

# Measures, Judgments, and Risks Behind Balance Sheet Numbers

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# INTRODUCTION

Thus far, you have gained a more informed understanding of balance sheets by working your way down a hierarchy from primary balance sheet classes, to current and non-current assets and liabilities, to line items within these categories, to accounts whose ending balances determined the numbers, to entries that affected the accounts.

This is not the end of this hierarchy. Experts probe several levels deeper and each level reveals a much richer interpretation of the numbers. Here, we are going to briefly introduce some of these concepts to give you an appreciation for how fascinating and challenging accounting can become.

You know entries record financial measures of events and circumstances. However, deciding when measures are reliable enough to be recognized on balance sheets can require considerable judgment. Moreover, often objective experts, whose judgements are highly informed, will come to different answers even when applying the same authoritative guidance and having equal access to information about the business context. We have already seen some resources that meet the definition of an asset, such as your human capital, but can't be measured reliably enough to be reported on balance sheets.

Still, numbers that do make it on to balance sheets require varying degrees of judgment and some require considerable judgment. These numbers are often associated with situations where there is also a good deal of business judgment and related risks.

For example, Nicholas Bischoff had to decide what retail customers he wanted to sell his trendy sportswear to. Did he want to go with small boutiques or big chain stores that were well known across the United States? He decided to go with small boutiques and sold merchandise to them on account with a promise to pay within 30 days. But, would the small stores be able to pay the amounts they owed? The risk that they would not pay is called credit risk, and allowing them to purchase products on account is called extending credit.

Deciding whether to extend credit to customers and how much to extend it is a business decision that can require considerable judgment, especially when credit risk is high. This was the scenario during the credit crisis of 2008 when concerns about credit risk led to a severe economic downturn in the United States that had global repercussions.

There are parallel accounting decisions that require judgments. For example, companies report the amount they expect to collect from customers as accounts receivable on their balance sheets. This means they need to estimate the portion of what is owed that they don't expect to collect in the future. This is an accounting issue that can require considerable judgment when credit risk is high, as it was starting late in 2007.

The more you understand the issues and their underlying judgments and risks, the deeper your analysis and interpretation of a company's financial condition. Fortunately, companies identify measures that require judgment in footnotes in their annual reports. In fact, those that involve considerable judgments and have a significant impact on a company's financial statements are identified as "Critical Accounting Estimates." More generally, companies discuss other judgments that are less consequential in their "Accounting Policies" footnotes. We will examine footnotes in later chapters when we study related accounting issues.

The lesson here is the consequence of ignoring the business and accounting issues behind the numbers: "garbage-in and garbage-out." This means the quality of your analysis is limited by the quality of the information going into your analysis. For example, companies can have different accounting policies for similar business activities and thus their numbers are not comparable. Also, companies can change their accounting policies over time so analysis of trends over multiple years may result in inaccurate conclusions if accounting policies changes are ignored.

To summarize, expert analysts push their analyses beyond understanding the entries behind numbers. First, they dig deeper into the accounting judgments behind the numbers by learning the related measurement procedures and assessing the extent to which judgment was required. They also assess the business judgments and risks behind the numbers. These deeper accounting and business analyses allow analysts to assess the confidence they should have in the numbers when using them.

## BUSINESS ISSUES BEHIND ASSETS

To analyze the judgments behind reported numbers, you need to understand the business and accounting issues behind them as best as possible given available information. These include an assessment of the future benefits associated with a company's assets and the risks these benefits will not be realized. **Asset risk** is the risk that the value of the future benefits associated with an asset will decline under various assumptions about future economic conditions. It can refer to the risk of a specific asset, such as cash, or to the overall risk of an entity's combined assets.

Generally, assets comprising a small portion of an entity's total assets do not significantly affect the entity's overall asset risk, especially if they are not very risky. For example, cash you have in banks and elsewhere has relatively low risk in its own right: its purchasing power could decline in the future but the likelihood of a significant decline is quite low, especially over short periods. Moreover, your cash holdings likely constitute a small portion of your total assets.

By contrast, the risk associated with your human capital is very significant: it likely comprises a large portion of your assets and there is a good chance it could get impaired in the future. For example, you might fail to graduate, or the demand for skills you have acquired might decline. Even if these risks are not realized, prospective employers and others who will be evaluating your human capital might incorrectly assume the risks have been realized.

