



Understanding Business Valuation

A Practical Guide to Valuing Small
to Medium Sized Businesses

Fifth Edition | Gary R. Trugman, CPA/ABV, MCBA, ASA, MVS

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Chapter 8

Developing Forecasts for Business Valuations and Economic Damages

Learning Objectives

In this chapter, I will attempt to explain the following:

- The difference between a forecast and a projection
- The factors to look for when evaluating a forecast provided by management
- The steps to take in preparing a forecast
- Sales forecasting techniques
- Forecasting various items on the income statement and balance sheet
- Applicable standards CPAs must follow when preparing a forecast for these types of engagements
- The acceptance of forecasts in various courts

Introduction

In theory, a discounted future benefits method is one of the best methods of valuing a company. It may not be accepted by some courts, however, because of its reliance on forecasted future events. The values derived from these methods are only as accurate as the forecasts of future cash flows or earnings, and sometimes, these future events cannot be forecasted with sufficient reliability to make them usable. Understanding that no forecast is ever able to be determined with total accuracy, these methods may be problematic in either of the following situations:

- The valuation will be used by a client (or a judicial or regulatory body) that will not accept a value based on a discounted future returns method.
- Insufficient data exists to make a timely, reliable forecast of net cash flow or earnings for a reasonable period into the future.¹

Forecast Versus Projection

Before I go on to discuss the forecasting process, it is important to differentiate between a forecast and a projection. Although these terms are often used interchangeably, the AICPA uses two distinct definitions to differentiate these terms.

Financial forecast. Prospective financial statements that present, to the best of the responsible party's knowledge and belief, an entity's expected financial position, results of operations, and cash flows. A financial forecast is based on the responsible party's assumptions reflecting the conditions it expects to exist and the course of action it expects to take.

Financial projection. Prospective financial statements that present, to the best of the responsible party's knowledge and belief, given one or more hypothetical assumptions, an entity's expected financial position, results of operations, and cash flows. A financial projection is sometimes

¹ Jay E. Fishman, et al., *PPC's Guide to Business Valuation*, 26th ed., vol. 1 (Fort Worth, TX: Thomson Reuters, 2016): 5-5.

prepared to present one or more hypothetical courses of action for evaluation, as in response to a question such as, "What would happen if...?"²

As the definitions indicate, the primary difference is that forecasts are based on the conditions expected to exist and the course of action the business expects to take, whereas projections are based on one or more hypothetical courses of action. Based on these definitions, forecasts are generally used in performing the discounted future benefits method. The remainder of my discussion will focus on forecasts necessary for the completion of the discounted future benefits method.

Management's Forecast

A forecast needs to be obtained from management or prepared by the valuation analyst if the discounted future benefits method will be utilized. The forecast should represent what is expected to occur in the future based on existing operations and what is known or knowable at the date of valuation. Let's start off with the assumption that management has provided us with a forecast. Upon receipt of the forecast, a reasonableness check should always be performed. Whatever the valuation analyst does, he or she should not blindly accept the client's forecast.

I have seen the following scenario too often. The subject business has normalized earnings for the last five years as follows:

Year	Amount
2012	\$178,000
2013	170,000
2014	180,000
2015	175,000
2016	200,000

Now, the client provides me with the forecast. Going through a divorce, the client forecasts that business is terrible, the industry is falling apart, and the business will never be the same. Therefore, the next five years will look like this:

Year	Amount
2017	\$180,000
2018	170,000
2019	150,000
2020	135,000
2021	125,000

² AT section 301, *Financial Forecasts and Projections* (AICPA, Professional Standards).

That poor, poor client! Now let's look at the information that the same client might give me if he or she was trying to sell the business. In this case, the forecast might be the following:

Year	Amount
2017	\$225,000
2018	250,000
2019	275,000
2020	300,000
2021	350,000

Don't you just love this business? Where else can the same client give the valuation analyst such nonsense? Part of the role of being a good valuation analyst is to maintain an objective attitude, which includes recognizing that the valuation analyst's client may try to help the analyst get to his or her desired end result by giving the analyst bad numbers. Sometimes, the valuation analyst will not be able to use this information, and the analyst will be required to consider other valuation methods. However, the valuation analyst shouldn't roll over and play dead just because the job is difficult.

What does the valuation analyst do if he cannot agree on a forecast with management? Occasionally, there are instances in which the valuation analyst cannot accept management's forecasts, or vice versa. When this occurs, every effort should be made to reconcile the differences, assumption by assumption. If all efforts fail, at least five solutions are possible.

1. Use management's forecast and label them as "Management's Pro Forma Forecasts." The fact that they are management's pro forma forecasts should be explained prominently in the text.
2. Insist on using the consultant's forecast, perhaps with footnotes about management's disagreements with the forecasts.
3. Use two or more scenarios for the forecasts, resulting in a range of estimated values.
4. Use management's forecasts and adjust the discount rate. This is usually accomplished through the specific company risk adjustment.
5. In extreme situations, the consultant should consider resigning from the engagement.³

I am not inclined to rely on management's forecast, particularly in a litigation assignment, if I do not agree with it. Labeling it as "Management's Pro Forma Forecast" will most likely not make a difference when the judge or jury rejects my conclusion of value that is based on a forecast that I believe is incorrect. Even if I do not state my disagreement, chances are that the other valuation analyst will find similar problems with the forecast that I found and will be extremely vocal about it. Relying on something that the valuation analyst believes is wrong can only bring him or her to a bad place.

Although most valuation analysts do not wish to turn away an assignment, there are times when the forecast is so critical to the valuation process that it becomes impossible to proceed with the job. An example would be when the valuation is being performed for the purpose of obtaining financing.

Factors to Consider When Evaluating Management's Forecast

There are various factors the valuation analyst should consider when evaluating a forecast provided by management. These factors include the following:

- Company-specific factors
- Economic conditions
- Industry trends

³ Fishman, et al., *PPC's Guide to Business Valuation*, 502.18.

Company-Specific Factors

When evaluating a forecast provided by management, the valuation analyst should first ensure that the forecast is consistent with the company's future growth prospects and expectations. In addition, management's forecast should be compared to the company's actual historical financial results, when such information is available.

The information needed to gain a thorough understanding of a company's growth prospects can be obtained during the information-gathering and management interview process. The valuation analyst should obtain as much information as possible related to factors such as the company's customer base and capacity constraints.

An understanding of a company's customer base is essential for determining the reasonableness of management's forecasts. In some instances, the future outlook for a company's customer base can be used as the basis for the revenue forecast. For example, if management forecasts a "doom and gloom" scenario for the company, whereas the company's largest customers are forecasting growth in the near term, it may be improper to rely on management's forecasts.

The valuation analyst must also have an idea of the company's capacity constraints. For example, consider a manufacturing company with the following historical sales revenues:

2014	\$ 8,000,000
2015	\$12,000,000
2016	\$15,000,000

In looking at the company's historical revenues, it appears that the company has been achieving steady growth in recent years. In addition, economic forecasts reflect moderate economic growth well into the near term. Based on these factors, is it safe to assume that the company will experience moderate near-term growth in line with the overall economy? This could possibly be the case if the company didn't have capacity constraints. If management states that with its current facility, equipment, and labor force the company can only generate a maximum of \$18 million in sales, a forecast reflecting continued growth over the next 10 years is unreasonable unless a certain level of additional costs needed to increase capacity are incorporated into the forecast.

In instances in which the company has an operating history, management's forecast should be compared to the company's historical results. In addition, it would also be beneficial to obtain a historical budget versus actual report from the company in order to see how accurate the company's forecasts have been in years past and if they have historically been overly aggressive or conservative. For example, if a company has continuously missed its forecasts by 30 percent or more, it may not be beneficial to place a lot of weight on management's forecasts for a valuation engagement.

A company's historical financial performance is often a good benchmark to use and should be analyzed to see if the company's forecasted growth, profitability, and financial ratios are in line with historical levels. If management's forecasts are not in line with history, the valuation analyst must find out from management why the company is expecting either improvements or declines in its operating performance.

There are some cases in which the valuation or economic damages assignment involves an early stage company with limited or no operating history. In instances such as these, the valuation analyst must look to benchmarking data from either trade associations or the public market to determine if management's growth and profitability assumptions are reasonable. In addition, a sensitivity analysis may be appropriate to analyze the impact of changing the various assumptions in the forecast.

As a real-life example, we were once engaged to value an early stage company that had yet to generate revenues. This was a publicly traded company that was developing a new technology. Unfortunately, I cannot provide more information than this because I cannot take the chance that its identity might be discovered. As part of the valuation engagement, we received a forecast model from management that contained various assumptions that would affect the amount of revenues that would be generated by the company. In this instance, we determined that management had a better understanding of its own industry and operations than we did, so instead of refuting management's assumptions, we performed sensitivity and scenario analyses to determine how changing these various assumptions would affect management's revenue forecast. A listing of some of the assumptions used in the revenue forecast for this company was as follows:

- In some instances, the company would infuse carbon dioxide into its products, in other instances, it wouldn't.
- The company had different deal sizes, ranging from small to large.
- The company had different types of deals it offered to its customers.
- Each deal the company obtained had an assumption regarding the start date and the payment schedule.
- Management's forecast included an assumption regarding the number of deals it would obtain in each year.
- The company would increase its fees by approximately 20 percent once the product was accepted and tested in the marketplace.
- The company would earn royalties ranging from 6 percent to 7 percent of revenues once its products had been accepted in the marketplace.

