comfort that the deal passes legal and accounting tests, and they bring in an outside accountant to undertake the analysis. The fairness opinion also is based on certain standards that, although not at odds with the general approach considered here, are for the most part better left for a separate discussion.

Individuals as Economic Units

Most valuations are done when some interested party is contemplating buying a firm or part of a firm. This book is concerned primarily with valuing the intangibles that reside in the business that is under consideration. But the overarching theme of this book is that people possess intangibles, too, and that valuation of intangibles need not stop at the firm level. We might even consider a little economic theory here. The Nobel Prize-winning economist Ronald Coase posited in 1937 in *The Nature of the Firm* that a firm's boundaries were determined by the cost to contract externally for goods with another firm versus production in-house.² We shall adopt this same

principle and will apply the techniques in this book to individuals and the transactions we as individuals contemplate—for instance, the college education discussed earlier. The text that follows may describe a firm, but readers should remember that each of us operates at least one firm made up of our own personal collection of tangible and intangible assets.

The Hypotheticals

One last introductory note: Many of the examples in this text are admittedly and purposefully simplifications of various principles. The economic, accounting, and financial analysis employed here in hypotheticals may not be sufficient for testimony or for real-world valuations.