Because some assets are very risky and contribute greatly to a company's overall asset risk, while other assets contribute very little risk, companies report separate assets, rather than simply the total value of all of their assets. In this way, investors and other financial-statement users can better assess the risks associated with specific assets. Insiders and outsiders, however, can come to very different risk assessments based on what they know about the entity and its operating environment. When analyzing financial-statement numbers, or related disclosures, you'd like to know as much as possible about the company and its environment. Make a list of the things you would like to know about the business activities associated with each financial measure the company reports on its balance sheet. Ask yourself: if each reported measure perfectly captured the company's underlying business activities, what would it tell you and how would this knowledge advance your broader assessment of the company?

Depending on the decision you are making, here are some things you might like to know about the business activities behind a company's assets:

- Given the company's business environment and strategy, how have the resources associated with reported assets benefited the company in the past and how are they expected to benefit it in the future? For example, how have they contributed to its growth and profitability in the past and how are they expected to do so in the future?
- What past events and circumstances do the reported numbers reflect and how useful are the numbers for predicting future events and circumstances?
- What risks are associated with reported assets and how significant are they to the company's overall asset risk? How useful are past realizations of this risk for predicting future realizations?
- To what extent can management control these risks and how well have they done so relative to competitors and others facing comparable risks?
- Are the expected returns associated with these assets commensurate with the risks?

- What resources pertinent to assessing the company's future performance are not reported on its balance sheet?

This wish list will orient our business analyses. In addition, the accounting decisions we will examine next greatly influence what outsiders can learn about business issues.

## ACCOUNTING ISSUES BEHIND ASSETS

Many of the decisions a company makes when reporting financial statements are not as straightforward as the novice to accounting might think. Some require considerable judgment, and your analyses of assets and other financial statement numbers will be more informed if you understand the factors affecting these judgments. For example, newcomers to accounting assume that a company reports all of its assets on its balance sheet at **current values**—measures that reflect relevant information available at the balance sheet date. Typically, however, this is far from true:

- Some assets are not reported on balance sheets. Often important resources meeting the definition of assets are not reported because they cannot be measured reliably.
- Asset measures are often based on dated prices that do not reflect the current business reality. In particular, companies often measure assets at historical costs, meaning the prices they paid when acquiring the assets, sometimes adjusted downward to reflect usage. Historical costs frequently differ considerably from current values, have different measurement objectives, and play different roles in assessing performance.
- The extent to which asset measures meet measurement objectives can differ significantly across assets and objectives. This is the primary reason some assets are not reported, and others reported at historical costs.

To varying degrees, these types of accounting decisions are made by a host of organizations and individuals in hierarchies stretching from the highest seats of government to individual bookkeepers.

### Decision Makers

Decisions pertaining to financial statements issued in the most countries are made throughout legislative, judicial, and corporate hierarchies. For example, the U.S. Congress sits at the top of the decision-making hierarchy in the United States. It passes broad laws that restrict or guide the creation of more specific regulations by individual government agencies. Some restrictions and guidelines are so strict that decision makers at lower levels have almost no leeway to exercise individual judgment. In other situations, rules are more lax and decision makers must exercise considerable judgment.

Congress delegates most of its rulemaking responsibilities to the Securities and Exchange Commission (SEC). The SEC in turn delegates most financial reporting decisions to the Financial Accounting Standards Board (FASB). These and other organizations issue authoritative guidelines called Generally Accepted Accounting Principles, or **GAAP**, which restrict or guide policies established by corporate boards, chief executive officers, and chief financial officers. The policies of these corporate officials in turn increasingly restrict or guide procedures and decisions at various levels throughout companies. Next, we look at several important accounting decisions restricted or guided by the above decision makers: measurement, recognition, classification, and disclosure decisions.

### Measurement Decisions

**Measurement decisions** determine how assets, liabilities, owners' equity, and other financial-statement items' values are measured. Financial-statement numbers are estimates so you should start your analyses of them by asking three questions: What is the related mea-



**IFRS GAAP**

Similar decision-making hierarchies exist in over 100 countries that have either already adopted or are in the process of adopting IFRS.

surement objective? How relevant (useful) is this objective to my current decision? How accurately does this estimate measure the objective?