After performing our sensitivity analysis, we determined that the infusion of carbon dioxide and the type of deal offered had a minimal impact on management's revenue forecast. Therefore, we did not change these assumptions. In addition, we classified all deals as large because we believed that smaller deals would be unlikely due to the significant start-up and installation costs associated with the company's products (the purchaser of this technology would have to make an initial investment of about \$650 million—that is large in my book!).

As of the valuation date for this engagement, the company already had a contract with one customer. One of the issues that we had to address is that we did not know exactly when the contract would become effective. Even the company was not sure when they would start seeing cash. Taking this into consideration, we changed several of management's forecast assumptions to reflect the terms of the company's existing contract. In particular, we adjusted the payment schedule to reflect payments over a longer period of time.

With respect to the fees that this start-up company would be able to charge, we determined that a 20 percent increase would be unreasonable due to potential competition that would enter the market. Therefore, we assumed no price increases. In addition, our research revealed that royalty rates of 6 percent to 7 percent of revenues were higher than those charged for similar types of products. Therefore, we reduced the royalty rate to 4 percent, which was more in line with the market.

After going through each of these assumptions, we had a base forecast scenario. The only unanswered question at this point was when the company would generate its first revenues. Due to the extreme level of uncertainty related to this assumption, we performed five scenarios: the base scenario in which we used management's assumption, three scenarios in which we delayed the timing of when the company would generate its first revenues, and a final scenario in which we reduced the number of deals the company would obtain in each year.

Now that we had the revenue part of the forecast taken care of, we continued down the income statement to review management's cost of goods sold assumption. The company's forecast model had a detailed breakdown of all of the costs associated with producing its products. These costs were related to salaries, overhead, and other costs. We determined that management's cost of goods sold assumptions were reasonable except for the fact that there was no inflation factor built into the model to account for cost increases in future years. Therefore, we built a 2.5 percent inflationary factor into the forecast.

The next part of this assignment was determining the level of operating expenses the company would need to incur in order to achieve its projected revenues. We had a start-up company with a short operating history, no truly similar companies, and no industry benchmarking data. Therefore, we searched SEC filings for public companies that were involved in a similar industry, even though they may have been different from the subject company. For example, instead of using companies that develop alternative sources to the actual product, we may have looked for energy companies that were in the solar development business. The goal was to find companies that we could use to benchmark the growth in expenses against. All of these start-up companies might have similar growth cycles. After our search and elimination process was completed, four companies met our criteria. We analyzed the S-1 registration statements and 10-K filings for each of these companies to analyze how their expense structures and research and development budgets changed from inception to maturity. After analyzing the data for the public companies, we determined that management's expense forecast was relatively in line with these other companies. Therefore, we made very few changes to management's expense forecast.

A challenging part of this assignment was forecasting the balance sheet. The company's historical financial ratios were determined to be meaningless because the company was still in its very early stages of operation. In addition, management's forecast model included only short-cut calculations to arrive at estimated net cash flow. Nevertheless, we proceeded to forecast the company's balance sheet based on the following assumptions:

- *Cash*. Calculated as 3 months of operating expenses and cost of goods sold. At this stage of the business' operations, cash was being burned. Our forecast had to consider when the burn would stop, as well as the normal level of cash that was expected to be maintained going forward.
- *Accounts receivable*. Assumed a 45-day receivable collection period based on management's estimate. This seemed reasonable after we reviewed financial data for other companies that were considered to be good benchmark companies.
- *Prepaid expenses*. Increased by an inflationary rate of 2.5 percent annually. Management did not account for inflation in its expense forecast, which we adjusted for. As a result, we believed that the prepaid expenses would be based on a higher level of expenditures.
- *Capital expenditures*. Used the company's capital expenditure projections for the first 2 years. Thereafter, capital expenditures were increased at a 2.5 percent inflationary rate over depreciation.
- *Other assets*. Remained constant throughout the forecast period. These were relatively minor.
- *Accounts payable*. Assumed a payment period of 30 days based on management's estimate. Management expected to pay its bills faster than it collected accounts receivable. This can create cash flow problems that must be considered as the valuation analyst reviews the results of the forecast.
- *Accrued expenses*. Increased at 2.5 percent annually to account for inflation.
- *Other liabilities*. Remained constant throughout the forecast period. Again, these were relatively minor.

At this stage in our analysis, we had all of the information necessary to forecast cash flow for the company. Based on our cash flow projections, we determined that the company would need to obtain additional funding in the short term in order to survive. The level of funding needed would depend on when the company's product would be accepted into the marketplace, allowing it to begin to generate revenues and, eventually, profits.

The preceding example details the level of analysis that is often required to properly evaluate a forecast provided by management. Performing this valuation required us to have a strong understanding of the company's operation, its potential customer base, its products and services, and its growth potential. The valuation analyst must have a clear understanding of all of the assumptions that go into management's forecast and how changes to these assumptions affect value. In the preceding case, simply accepting what management provided to us would have resulted in us overvaluing the company by a large margin. By the way, this public company had a market capitalization of over \$1.5 billion, but there was insider trading and a very thin float of the stock. A court appointed liquidator of a hedge fund that owned a controlling interest in this company wanted to know what it was really worth.

The level of scrutiny that the valuation analyst uses depends on many factors. Although this example was of a much larger company than many valuation analyst's value, even a smaller company can have similar issues. The only real difference is the amount of digits in the numbers. Obviously, with larger companies, the margin of error can be much greater.

Economic Conditions

The valuation analyst should also consider how different economic factors, such as gross domestic product (GDP), inflation, interest rates, consumer confidence, and so on affect the demand for the subject company's products and services. If it is determined that the company is heavily dependent on the economic climate, the valuation analyst should ensure that management's forecast is consistent with the outlook for the economy.

Many of the valuations that we performed during the 2008–2010 time frame involved companies that were severely affected by the global economic recession. In many cases, clients used this economic downturn as a means to justify bleak forecasts, resulting in lower values. When evaluating management's forecast, the valuation analyst needs to have an understanding of what part of the economic cycle the country or world is in as of the valuation date. If the economy appears to be bottoming out, a forecast of continued poor performance may not be reasonable because the company could potentially benefit from a moderate recovery.

As a real-life example, I was involved in a shareholder litigation involving a trucking company in late 2009. Management of the trucking company believed that the deterioration in the economy would continue to weigh heavily on the company's performance in the near term. However, after a careful analysis of the company's customer base and economic and industry forecasts, we determined that management's expectations were inconsistent with our analysis of this external data. The analysis that ultimately resulted in us placing little weight on management's expectations and preparing various forecast scenarios that were more in line with near-term economic and industry expectations is shown in exhibit 8.1.

EXHIBIT 8.1 Industry Analysis—Report Excerpt

Before we can properly forecast the company's revenues, we must look at the environment in which The Company operates. The economy was in turmoil during 2008 and a good part of 2009.

The U.S. economy entered a recession in December 2007. For the four quarters ended June 30, 2009, real gross domestic product (GDP) has contracted as follows:

TABLE 16 Change in Real Gross Domestic Product From Preceding Period, Annualized

	2008		2009	
	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.
Change in Real GDP	-2.7%	-5.4%	-6.4	-0.7%

(Source: Bureau of Economic Analysis, Press release dated September 30, 2009.)

Although the economy had clearly suffered during the year ended June 30, 2009, more recent indications "suggest that the recession has bottomed out and a recovery may already be underway." According to a survey of prominent U.S. economic and financial forecasters conducted by Consensus Economics Inc. on September 14, 2009, the consensus forecast for real GDP is as follows:

(continued)

EXHIBIT 8.1 Industry Analysis—Report Excerpt *(continued)***TABLE 17 Forecast Change in Real Gross Domestic Product from Preceding Period, Annualized**

	2009		2010				2011	
	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.
Real GDP	3.1%	2.4%	2.5%	2.8%	2.9%	3.2%	3.2%	3.5%

(Source: Consensus Forecast, U.S.A. [September 14, 2009].)

The *Value Line Investment Survey* included similar economic projections, calling for growth in the 2 percent to 3 percent range for the remainder of 2009 and continuing in that range in 2010. Once home prices and employment levels show improvement, Value Line predicts growth may surpass 3 percent on a sustained basis.

With resumed economic growth, corporate profits are expected to climb in 2010, and the consensus forecast expects nominal pre-tax corporate profits to grow by 9.7 percent in 2010 versus the prior year. Inflation is also expected to be a modest 1.9 percent in 2010.

The U.S. stock market appeared to be rallying on the improved outlook for the U.S. economy and had rallied considerably since bottoming out on March 3, 2009, as shown in table 18.