Like measuring asset risk, measuring an asset's value is not always as straightforward as it might seem. For example, when discussing a particular asset, what precisely do you mean by value? Do you mean the historical cost, possibly adjusted for usage, or a current value? **Measurement objectives** specify the qualitative features or dimensions of an asset or other financial statement element being measured. These qualitative features are called measurement attributes. Measurement decisions determine measurement objectives and the inputs and techniques companies employ to try to meet these objectives.

## Measurement Objectives

Two commonly used current-value measurement objectives are fair value and the value-in-use. An asset's **fair value** is the price that a company would receive for it in an orderly transaction between market participants on the balance sheet date. Fair values assess the future benefits associated with an asset, assuming that an unrelated party will realize these benefits through a sale.

For some assets, the future benefits an unrelated party could reasonably expect to realize from an asset may differ from those that the company could realize if it did not sell the asset—the asset's **value-in-use**. For example, the benefits you could realize from developing a patent may differ significantly from the benefits others could realize if you sold the patent to them. Measuring an asset's current value assuming future benefits will be realized by the entity using the asset (value-in-use) is a different measurement objective from measuring the current value assuming it will be sold and used by someone else (fair value). Importantly, the resulting measure of the asset's value can differ because the objectives differ.

Similarly, the measurement objectives for historical costs and current values differ with regard to how they pertain to future benefits. **Historical costs** measure the value of the future benefits associated with an asset based on information available when the asset was acquired, possibly adjusted for benefits used up between then and the current measurement date. They are particularly useful for assessing current performance relative to past expectations. By contrast, current values measure future benefits based on currently available information.

Saleability is a necessary condition for fair-value measurement. As a result, in some situations value-in-use measures can be estimated when fair values do not exist conceptually. For example, the fair values of the knowledge, skills, and preliminary ideas you possess that have not yet been converted to saleable property do not exist conceptually. Still, prospective employers or business partners will try to assess your value-in-use when they are considering hiring you or financing a business you are starting.

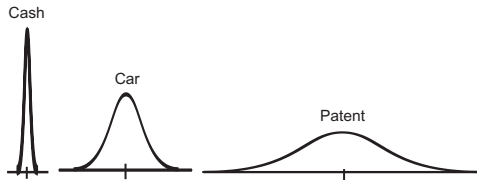
## Measurement Techniques

Once experts know a measurement objective, they must select a measurement technique from acceptable alternatives and locate the inputs needed to apply the technique, including related assumptions. Experts generally use different inputs or techniques, which causes their estimates to diverge to varying degrees, depending on the extent of these differences.

For example, imagine how experts' estimates would diverge if they were to estimate the fair value of a patent for a product you developed. To get the patent from the government, you would have to demonstrate the product was unique in some important ways. However, because the product was unique, it would be difficult for experts to base the patent's fair value on the prices at which comparable products had recently sold.

By contrast, experts could base estimates of your car's fair value on the average prices of recently sold comparable cars. These estimates might still diverge slightly if they were based on sales data from different sources, but they would be dispersed much less than the patent estimates.

## Dispersion of Experts' Fair-Value Estimates of An Individual's Assets

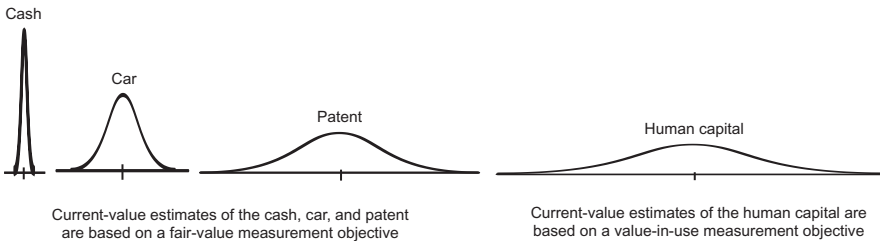


Measuring the value-in-use of a company's patent would be just as challenging as measuring its fair value. However, measuring the value-in-use of a company's collective knowledge, skills, and ideas is even more challenging. This is analogous to measuring the value-in-use of your human capital.

Estimating the value-in-use of something as complex as your human capital requires a prospective employer to address a wide range of issues regarding past and future behavior: What are your current skills, knowledge and aspirations? What degrees will you ultimately earn and what other knowledge and skills will you acquire? How committed and prepared will you be to acquiring new knowledge and skills thereafter? How successful will you be at working with others and applying your knowledge and skills on the job? What jobs will you be qualified for in a rapidly-changing business environment and how will you be compensated? What risks associated with these factors will affect your future earning power and how should these risks affect the valuation of your human capital?

Experts' estimates of the value-in-use of your human capital would likely be considerably more dispersed than their fair-value estimates of your cash, car, or patent. Moreover, their estimates would likely diverge considerably from yours because you know more about your aspirations and capacity to achieve them.

## Dispersion of Experts' Estimates of the Current Values of An Individual's Assets



The dispersion of estimates produced by objective experts largely depends on the measurement objective, the availability of benchmark data and measurement techniques, the extent to which the business context associated with the benchmark data is comparable to the measurement objective, and the risk associated with the measurement. Understanding the factors driving these hypothetical dispersions can help you understand measurement and recognition decisions, and their consequences for financial statements. This in turn can help you better assess the usefulness of reported numbers for your decisions.

One factor driving the dispersions of experts' distributions is the availability of **comparable market prices**. For example, because there is an active market in used cars, you can estimate the price you might receive for selling your car by examining the average price of recently sold comparable cars. The more **active the market**—that is, the more trades that occurred on or close to the measurement date—the more accurately the average sales price approximates the price you could have sold your car for on that date. Experts' estimates may vary from one another depending upon the extent to which they use different markets, sample sizes, or statistical techniques.

In this situation, the average sales price serves as benchmark data for estimating fair value. **Benchmark data** consists of inputs providing a basis for comparison. Companies derive estimates by averaging these inputs or applying another formula or technique to them. Companies are required to describe the various inputs and techniques they use to

measure fair values reported in their financial statements (effective for fiscal years starting after November 15, 2007). This requirement helps outsiders better assess the usefulness of fair-value estimates.

Market prices are not the only benchmarks. Historical data is frequently used to estimate current values when there is reasonable assurance that past experience is representative of future performance. For example, companies frequently rely heavily on historical experience when estimating the allowance for uncollectible accounts—the amounts customers owe at a balance sheet date that the company does not expect to collect in the future. Here again, though, several factors greatly influence the dispersion of these estimates: the number of years of data the average is based on, the extent to which past collection experience is representative of future experience, and the riskiness of the customers. For example, the estimates would be widely dispersed for a new company with no collection experience selling its products to customers for whom there is significant credit risk—uncertainty as to whether they will meet their financial obligations.

## Recognition Decisions

The more widely dispersed the experts' distribution, the more opportunities arise for honest mistakes to go undetected, or for dishonest individuals to manipulate reported measures without getting caught. As long as the final numbers fall within the expected distribution of expert estimates, it would not be easy to distinguish these numbers from those provided by experts. Misrepresentation of value would be easier in a situation where expert estimates are likely to vary more widely. For example, it would be considerably easier for someone to misrepresent the fair value of a patent than the fair value of cash.

When the dispersion of these distributions becomes too large, and the potential for honest errors or intentional manipulation becomes too problematic, we often find that accounting standard setters either refuse to recognize certain financial measures or restrict the ways they can be measured. Such **recognition decisions** determine whether measures associated with events or circumstances affect financial statements, and if so, where and when they affect the statements. For example, U.S. accounting standard setters have established that cash should be reported at its fair value but cars may not be reported at fair values. Also, a company may not recognize patents developed internally as assets, but it may recognize patents acquired from other parties as assets at historical cost. The underlying dispersions of estimates of the values of these assets partially explain the standard setters' positions.

## Classification and Disclosure Decisions

Certain decisions made under GAAP determine where—or even if—particular information may be found in financial statements. **Classification decisions** can determine *where* a measure is recognized in financial statements, *when* it is recognized, or *how* it is measured.

The basic classification of an asset as current or non-current determines *where* it is located on balance sheets.