TABLE 18 Stock Market Indices

	March 3, 2009 Market Low (Closing Price)	October 2, 2009 (Closing Price)	% Change
S&P 500	672.88	1,025.21	52.36%
Dow Jones Industrial Average	6,547.05	9,487.67	44.91%
NASDAQ	1,268.64	2,048.11	61.44%

(Source: Yahoo! Finance.)

The recessionary environment hurt the trucking industry as shipping volumes declined with economic activity. This resulted in falling freight demand and increased competition. These factors, combined with falling fuel price surcharges due to declining diesel prices, resulted in revenue and profit declines for trucking companies. Fuel surcharges “move in tandem with the price of diesel fuel, which limits the effect that energy cost fluctuations have on earnings.”

Looking forward, an expanding economy should translate into improved results for the trucking industry. “Freight demand should pick up when economic conditions improve, since more goods will need to be shipped.” This should improve the profitability of the industry. With the prospects of increased diesel prices and improved demand, Value Line believes revenues will rise at a “fairly rapid clip.” Value Line’s forecast for the trucking industry is presented in table 19.

TABLE 19 Value Line’s Forecast for the Trucking Industry

	2009	2010	% Change	2012–2014	% Change
Revenues (% Mil)	\$23,135	24,650	6.5%	\$32,140	30.4%
Operating Margin	9.50%	11.60%		14.50%	

(Source: Value Line Investment Survey, September 4, 2009.)

EXHIBIT 8.1 Industry Analysis—Report Excerpt

Value Line's forecast suggests that the trucking industry is expected to bottom out in 2009, with improved revenues and operating margins expected in 2010 and beyond.

In addition to the economic and trucking industry forecasts, we examined the outlook for The Company's customers. Retailing companies are The Company's major customers. Although retailing had been hit hard by the economy, the industry is expected to bounce back in 2010. According to Value Line's retail store industry composite, industry revenues are projected to grow 6.7 percent in 2010 before advancing 17.9 percent from 2010–2014. Value Line's retail (special lines) industry composite is expected to experience 1.2 percent revenue growth in 2010, followed by 15.7 percent growth from 2010–2014.

In order to get more insight into The Company's prospects, we also looked at The Company's major customers. According to John Smith, The Company's top four customers, in no particular order are Best Buy, Target, TJX, and Macy's. We also looked at other large customers.

As a result of Circuit City's bankruptcy, Best Buy was growing, adding 2.7 percent market share in the three months ended July 31, 2009. Best Buy's comparable store sales were down 6.2 percent and 3.1 percent in the first two quarters of the year ended February 28, 2009. However, these sales are expected to improve going forward because Best Buy is projecting comparable store sales for the year ended February 28, 2010, to be flat to down 2 percent. For the year ended February 28, 2010, Best Buy anticipates adding 40–50 new U.S. stores to its existing 1,023 U.S. stores, an increase of 4 percent to 5 percent. Looking farther out, in its October 3, 2009 report, Standard & Poor expects approximately 50 new store openings in North America over the next six years, projecting mid-single digit annual growth in Best Buy's square footage over the next 5 years.

Pep Boys, a relatively new customer obtained by The Company according to John Smith's deposition, now ranks in The Company's top 10, saw revenues decline in 2008 and the first half of 2009 as the company continued a restructuring effort begun in 2007. After closing 33 stores in 2007, Pep Boys' store count remained unchanged in 2008 at 562 stores. However, Pep Boys' restructuring efforts were expected to bear fruit in the second half of 2009, as revenues are expected to grow for the remainder of the year. 2010 revenues are expected to grow by 2.5 percent, and the company hopes to add an additional 20–40 stores. Revenues are expected to grow 17.5 percent by 2014.

Target has weathered the recession quite well. Revenues increased 2.5 percent in 2008 thanks to the net addition of 91 stores, leaving the total store count at 1,682 at January 31, 2009. Although comparable store sales had declined in 2007 and the first half of 2008, this trend is expected to reverse and Standard & Poor expects a 1 percent same store increase in 2010. Value Line expects a significant improvement in comparable store sales in the third quarter of 2009. As a result of the economy, Target had slowed its store expansion in 2009. After averaging 94 new stores per year from 2005–2008, the company is expecting to add only 60 in 2009. Value Line expects 30 new stores in 2010 (1.7 percent growth) before expansion plans gradually ramp up. From 2010–2014, Value Line expects Target to add 160 stores, a 9 percent increase.

TJX Companies, Inc. has seen strong results despite the recession. Revenues increased 4 percent in 2008, with a 1 percent increase in same store sales. This strong growth has continued in 2009, as TJX's same store sales have continued to grow during the last half of the year by at least 3 percent for all of TJX's U.S. segments. Looking forward, TJX's management has forecast 2 percent to 4 percent same store sales growth in the second half of 2009. In 2010, Standard & Poor's expects same store sales to be flat to up modestly. Value Line projects an overall revenue increase of 3.3 percent in 2010. For 2009, TJX planned to be more conservative in its store openings as a result of economic conditions and planned to add 34 new U.S. stores, increasing its U.S. store total to 2,167, a 1.5 percent increase. Looking further out though, TJX plans to ultimately build 3,050 to 3,100 U.S. stores, an increase of 40.7 percent to 43 percent over projected store counts at the end of 2009. However, there is no time horizon provided for this ultimate expansion.

Macy's has been struggling since at least 2007, when sales first declined by 2.4 percent, followed by a 5.4 percent decline in 2008. Macy's store count has been declining modestly since the end of 2005: 5 in 2007 and 6 in 2008, leaving a count of 247 stores as of January 31, 2009. Looking at 2010, Macy's is expecting half of the slide that began in 2007. Value Line projects Macy's store count to be unchanged, whereas sales are expected to increase less than 1 percent. Although Macy's is expected to stabilize in 2010, sales growth is expected to continue to remain slow over the next several years.

(continued)

EXHIBIT 8.1 Industry Analysis—Report Excerpt *(continued)*

Sears Holdings Corp. is similar to Macy's in that its decline started before the recession began. Sears Holdings' domestic comparable store sales have declined every year since the predecessor's company's formation in 2003. In general, the performance of Sears stores has been the worst over the time period, as seen in the data in table 20.

TABLE 20 Change in Comparable Store Sales

Fiscal Year	Sears	K-Mart
2005	-8.4%	-1.2%
2006	-6.1%	-0.6%
2007	-4.0%	-4.7%
2008	-9.5%	-6.1%

Although Sears Holding Corp.'s sales have been declining, the store count has been relatively unchanged, as seen in table 21.

TABLE 21 Sears Holding Corp. Store Count

	Sears				Total Domestic
	K-Mart	Mall	Essential	Specialty	
2005	1,416	866	58	1,128	3,468
2006	1,388	861	74	1,095	3,418
2007	1,382	860	75	1,150	3,467
2008	1,368	856	73	1,233	3,530
% Change in Sears Holding Corp. Store Count					
2006	-2.0%	-0.6%	27.6%	-2.9%	-1.4%
2007	-0.4%	-0.1%	1.4%	5.0%	1.45%
2008	-1.0%	-0.5%	-2.7%	7.2%	1.8%

(Source: Sears Holding Corp. 10-K Forms filed March 17, 2009, March 26, 2008, March 28, 2007 and March 15, 2006.)

Looking forward, little is expected to change for Sears Holdings. In 2010, Standard & Poor forecasts a 6 percent decline in same store sales, with K-Mart continuing to outperform Sears. This continues the same trend that has generally been occurring since at least 2003. Store closures are expected to continue as well.

Clearly, 2008 and the first part of 2009 were tough periods for the economy, the trucking industry, and for The Company's customers. However, although the outlook for some of The Company's customers appears to be marginal at best, other customers are projecting a solid recovery as the economy improves. This bodes well for The Company in the future.

As can be seen in the analysis presented in exhibit 8.1, management's expectations of "doom and gloom" in the near term were inconsistent with short-term economic expectations. Economic forecasts indicated growth in the near term and, as a result, the company's largest customers were anticipating moderate near-term growth.

Industry Trends

Industry trends should also be considered when evaluating a forecast provided by management. Industry factors can include the size of the market, demand drivers, the competitive environment, barriers to entry, and the maturity of the industry. This would be a good time for the valuation analyst to consider all the factors discussed by Porter.

An understanding of the industry is of significant importance when valuing or performing lost profits calculations for companies with limited or no operating history. Oftentimes, I will receive a forecast from management or an opposing expert in an economic damages litigation in which the forecast has the subject company easily penetrating an industry that is already saturated with companies that generate millions and, in some cases, billions of dollars in revenues. In addition, these companies have much larger advertising budgets, capital resources, and brand recognition than the subject. How realistic is it for a subject company with no brand recognition and an inexperienced management team to immediately enter a mature market with large companies that have already established a market presence and capture a 30 percent market share? This further stresses the importance of understanding the industry and its major players in order to better evaluate the growth potential for the subject company.