Leases offer examples of classification decisions that determine *whether* and *when* an item is recognized as an asset and liability. For example, under IFRS a lease classified as a finance lease is recognized as an asset and liability equal to the value of the future lease payments by the lessee on the date the lease commences.<sup>1</sup> By contrast, a lease classified as an operating lease is not recognized upon signing<sup>2</sup>, there are no financial statement consequences at that time, thus operating leases are considered 'off-balance sheet'.

An example of a classification decision that affects *how* items are measured is investments. Investment securities are classified into three categories depending on how the company intends to use them. This subjective assessment has important financial-statement consequences because investments in two of the three categories are recognized at



### IFRS GAAP

Under IFRS<sup>1</sup>, companies can elect to report property, plant and equipment at their fair values when these values can be measured reliably.

The costs to develop most patents would likely not meet the IFRS criteria to be recognized as assets. However, costs incurred subsequently to develop related products often meet the IFRS<sup>2</sup> asset recognition criteria but do not meet the U.S. GAAP criteria. These examples illustrate how objective experts can come to very different conclusions when making decisions that require judgment.

1 IAS 16 ¶29-31.

2 IAS 38 ¶21.



### U.S. GAAP

Under U.S. GAAP, finance leases are referred to as capital leases. However, the classification criteria for a capital lease under U.S. GAAP<sup>1</sup> differ slightly from those under IFRS.

1 FASB 840-10-25 or SFAS 13 ¶7.

1 IAS 17 ¶20.

2 IAS 17 ¶33.

their fair values while investments in the third category are generally recognized at their historical cost.

**Disclosure decisions** determine whether reported numbers or other information is visible to outsiders. Importantly, measures can be recognized in financial statements without being disclosed therein or elsewhere. Recognition without disclosure occurs when two or more recognized measures are aggregated and users cannot see the separate measures. Large global companies recognize tens of billions of measures on their balance sheets each year, but typically aggregated these into 20 or so disclosed line items. **Aggregation decisions** have implications for the way you learn to use reports. For example, when examining a reported measure, you will need to know how to make informed conjectures about the measures “hidden” within the reported measure: the major events behind the numbers and the way they were measured and recognized.

## Complexity and Judgment

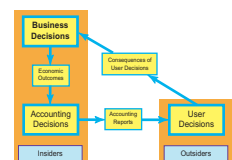
We have seen that measurement, recognition, classification, and disclosure decisions can require significant judgment on the parts of standard setters, companies and others in the decision-making hierarchy. Even when measurement is not an issue, business and accounting complexity can lead to situations where considerable expertise and judgment is required to identify acceptable GAAP alternatives and select the one most appropriate for the context. US GAAP has over 2,200 standards and some of these are remarkably complex and require considerable judgment to apply. Gaining the requisite accounting expertise to apply these standards is only part of the challenge. Identifying and understanding the business contexts where they are applicable is equally demanding, especially in large global companies with tens of billions of diverse transactions occurring worldwide.

Given this complexity, there are often situations where multiple accounting standards or principles with very different financial-statement consequences are appropriate and where experts disagree about the appropriate treatment.

## Intertwined Decisions

Accounting decisions are tightly intertwined with user and business decisions and thus should not be analyzed in isolation. To give you a better appreciation of what we mean here, imagine yourself in a job interview. The person interviewing you (a user of the information you communicate or report regarding the value of your human capital) will combine information she gets from you during the interview with related information from others. Based on her past experience, she knows some job candidates exaggerate their qualifications while others are completely honest but fail to disclose pertinent information. Thus, she has to probe you for information while maintaining a healthy degree of skepticism. Your challenge is to convince her you are credible. To the extent you fail to do so in this interview and other interviews, you will not fulfill your career aspirations. As a result, your potential earnings power and thus the value of your human capital could decrease (relative to what it would have been if you could have credibly communicated your story).

Similar scenarios occur regularly as start-up companies try to convince venture capitalists to finance innovative ideas, and senior executives at mature companies try to convince investors their stock prices should be higher or the interest rates on their debt should be lower. Their challenge is to convince investors and other outsiders that their financial statements and supporting disclosures faithfully represent past performance and are representative of future performance. In the process of preparing financial statements, they will make several accounting decisions requiring varying degrees of judgment that will greatly influence the extent to which the resulting measures faithfully reflect the underlying business reality.



## BUSINESS ISSUES BEHIND LIABILITIES & OWNERS' EQUITY

Like assets, liabilities and owners' equity claims reflect the net effects of past events and circumstances, and they have varying degrees of risk that depend on future events and circumstances. In this section, we consider the risks and rewards associated with these claims and the types of information creditors and owners need to assess them.

### Liquidity and Financial Flexibility

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During the initial start-up phase of a new venture, the entrepreneur faces the challenge of developing a product and finding enough customers to cover startup costs. Although this likely will take quite a while, the entrepreneur must still generate enough cash to pay rent, put down payments on assets such as furniture, fixtures, and equipment, pay employees and others for services, and purchase merchandise for resale (inventories) or other resources needed to produce goods or services. As a result, most start-up ventures require investors to contribute resources in the form of cash, intellectual property such as patents, buildings, or other assets.

**Liquidity** refers to the cash an entity has to support its growth strategy (or cover unanticipated downturns). It also refers to other assets such as government bonds the entity can readily convert to cash for these purposes. Most start-up companies have very little liquidity at first; liquidity increases as companies generate additional positive cash flows from operations. In order to raise cash under terms acceptable to its existing investors, a company may sell assets or issue debt, shares, or other ownership interests. **Financial flexibility** refers to an entity's capacity to raise cash in this manner.

Financial flexibility increases with liquidity, but it can also increase in other ways. For example, entrepreneurs' financial flexibility increases when they can credibly communicate innovative business ideas to prospective investors. Similarly, mature companies' financial flexibility increases when they can credibly communicate their strategies and past and expected future performance.

### Start-Up Financing

Entrepreneurs have considerably less financial flexibility and liquidity than successful mature companies, so banks and other creditors generally are very reluctant to offer them unsecured loans. Start-up ventures are risky: seventy percent of all new companies fail, making them unattractive to most lenders. Those who do offer loans typically expect very high interest rates to compensate them for the additional risk.

### Venture Capitalists

Individuals and organizations called **venture capitalists** or angel investors are willing to give risky new companies cash in exchange for a significant ownership interest in the new company. Because of the risk involved, venture capitalists expect to be greatly rewarded when start-up companies succeed. As a rule of thumb, in the first five years they seek to earn \$5 for every \$1 they invest in a company. Many entrepreneurs give up not only a significant portion of their profits to venture capitalists, but also a considerable amount of control over the company. Venture capitalists often increase their shareholder voting rights as they get more shares in exchange for cash investment.

Although venture capital financing can seem very expensive, the only other viable option for most entrepreneurs is to grow their businesses more slowly using cash they

receive from customers. By doing so, they risk foregoing opportunities to beat competitors to market and to attract and retain new customers. By taking more venture capital, they can grow their businesses more quickly, hoping to be better off with a smaller ownership fraction of a bigger pie.

## Cost of Capital

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In deciding whether and how to raise cash or attract other resources, a company's current owners must weigh the cost of offering rewards to prospective new investors against the benefits they expect to receive from using those resources. Resources contributed in exchange for debt or equity are called capital. The expected future cost of raising additional resources is called the cost of capital. More precisely, the cost of capital is the cost of raising an additional dollar's worth of resources from prospective new creditors or shareholders.

For example, if a company plans to borrow cash from a bank at a 10% interest rate, its cost of capital is 10%. Raising each additional dollar of capital costs the company \$1.10—one dollar plus 10 cents interest. If the company has assets that can serve as collateral, the interest rate and thus cost of capital will be lower because the lender assumes less risk. By contrast, the cost of capital by venture-capital financing is considerably more costly. More generally, the riskier an investment, the higher the company's cost of capital.

Companies that grow quickly and manage their risks better than their competitors tend to have a lower cost of capital. By expanding sales to customers, a company generates more profits, which minimizes the risk to investors of financing the company's growth. The lower the risk, the lower the return demanded by potential investors. Investors take into account growth and profitability as well as cost of capital when valuing companies. This can be remarkably challenging, and experts often have widely divergent beliefs about a company's growth prospects, future profitability, and cost of capital (risks).