The following is a list from the American Society of Appraisers (ASA) of industry factors that the valuation analyst may need to consider in preparing a forecast:

1. Growth prospects for the subject company's industry at the national and local level
2. Demand factors
3. Maturity of the industry
4. Structure of the industry and level of competition
5. Technological or economic obsolescence factors
6. Barriers to competitor entry⁴

Preparing the Forecast

Now let's assume that no forecast is provided by management or the forecast provided is not reasonable. What does the valuation analyst do? The lack of a forecast does not relieve the valuation analyst of the responsibility of preparing a forecast on his or her own. In fact, the ASA corroborates this practice and included the following statement in its course materials:

Practitioner—If the subject company does not prepare forecasts, the appraiser may consider either working with management to prepare forecasts or independently preparing a forecast.⁵

The starting point of the forecast process is the analysis and adjustment of historical financial statements to reflect the economic income of the business being valued. Some of the more common adjustments are as follows:

- The inventory accounting method may be adjusted to conform to industry practice or expected future treatment. This could include a change in inventory accounting from last in, first out to first in, first out.
- Depreciation may be adjusted to reflect current economic write-offs more accurately, based on the value determined by the machinery and equipment appraisers or real estate appraisers.
- Nonrecurring items should be removed.
- Non-operating income or expense items may be eliminated, if appropriate.
- Related party transactions may need to be adjusted if the results are different from those that would be negotiated at arm's length.

⁴ BV202N, *The Income Approach*. (American Society of Appraisers Basic Business Valuation Course): 25 (2012 version).

⁵ *Ibid.*

Some of the normalization adjustments will be made regardless of whether the valuation subject is a controlling interest or a minority interest. These types of adjustments would be those that affect the future benefit stream, particularly when the historical operations are expected to be different from the future operations. For example, a company may have incurred a hurricane loss in the past year that would not be expected to occur again in the foreseeable future. Certainly, as a valuation analyst, I do not want to start trying to forecast hurricanes. However, in certain parts of the world, this may be more predictable than in others.

Historical operating results should also be analyzed to gain an understanding of the quality of the earnings reported. The valuation analyst should also look for trends that may help predict the future with respect to the direction in which the company is headed. These trends may indicate growing, declining, flat, or volatile income streams. If a company has been growing at an exceptionally high rate, the likelihood is slim that this will continue into the future. Because this rate cannot be maintained, the valuation analyst must compensate for it in the forecast by reducing the growth going forward.

If the company is declining, the terminal value (the period that is after the discrete forecast period—discussed in more detail in chapter 12) may be calculated on the basis of liquidation, as opposed to that of a going concern. If a decline is forecast indefinitely into the future, the valuation analyst should consider whether the highest and best use of the business is in liquidation. If so, the business should be valued in this manner.

If the company's future appears to be flat, there is no reason to use a multiperiod valuation model; in this situation, a single period capitalization model will suffice (this will also be discussed further in chapter 12). When a company's results are erratic, forecasts become extremely difficult and may have little value in the valuation process. An averaging of history may prove to be beneficial, but this should be done only as a last resort.

The valuation analyst shouldn't forget to use other information that was gathered from the company or through his or her own research. Customer contracts can help the valuation analyst forecast expected changes as a result of a customer's growth. For example, if the valuation analyst was valuing a trucking firm that had major contracts with large retail customers, the economic and industry analysis would become important in helping to forecast the trucking firm's growth.

The next question that the valuation analyst should ask is how far into the future the forecast should go. The forecast should go out far enough that it represents sustainable future levels of income for the company. If the company has been showing losses, the forecast should go out far enough to allow the company to return to a level of normal sustainable profitability. The same is true if the company has been making large profits. Go out far enough to reflect the normal conditions for the company. The idea is to go out beyond periods that contain the peaks and valleys that may be short term. The willing buyer is going to be looking for the income stream that he or she can count on beyond the near term.

Another consideration related to the forecast period is that the forecast should go out far enough so that the business can get through a period of significant plant construction or expansion. If new products are being introduced, the forecast should extend to the point that the results of the new product's introduction can be understood. If a merger or acquisition is expected to take place or is in the process of taking place, the forecast should extend to the period after the combination is completed.

The anticipated rate of growth is the primary factor to be considered in how far the forecast should be continued. Stabilization is the goal to be achieved in the forecast period. This is frequently much more difficult than it seems. The valuation analyst will have to conduct a thorough analysis of the subject company, the economy, and the industry, if he or she hopes to get reasonably close. Keep in mind that during the earlier years of the forecast, year-to-year growth can exceed the discount rate selected, but that cannot continue beyond the terminal year because the discount rate minus growth (capitalization rate) cannot logically be less than zero. Imagine: a willing seller paying the willing buyer to take the business off his or her hands? A negative discount rate would create this result. Be patient and this will make more sense after reading chapters 12 and 13.

A common error made among inexperienced valuation analysts who rely on computer software to assist with (or do) the forecast is to allow these programs to determine the period to be used in the forecast. Most software programs allow either a 5- or 10-year period to be used for a forecast. This may not be the correct period for a particular valuation assignment. The facts and circumstances of each situation will be different and require a different forecast period. Do not depend on a software program to make decisions that require judgment!

In practice, the most common forecast period is five years. Some valuation analysts consider this period to be a normal business cycle, whereas others focus on Revenue Ruling 59-60, which suggests five years. There is no magic about five years. The period used can be two years, three years, seven years, or even longer. It is almost always difficult to forecast the future, especially if the future is many years forward.

Preparing forecasts is so dependent on individual characteristics that the standard business valuation literature provides little support on the actual mechanics involved. To accurately prepare a forecast will take adequate analysis, research, and documentation. Unfortunately, there is no quick or simple method. As long as the valuation analyst takes his time and applies common sense, a reasonable forecast can be prepared.

The process of creating a forecast can be broken down into a series of logical steps. First, the income statement must be forecast. The balance sheet is so reliant on the income statement that it becomes impossible to forecast the balance sheet first. After both the income statement and balance sheet are forecast, it then becomes possible to calculate net cash flow.

The Sales Forecast

The forecast of the income statement must begin with the forecast of sales. Logically, how could the valuation analyst possibly determine cost of sales, variable costs, or taxes if she doesn't know what sales are? Sales are often the most important component of the forecast because nearly every number will rely on it. Obviously, the most time should be spent here.

Determining future sales will involve both qualitative and quantitative analysis. A series of questions must be answered. What has the company done historically? What are the growth trends? Are sales increasing or decreasing? Have there been any major changes (customers, products, facilities, and so on)? Is the company's growth similar to the industry? What is the outlook for the industry? How is the current economic climate affecting the company and the industry? These are only a few of the factors that must be addressed when forecasting sales.

When forecasting sales, the valuation analyst must first identify where the company is in its life cycle and how its product is positioned in the marketplace. Certain factors to consider when preparing a revenue forecast include the following:

- **Inflation.** Inflation should be considered in estimating future gross revenues. When current rates are extreme, relative to historical ranges, the expert should usually reflect gradual increases or decreases toward more normal rates during the forecast period.
- **Product demand.** Products typically go through a life cycle that includes four distinct phases: introduction, growth, maturity, and decline. In estimating future revenues, the valuation analyst should consider the life cycle stage of the company's primary products.
- **Competition.** Within each industry, many companies often compete for a share of the market, and such competitive pressures must be considered in estimating future revenues. Some factors to consider in estimating the effect of competition are as follows:
 - The company's current market share.
 - The company's trend in market share. (Is it increasing or decreasing?)
 - The company's business plan. This should specifically address how the company proposes to keep or increase market share through such means as reduced prices, increased promotional expenditures, and product improvements supported by increased research and development expenditures.

Revenue Factors for Certain Industries

When estimating future revenues, it is always helpful to understand the key drivers for the particular industry in which the valuation analyst is working. This will allow the valuation analyst to formulate numbers that make sense and test the reasonableness of the result. Some of the factors to consider for certain industries are included in box 8.1.

BOX 8.1 Industry Revenue Factors for Consideration

Consider the following industry revenue factors when preparing a forecast:

- Professional service businesses, such as engineering, accounting, and law firms' chargeable hours and average billing rates
- Nursing home and hospital beds available, occupancy rates, and average charge per patient
- Homebuilders' number of home sales closed and average closing prices
- Apartment lessors' units available, expected occupancy rates, and average rent per unit
- Restaurants' tables turned per day and average charge per table
- Commercial real estate lessors' net rentable area and average annual rent per square foot
- Manufacturers' units shipped and average selling prices
- Retail stores' floor space and sales per square foot
- Agricultural producers' acres planted, yield per acre, and selling price
- Associations' number of members and annual dues

Sales Forecasting Techniques

There are various methods that can be used to forecast future revenues. These methods range from being as simple as using an average historical growth rate to as complex as running a Monte Carlo simulation. Whatever method is used to forecast revenues, the ultimate goal is to produce a forecast that is reasonable, supportable, and reflective of the company's future growth prospects and expectations. It is important to note that FASB has issued a new pronouncement on revenues, which will be effective for publicly traded companies in 2018 and for closely held companies in 2019. This new pronouncement will mandate a new five-part test to see if any particular invoice qualifies as revenue. Valuation analysts should be mindful of this new pronouncement and the impact it may have on the subject company's revenue numbers as they forecast future sales.

Many of the methods that will be discussed use the company's historical growth trends as a basis for predicting the future. Although revenue forecasts should be indicative of the future, historical performance is often a good indicator of what the future will look like. A discussion of some of the methods that can be used to forecast revenues follows.

Average Historical Growth Rate

One way to forecast future revenues is to calculate a company's historical average revenue growth rate over a certain period of time and use this growth rate to increase revenues into the future. This method of forecasting revenues works well for mature, noncyclical companies that have achieved stable and predictable revenue growth historically.

There are various ways to calculate an average historic growth rate. The most commonly used methods are the arithmetic mean and the geometric mean. When forecasting the future, the arithmetic mean is the more appropriate measure to use because it incorporates the year-to-year variability of a company's revenue growth, whereas the geometric mean does not.

When forecasting revenues using an arithmetic average historical growth rate, the valuation analyst must ensure that the historic rate of growth achieved by the company is a good indication of the future. For example, if the valuation date is December 31, 2010 (and I picked this date because it was shortly after the really bad recession), calculating an average growth rate over the most recent five years will likely not be a good indication of the future for a company whose performance is tied to the economy.

Another factor that needs to be considered when forecasting under this method is the length of the forecast. An arithmetic average growth rate over the most recent 3 years may not be a good indication of a company's revenue growth over the next 10 years. The valuation analyst should carefully analyze trends in the company's revenues as far back as possible to determine the appropriate period of time that best reflects future expectations.

A portion of a real valuation of a company that owns and operates health clubs is shown in exhibit 8.2. This exhibit demonstrates what to do with management's forecasts (or budget, in this instance) and how to analyze the historical data to determine the reasonableness of the budgets.

EXHIBIT 8.2 Sales Forecast

An important component of a business valuation involves the development of a financial forecast that can be used in the application of the income approach to valuation. This can be accomplished in a number of different ways. The courts have greatly favored the use of contemporaneous forecasts that are prepared by a company, as opposed to those that are prepared for a litigation. However, many companies do not forecast far enough into the future for the analyst to have the ability to solely rely on management's forecasts.

In this business valuation, the analyst was provided with annual budgets for the years ending December 31, 2014 and 2015, both prepared on a contemporaneous basis before this analyst was engaged to prepare this valuation. The 2014 budget would have been prepared before the litigation commenced, and the 2015 budget had started being prepared in February and March of 2014 and, therefore, was *known or knowable* at the valuation date.

The budgets provided by management for 2014 were extremely detailed and broken down on a month-by-month basis for the income statements. Management also provided a budgeted balance sheet and cash flow statement for the year ended December 31, 2015. These budgets were partially used in the application of the future in this analysis. This will be explained as the discussion of the underlying assumptions in the forecast proceeds.

Table 19 summarizes the annual 2014 and 2015 budgets prepared by management.

TABLE 19 Management's Budgets

	2014	2015
Total Revenue	\$73,165,223	\$86,120,938
Cost of Goods Sold	1,470,164	1,408,043
Gross Profit	\$71,695,059	\$84,712,894
Operating Expenses	62,816,507	75,689,268
Earnings Before Interest, Taxes Depreciation and Amortization	\$ 8,878,551	\$ 9,023,626
Other Income/Expenses		
Depreciation and Amortization	\$11,358,922	\$12,675,339
Interest Expense	2,425,928	1,801,389
State Income Tax Expense	300,000	300,000
Other Income/Expense	65,000	—
Total Other Expenses	\$14,149,851	\$14,776,728
NET LOSS	\$(5,271,299)	\$(5,753,102)

Note: Figures may not add due to rounding.

(continued)

EXHIBIT 8.2 Sales Forecast *(continued)*

After generating revenues of \$63,755,675 for the year ended December 31, 2013 and \$65,707,639 for the latest 12 months ended May 31, 2014, management was forecasting that The Company would generate \$73,165,223 of revenues in the year ending December 31, 2014. In addition, management expected The Company to grow further with revenues exceeding \$86,000,000 in 2015. This growth is expected to be driven primarily by opening new clubs in these years. On an unadjusted basis, profitability in 2013 was reported to be \$721,564, and for the latest 12 months ended May 31, 2014, The Company reported a loss of \$50,517. For 2014 and 2015, respectively, the losses are expected to exceed \$5,000,000 in each year. Management anticipates these losses to occur due to higher rental rates in the market and depreciation increases as a result of expected capital expenditures.

In order to test the reasonableness of management's budgets for the purpose of being able to utilize them in the application of the income approach, the analyst constructed a forecast based on historic operations, taking into consideration the Franchise Agreement and the economy and industry analysis that was discussed previously in this report. The analyst assembled financial statements for each of the health clubs owned and operated by The Company. Schedules 3–47 at the back of this report includes select financial data for each of the clubs operated by The Company since the year ending December 31, 2006. At the valuation date, some of these clubs are no longer owned and operated by The Company. This was discussed previously in this report.

The financial statement data for the corporate headquarters is provided in Schedule 48 for the same time frame. In order to proceed with the estimation of future club operations that are required to be opened up pursuant to the Franchise Agreement, the analyst analyzed the historic financial statements.

The analyst developed a profile to predict how a new club would perform in the future, and as a result, the historical financial statements for each of these clubs was restated based on the opening date of the club, to show the first five full years of existence. Each year was measured based on when the lease was signed for that club. This took into consideration the time and expenses incurred by The Company in performing build-outs and bringing clubs to an operational state. This is typical, because it takes many months, and sometimes greater than a year, to open a club from the date the lease is signed.

Schedules 49–85, in the back of the report, include the comparative income statements for those clubs remaining in the profile during the initial five year periods (that is, first year, second year, and so on, as opposed to calendar year 2006, 2007, and so on). This was accomplished by considering the number of days from when a lease was signed to 365 days. For example, if a lease was signed for a new club on December 9, 2009, the analyst combined 22 days of income statement data for 2009 and 343 days of data for 2010 to create a 365-day period from December 9, 2009 to December 8, 2010. This period would represent Year 1 for that club. Years 2–5 were calculated in a similar manner. The intention was to capture full years of revenues or expenses, or both, that also included average time periods between the signing of the lease and the opening of the club. This way, all pre-opening expenses would be properly captured in the profile.

The analyst used this data to create a profile of the “typical” club’s income statements during the first five years of operations for the purpose of forecasting the results for the many new clubs required to be opened in the future. In order to accomplish this, the data was analyzed in several different ways, as follows:

- Simple average of all clubs
- Simple average of clubs with five or more years of history
- Weighted average of all clubs, weighted by the month that the lease was signed (clubs established more recently received greater weight)
- Weighted average of all clubs, weighted by the quarter that the lease was signed (clubs established more recently received greater weight)
- Weighted average of all clubs, weighted by the year that the lease was signed (clubs established more recently received greater weight)

Each scenario was summarized to include the first five years of operations. Reviewing this data on a year-by-year basis provides the analyst with a better picture about what took place under each scenario tested. The results of this analysis were further summarized comparing each scenario by year. There was a considerable difference in the averages for Years 1–4. The simple average for clubs with five or more years of operations included 10 clubs that signed leases during 2006–2008. These clubs appear to have generated more revenues and better profitability in the first four years of operations than the average and weighted averages for all clubs considered in the profile.

EXHIBIT 8.2 Sales Forecast

In Years 1–3, the weighted averages were consistent with one another and, notably, had lower revenues and profitability than both of the simple averages. This indicates that revenue growth and profitability have declined for new clubs in recent years. The industry analysis indicated that new clubs do not have the same ability to grow as quickly as the older clubs did because of significant competition in the marketplace. There are more industry players trying to attract a limited number of potential users of the facilities. The market has become saturated with the entrance of a number of competitors operating low-cost fitness centers. The result is slower revenue growth for newer clubs.

Author's Note: I have omitted the expense discussion to save room

Because the weighted average income statements were relatively consistent with one another, the analyst averaged the three scenarios to create the profile, which is summarized in table 20.

TABLE 20 Club Profile—Average Of Weighted Average Profiles

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues	\$ 538,861	\$1,732,928	\$2,309,748	\$2,582,288	\$2,682,457
Cost of Goods Sold	14,731	41,728	48,067	43,516	45,328
Gross Profit	\$ 524,130	\$1,691,199	\$2,261,681	\$2,538,772	\$2,637,129
Operating Expenses	798,885	1,296,796	1,481,649	1,451,180	1,374,585
Other Income	3,550	1,453	1,421	323	13,819
EBITDA	\$(271,206)	\$ 395,856	\$ 781,453	\$1,087,915	\$1,276,363
Depreciation and Amortization	153,030	272,603	304,798	227,136	199,576
EBIT	\$(424,236)	\$ 123,254	\$ 476,655	\$ 860,780	\$1,076,787
Interest Expense	36,969	68,193	54,202	40,920	29,256
EBT	\$(461,204)	\$ 55,061	\$ 422,452	\$ 819,859	\$1,047,532
Taxes	35	262	207	(174)	(821)
NET INCOME (LOSS)	\$(461,239)	\$ 54,798	\$ 422,246	\$ 820,033	\$1,048,352

Note: Figures may not add due to rounding.