## Financial Leverage

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**Financial leverage** refers to the extent to which owners can increase their expected returns by issuing debt rather than stock (or equity financing). The more assets are financed by debt rather than equity, the larger the company's financial leverage. Thus, the higher the debt-to-assets ratio or debt-to-equity ratio, the greater the financial leverage.

As suggested by its name, financial leverage acts like a lever that magnifies an owners' share of a company's asset risks and rewards. If a company is highly leveraged, the current owners stand to make a greater profit if the assets' benefits are realized, or to take a bigger loss if the assets' risks are realized.

Financial leverage amplifies risks and rewards associated with assets because the borrower owes the same amount to creditors regardless of whether the assets generate large or small cash flows. When the assets of a highly leveraged company produce large cash flows, the owners are highly rewarded; when the assets produce small cash flows, the owners can suffer big losses. The riskier the assets, the greater the potential gains or losses.

Financial leverage usually affects a company's creditors as well as its owners, but in different ways. If a heavily leveraged company declares bankruptcy, some of its creditors likely will not receive the full amount owed to them. The most senior claims will take precedence over others. Creditors' claims are also riskier when the company's assets are riskier, its debt is not secured by assets, its liquidity and financial flexibility are questionable, and/or it is financially leveraged.

Following is a list of questions concerning the business activities behind liabilities and owners' equity claims that can help owners and creditors assess the potential rewards and risks associated with a company:

- (1) To what extent has the company been financing operations and investments internally from cash from operations?
  - Has the company been generating sufficient cash flows to meet these demands and have they been retaining cash rather than distributing it to shareholders?
  - To what extent can the company likely finance itself internally in the future?
- (2) What are the company's liquidity, financial leverage and financial flexibility?
  - How have these changed over time and how do they compare to companies in the same industry or to other companies with comparable asset risk?
  - To what extent will they limit or facilitate the company's growth strategy and affect its ability to weather financial downturns?
- (3) What is the company's cost of capital?
  - What interest rates would the company have to pay if it were to add more debt?
  - Is equity financing expensive because share prices are depressed?
  - Does the company have to give new shareholders a bigger fraction of the ownership and thus more of the future cash flows to entice them to invest in the company (than if share prices were higher)?

## ACCOUNTING ISSUES BEHIND LIABILITIES & OWNERS' EQUITY

The accounting issues behind liabilities and owners' equity claims are similar to those for assets. Moreover, not all assets and liabilities are reported on balance sheets, and others are reported at historical values that do not accurately reflect their current values. As a result, reported owners' equity values often differ significantly from the stock market assessment of the value of the owners' claims (stock price per share multiplied by the number of shares held by shareholders).

For example, Intel's balance sheet reported \$39 billion of total stockholders' equity at the end of 2008. This is the accounting or **book value**, of the owners' claims at year end. The **market value** of Intel's stockholders' claims (which is generally regarded as a reliable measure of fair value), however, was approximately \$91 billion. This is determined by multiplying Intel's year end share price of \$16.4 share by the 5,562 million outstanding shares reported on the balance sheet. This is considerably more than the \$39 billion book value recognized on Intel's balance sheet. Why?

The key to the difference lies in the market value of Intel's assets. Assuming book and market values of Intel's liabilities are the same, we can calculate the market value of Intel's assets from the balance sheet equation:  $\text{Assets} = \text{Liabilities} + \text{Owners' Equity}$ . Thus, the market value of Intel's assets is \$102 billion (\$11 billion liabilities + \$91 billion owners' equity), which is considerably more than their reported book value of \$51 billion. This is because Intel does not recognize several assets (such as patents) on its balance sheet and it recognizes others at historical costs that are considerably less than their fair values. When a balance sheet understates assets in this way, it generally understates owner's equity.

The opposite can also be true. When the balance sheet overstates assets relative to their fair values, it generally overstates owners' equity. This is precisely what happened in the 2002 WorldCom accounting scandal. WorldCom failed to conform to GAAP, overstating its assets and retained earnings by reporting excessive net income in prior years. This resulted in the company overstating owners' equity by nearly \$4 billion.

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