Based on the profile, the typical new club generates revenues of \$538,861 in Year 1 and reaches maturity in Year 4 with about \$2.6 million in revenues. Net income increases from a loss of \$461,239 in Year 1 to positive income of \$1,048,352 in Year 5.

The analyst also analyzed the profile on a common size basis and by its growth rates, which are summarized in tables 21 and 22. Common size financial statements allow an analysis to be performed in which each line item is reflected as a percentage of revenues. This allows trends to be examined regardless of the magnitude of the dollars.

(continued)

EXHIBIT 8.2 Sales Forecast *(continued)***TABLE 21 Club Profile—Common Size**

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of Goods Sold	2.73%	2.41%	2.08%	1.69%	1.69%
Gross Profit	97.27%	97.59%	97.92%	98.31%	98.31%
Operating Expenses	148.25%	74.83%	64.15%	56.20%	51.24%
Other Income	0.66%	0.08%	0.06%	0.01%	0.52%
EBITDA	-50.33%	22.84%	33.83%	42.13%	47.58%
Depreciation and Amortization	28.40%	15.73%	13.20%	8.80%	7.44%
EBIT	-78.73%	7.11%	20.64%	33.33%	40.14%
Interest Expense	6.86%	3.94%	2.35%	1.58%	1.09%
EBT	-85.59%	3.18%	18.29%	31.75%	39.05%
Taxes	0.01%	0.02%	0.01%	-0.01%	-0.03%
NET INCOME (LOSS)	-85.60%	3.16%	18.28%	31.76%	39.08%

Note: Figures may not add due to rounding.

TABLE 22 Club Profile—Growth Rates from Previous Year

	Year 1	Year 2	Year 3	Year 4
Revenues	221.59%	33.29%	11.80%	3.88%
Cost of Goods Sold	183.27%	15.19%	-9.47%	4.16%
Gross Profit	222.67%	33.73%	12.25%	3.87%
Operating Expenses	62.33%	14.25%	-2.06%	-5.28%
Other Income	-59.06%	-2.20%	-77.29%	4180.90%
EBITDA	NM	97.41%	39.22%	17.32%
Depreciation and Amortization	78.14%	11.81%	-25.48%	-12.13%
EBIT	NM	286.73%	80.59%	25.09%
Interest Expense	84.46%	-20.52%	-24.50%	-28.51%
EBT	NM	667.25%	94.07%	27.77%
Taxes	654.20%	-21.12%	-184.07%	372.11%
NET INCOME	NM	670.54%	94.21%	27.84%

NM = Not meaningful.

EXHIBIT 8.2 Sales Forecast

The analyst noted a gradual decline in operating expenses as a percentage of revenues in Years 4 and 5. This makes sense because revenues continue to grow in these years. However, what is surprising is that the dollar amount of operating expenses also declines in these years. This causes a further decline in the percentage. This takes place because the number of clubs used in each year of the profile declines as the newer clubs lack financial history for the full 5-year period. Therefore, the profile relies more heavily on the older clubs in Years 4 and 5 as compared to Years 1–3. Considering this factor, the decline in operating expenses further highlights the fact that operating expenses have been lower for the older clubs than the more recently established clubs and suggests that Years 4 and 5 operating expenses could be higher than the profile indicates. Because the profile is based on The Company's actual historical data that was *known or knowable* as of the valuation date, the analyst used the profile for the purposes of forecasting new club financial data. The analyst will consider the fact that the profile may understate operating expenses (and overstate profitability) later in the valuation analysis.

The Company's forecasted income statement is presented in table 23.

TABLE 23 Income Statement Forecast for the Years Ended May 31,

	Adjusted 2014	2015	2016	2017	2018	2019
Sales	\$65,707,639	\$82,515,708	\$97,854,802	\$111,585,926	\$121,136,564	\$131,576,129
Cost of Goods Sold	1,111,460	1,395,772	1,655,237	1,887,502	2,049,053	2,225,641
Gross Profit	\$64,596,179	\$81,119,936	\$96,199,565	\$109,698,424	\$119,087,511	\$129,350,488
Operating Expenses	51,752,878	63,798,739	75,097,808	85,859,188	93,726,800	101,936,805
Other Income	136,262	171,118	202,928	231,403	251,208	272,858
Earnings Before Interest, Taxes, Depreciation and Amortization	\$12,979,563	\$17,492,315	\$21,304,685	\$ 24,070,639	\$ 25,611,920	\$ 27,686,541
Depreciation and Amortization	9,523,355	10,309,105	12,312,601	14,533,019	16,981,571	10,309,732
Earnings Before Interest and Taxes	\$ 3,456,208	\$ 7,183,210	\$ 8,992,084	\$ 9,537,620	\$ 8,630,349	\$ 17,376,809
Interest Expense	1,624,917	—	—	—	—	—
Earnings Before Taxes	\$ 1,831,291	\$ 7,183,210	\$ 8,992,084	\$ 9,537,620	\$ 8,630,349	\$ 17,376,809
Taxes	343,367	1,346,852	1,686,016	1,788,304	1,618,190	3,258,152
NET INCOME	\$ 1,487,924	\$ 5,836,358	\$ 7,306,068	\$ 7,749,316	\$ 7,012,158	\$ 14,118,657

Note: Figures may not add due to rounding.

(continued)

EXHIBIT 8.2 Sales Forecast *(continued)*

As previously discussed, The Company carries a considerable amount of debt as part of its capital structure. As such, the analyst decided to use an invested capital basis (previously referred to as *debt-free*) to take the impact of the debt service out of the analysis because a hypothetical willing buyer could introduce a different capital structure into The Company. This eliminates the need to forecast potential rising interest rates, and it allows the analyst to consider The Company's profitability without interest expense. This is the manner in which most acquirers would view The Company.

On an invested capital basis, net income represents income to both the equity and debt holders. Cash flow is forecasted in a similar manner. The analyst will account for the actual amount of debt at the end of the valuation process.

The following assumptions went into the income statement forecast.

1. Revenues: In order to forecast revenues, the analyst analyzed the financial statements of the existing clubs based on the number of years each club was in operation. Clubs were grouped based on the number of years in operation so it was more evident about what trends were taking place within the profile of the existing clubs. Because the valuation date in this matter is June 11, 2014, the financial statements for the existing clubs were restated to include the financial results for the 12 months ended May 31 of each year. This is the information that was *known or knowable* as of the valuation date. The use of data subsequent to the valuation date would be improper and violate good valuation practice.

The analyst used the club financial statements that are presented in the back of this report as Schedules 3–37 and converted each club to a latest 12-month period ending May 31. These financial statements are included as Schedules 86–121 in the back of the report. The use of the fiscal year-end financial statements allows the analyst to forecast full year periods without having to use a stub period for 2014, which includes seven months. The results are the same, but the analysis performed provides a better comparison on a year-by-year basis between the historical and future financial performance of The Company.

The data in table 24 includes revenues by club for the years ended May 31, 2010 through 2014, the most relevant period used to forecast the future.

TABLE 24 Revenues for the Years Ended May 31,

Club No.	2010	2011	2012	2013	2014	Year
1	\$2,490,500	\$2,533,957	\$2,429,733	\$2,184,236	\$1,913,830	6+
2	3,068,313	3,659,035	3,493,442	2,922,027	2,362,513	6+
3	1,418,530	1,637,680	1,730,026	1,660,414	1,571,262	6+
4	1,915,351	2,567,106	2,649,239	2,409,951	1,991,705	6+
5	2,261,232	3,048,565	3,136,743	3,059,172	2,929,561	6+
6	2,588,938	3,895,477	4,363,979	4,345,544	3,948,656	6+
7	741,038	1,020,664	1,039,329	995,505	959,991	6+
8	1,112,030	2,210,124	2,447,460	2,372,312	2,234,062	6+
9	942,141	3,080,395	4,323,078	4,025,240	3,179,325	5
10	815,182	2,563,054	3,245,217	2,635,606	1,959,791	5
11	280	1,251,349	3,487,387	3,988,757	3,654,304	5
12	—	93,853	859,078	1,944,111	2,218,706	4

(Table continued)

EXHIBIT 8.2 Sales Forecast

TABLE 24 Revenues for the Years Ended May 31, (continued)

Club No.	2010	2011	2012	2013	2014	Year
13	4,075,830	3,976,394	3,664,768	3,351,092	2,957,813	6+
14	—	7,383	794,362	1,995,535	2,167,722	4
15	—	6,785	897,903	2,209,854	2,229,924	5
16	—	18,028	693,725	1,753,496	1,969,394	4
17	—	134,165	914,744	1,783,831	1,861,116	4
18	—	—	36,163	561,707	1,486,751	4
19	—	—	480,738	1,527,704	2,155,719	5
20	—	(193)	416,464	1,186,500	1,515,873	3
21	—	424	667,022	2,047,271	2,732,941	3
22	—	—	124	411,601	1,181,123	2
23	—	—	—	125,018	664,286	2
24	—	—	674,163	2,141,066	2,912,328	4
25	—	—	—	64,638	534,300	2
26	—	—	—	236,684	1,115,700	2
27	—	—	—	140,838	748,698	2
28	2,407,621	2,665,450	2,670,694	2,380,382	2,074,945	NP 6+
29	1,943,529	1,985,021	1,978,906	1,785,374	1,432,938	NP 6+
30	1,729,091	1,938,625	1,911,083	1,782,931	1,629,825	NP 6+
31	2,464,016	2,314,991	2,107,997	1,964,323	1,847,846	NP 6+
32	1,628,421	1,821,320	1,863,693	1,764,522	1,620,398	NP 6+
33	—	—	120	643,897	1,989,940	NP 2
34	—	—	—	—	106,624	NP 1
35	—	—	—	—	28,336	NP 1
Corporate	54,586	(387,500)	(2,003)	(2,790)	(649)	
TOTAL CLUB AND CORPORATE REVENUES	\$31,656,628	\$42,042,148	\$52,975,376	\$62,398,348	\$65,887,594	

Note: Figures may not add due to rounding.

(continued)

EXHIBIT 8.2 Sales Forecast *(continued)*

The last column in the previous table indicates the number of periods that the club has been in existence. For example, an item with "6+" indicates that this club has been operational for six or more years. Those items that are noted with an "NP" represent those clubs that were excluded from the profile for the new clubs. The reason that they are included in this table is to make certain that the figures are all accounted for from the financial statements. The total revenues by club were summarized from the internal financial statements, which were slightly different from the audited financial statements (under \$180,000 or 0.27 percent), but this difference is immaterial to the analysis. Therefore, the analyst feels confident that the correct level of revenues was captured for the analysis.

Using the information from table 24 allowed the analyst to summarize the information as presented in table 25.

TABLE 25 Historical Club Revenues

	2010	2011	2012	2013	2014
Clubs					
Total Revenues for All Clubs in Year 6+	\$19,671,761	\$24,549,001	\$24,954,719	\$23,300,253	\$20,869,392
Total Revenues for All Clubs in Year 5	1,757,603	6,901,583	12,434,324	14,387,161	13,179,063
Total Revenues for All Clubs in Year 4	—	253,427	3,972,234	10,179,747	12,616,017
Total Revenues for All Clubs in Year 3	—	230	1,083,486	3,233,771	4,248,814
Total Revenues for All Clubs in Year 2	—	—	124	978,779	4,244,106
Clubs Not Included in Profile					
Total Revenues for All Clubs in Year 6+	10,172,678	10,725,407	10,532,372	9,677,531	8,605,951
Total Revenues for Club in Year 2–	—	120	643,897	1,989,940	
Total Revenues for Clubs in Year 1	—	—	—	—	134,960
Corporate	54,586	(387,500)	(2,003)	(2,790)	(649)
Total Current Clubs	\$31,656,628	\$42,042,148	\$52,975,376	\$62,398,348	\$65,887,594

Note: Figures may not add due to rounding.

(Table continued)

EXHIBIT 8.2 Sales Forecast

TABLE 25 Historical Club Revenues (continued)

	2010	2011	2012	2013	2014
Growth Rates					
Total Revenues for All Clubs in Year 6+		24.79%	1.65%	-6.63%	-10.43%
Total Revenues for All Clubs in Year 5		292.67%	80.17%	15.71%	-8.40%
Total Revenues for All Clubs in Year 4		—	1467.41%	156.27%	23.93%
Total Revenues for All Clubs in Year 3		—	NM	198.46%	31.39%
Total Revenues for All Clubs in Year 2		—	—	NM	333.61%
Clubs Not Included in Profile					
Total Revenues for All Clubs in Year 6+		5.43%	-1.80%	-8.12%	-11.07%
Total Revenues for Club in Year 2		—	—	NM	209.05%
Total Revenues for Clubs in Year 1		—	—	—	—
Corporate		-809.89%	-99.48%	39.27%	-76.74%
Total Current Clubs		32.81%	26.01%	17.79%	5.59%

Note: NM = Not meaningful.

The actual revenues and the related growth rates for the years ended May 31, 2010 through 2014 are presented in table 25. This table also includes those clubs that were not included in the profile, which ties the figures out to the total revenues generated by all the clubs. The historic revenue growth rates were analyzed, and it was noted that the clubs exhibited similar patterns of growth depending on which year of operation they were in. Clubs experienced substantial growth through their second or third year of operation, before growth moderated in the fourth year. Club revenues in the fifth year of operation experienced an 8.40 percent decline, whereas clubs in existence for six or more years experienced declines of 6.63 and 10.43 percent over the last two fiscal years, respectively. This decline is consistent with the saturation of the industry having an adverse impact on membership growth and, therefore, revenues. The analyst investigated this trend further by analyzing the changes in the average number of members for each of The Company's clubs.

The analyst was provided with the monthly number of members for each club in operation from 2010–2013. The 2010 data included the number of members per club from April–December of that year. The 2012 data only included membership figures from January–May of that year. This data represented all the membership information that The Company could provide. In order to analyze the trends in the membership, the analyst calculated the average monthly number of members in each period. Overall, the number of members declined in 2013 for clubs in operation for five or more years, while membership for newer clubs grew rapidly. A summary of these trends for clubs with two or more years of membership data is presented in table 26.

(continued)

EXHIBIT 8.2 Sales Forecast *(continued)*

TABLE 26 Membership Summary

Club No.	Years Operation	Average Number of Members				% Change		
		2010	2011	2012	2013	2011	2012	2013
1	6+	13,871	14,595	13,814	9,665	5.2%	-5.3%	-30.0%
2	6+	19,049	21,761	19,085	11,498	14.2%	-12.3%	-39.8%
3	6+	8,952	10,387	10,615	7,884	16.0%	2.2%	-25.7%
4	6+	13,062	15,448	15,124	9,407	18.3%	-2.1%	-37.8%
5	6+	14,475	17,313	18,521	14,622	19.6%	7.0%	-21.1%
6	6+	19,056	23,925	27,259	19,177	25.5%	13.9%	-29.6%
7	6+	6,070	6,327	6,565	5,169	4.2%	3.8%	-21.3%
8	6+	12,404	14,398	14,500	11,124	16.1%	0.7%	-23.3%
9	5	16,514	26,356	27,711	15,602	59.6%	5.1%	-43.7%
10	5	14,867	20,646	19,431	9,537	38.9%	-5.9%	-50.9%
11	5	—	20,378	26,297	18,514	—	29.0%	-29.6%
12	4	—	3,688	9,101	10,537	—	146.8%	15.8%
13	6+	20,063	20,401	19,193	13,834	1.7%	-5.9%	27.9%

(Table continued)

EXHIBIT 8.2 Sales Forecast

TABLE 26 Membership Summary *(continued)*

Club No.	Years Operation	Average Number of Members				% Change		
		2010	2011	2012	2013	2011	2012	2013
14	4	—	3,878	9,962	10,529	—	156.9%	5.7%

EXHIBIT 8.2 Sales Forecast

TABLE 26 Membership Summary (continued)

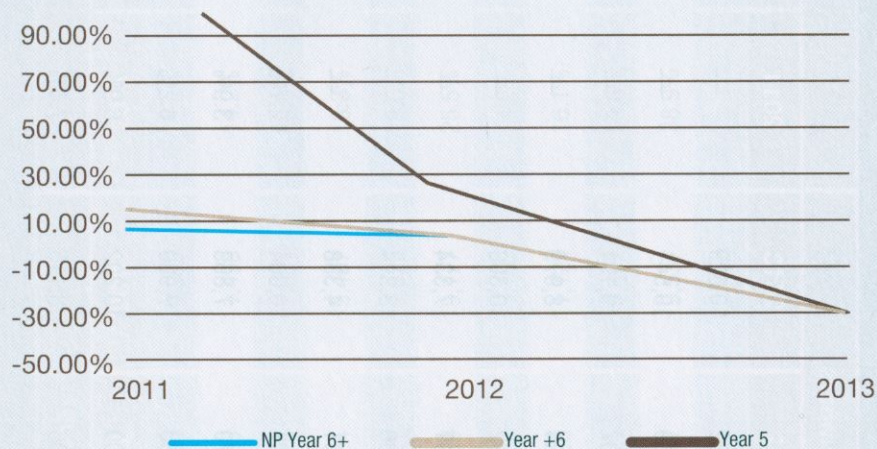
Club	Years	Average Number of Members				% Change		
No.	Operation	2010	2011	2012	2013	2011	2012	2013
14	4	—	3,878	9,962	10,529	—	156.9%	5.7%
15	5	—	3,010	10,559	10,541	—	250.8%	-0.2%
16	4	—	1,912	7,707	9,191	—	303.0%	19.3%
17	4	—	5,226	9,324	8,979	—	78.4%	-3.7%
19	5	—	656	4,792	10,308	—	630.5%	115.1%
20	3	—	1,659	5,401	7,334	—	225.6%	35.8%
21	3	—	1,842	6,860	13,314	—	272.4%	94.1%
24	4	—	371	5,551	14,338	—	1396.3%	158.3%
28	NP 6+	13,755	15,425	15,107	10,004	12.1%	-2.1%	-33.8%
29	NP 6+	11,092	11,528	12,070	7,863	3.9%	4.7%	-34.9%
30	NP 6+	10,374	11,015	11,230	7,930	6.2%	1.9%	-29.4%
31	NP 6+	14,836	13,817	13,300	10,202	-6.9%	-3.7%	-23.3%
32	NP 6+	9,961	10,708	11,006	8,115	7.5%	2.8%	-26.3%

(continued)

EXHIBIT 8.2 Sales Forecast *(continued)*

The analyst also considered the change in the total number of members for clubs in their fifth and sixth years of operations. These groupings were consistent with the manner in which clubs were classified in table 26. Clubs in their sixth year of operation experienced declines in the number of members of nearly 30 percent in 2013. Clubs in their fourth year of operation exhibited similar declines in membership of 27.36 percent in 2013. These trends are presented graphically in figure 12.

Figure 12 Percentage Change in Average Membership for Clubs in Years Five and Six¹



¹ In 2013, The Company adjusted its membership records to write off nonpaying members. This adjustment caused the 2013 decline to appear larger than it was. However, there was still a decline in paying members in 2013.

After considering the historical trend of revenues, the analyst forecasted revenues for existing clubs. For 2015, the analyst forecasted that the declines in revenues for existing clubs in their fifth or more year of operation would start to slow down but would still, nevertheless, take place based on continued market saturation in the City area. Thereafter, the analyst reduced each year's decline by 1 percent on the basis that these clubs cannot continue to decline by 10 percent per year or they would go out of business. Although the decline for clubs that had five years of operations was slightly lower, the analyst included the same 10 percent decline for 2015, with a 1 percent reduction each year thereafter in anticipation that these clubs would follow suit with the older clubs.

Clubs with four years of operations were forecast to continue to have a positive upward revenue trend of 11.8 percent based on the historical profile data. Thereafter, these clubs were expected to follow the same trend as the earlier clubs. Revenues for clubs in their third year of operations were forecasted to increase 33.29 percent in 2015 and 11.8 percent in 2016 based on the growth rates shown in the club profile. The growth rates from the club profile for other years were used.

For those older clubs that were not included in the profile, the same growth percentages as described previously based on their current year of operations were used. Based on the Franchise Agreement, The Company is obligated to open at least six new clubs per year. For those new clubs, revenues were based on the amounts in the new club profile. A summary of the revenue forecast is presented in table 27.

EXHIBIT 8.2 Sales Forecast

TABLE 27 Revenue Forecast for the Fiscal Year Ended May 31,

Clubs	2015	2016	2017	2018	2019
Clubs					
Total Revenues for All Clubs in Year 6+	\$18,782,453	\$17,092,032	\$ 15,724,669	\$ 14,623,943	\$ 13,746,506
Total Revenues for All Clubs in Year 5	11,861,156	10,793,652	9,930,160	9,235,049	8,680,946
Total Revenues for All Clubs in Year 4	14,104,653	12,694,188	11,551,711	10,627,574	9,883,644
Total Revenues for All Clubs in Year 3	5,663,067	6,331,285	5,698,156	5,185,322	4,770,497
Total Revenues for All Clubs in Year 2	13,648,667	18,191,742	20,338,289	18,304,460	16,657,059
Clubs Not Included in Profile					
Total Revenues for All Clubs in Year 6+	7,745,356	7,125,728	6,698,184	6,430,257	6,301,652
Total Revenues for Club in Year 2	6,399,471	8,529,590	9,536,044	8,582,440	7,810,020
Total Revenues for Clubs in Year 1	1,077,721	3,465,856	4,619,495	5,164,576	4,648,118
Corporate	—	—	—	—	—
Total Current Clubs	\$79,282,545	\$84,224,072	\$ 84,096,709	\$ 78,153,620	\$ 72,498,441
New Clubs 2015	3,233,164	10,397,567	13,858,486	15,493,727	16,094,744
New Clubs 2016	—	3,233,164	10,397,567	13,858,486	15,493,727
New Clubs 2017	—	—	3,233,164	10,397,567	13,858,486
New Clubs 2018	—	—	—	3,233,164	10,397,567
New Clubs 2019	—	—	—	—	3,233,164
Total Forecasted Revenues	\$82,515,708	\$97,854,802	\$111,585,926	\$121,136,564	\$131,576,129
Growth Rates	25.24%	18.59%	14.03%	8.56%	8.62%

Note: Figures may not add due to rounding.

Overall, revenue growth is forecasted to decline from 25.24 percent in 2015 to 8.56 percent in 2018 and then increase to 8.62 percent in 2019. The slight increase in growth in 2019 is attributable to higher growth rates for the newer clubs more than compensating for the decline of the older clubs, particularly because the analyst forecast a declining rate of growth in the later years.

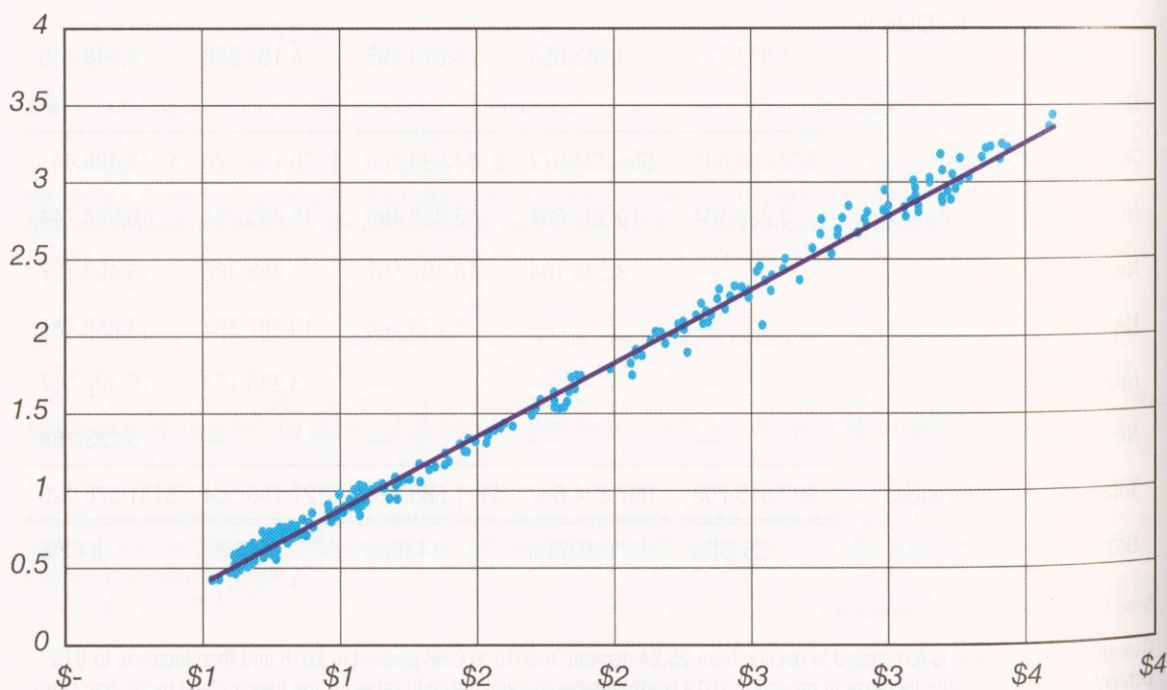
Linear Regression Models

In the last chapter, I provided some information about statistics. To help prepare a sales forecast, various statistical tools can be used, one of which is a linear regression model. There are many individuals who will say that a regression model is not predictive. Although I agree that this model does not demonstrate cause and effect, it is a very useful tool (and I emphasize the word *too*) that the valuation analyst can use to assist in the forecasting process. Whenever possible, it should not be used alone.

A linear regression model allows the valuation analyst to use one variable to predict the behavior of another variable and to quantify the strength of the linear relationship between the two variables. If used correctly, linear regression can be an effective tool to use to prepare a sales forecast. When performing a regression analysis, the valuation analyst begins with the *dependent variable*, which is the variable that he or she is attempting to explain. The *independent variable* is the variable that is used to explain the behavior of the dependent variable. For example, an analyst may want to use a regression model to forecast the sales of an automobile part manufacturing company based on automobile assembly data. In this instance, the sales of the automobile parts manufacturing company are the dependent variable, and the number of automobile assemblies is the independent variable.

Linear regression assumes a linear relationship between the dependent and independent variables. A regression model calculates a best-fit straight line based on a sample of data. The data is linear if the pattern in its data points resembles a line. A linear trend line usually shows that something is increasing or decreasing at a steady rate. Using a formula, a regression model will calculate the value of the dependent variable given a specific change in the independent variable. An example of how a linear regression model works can be seen in figure 8.1.

Figure 8.1 Regression Model



In figure 8.1, the dots represent the data in the sample set. The line represents the predicted values using a linear regression model. A linear regression model calculates the “best-fit line” through the numerous data points. The distance between the data point and the regression line (or the actual value and the predicted value) is called the *residual* or the *error*.

Before discussing how to utilize a linear regression to prepare a sales forecast, it is important to understand the assumptions of the model. Violating any one of these assumptions can lead to drawing incorrect conclusions about the statistical significance of the relationships between the two variables. Although not all the assumptions will be covered in this textbook, if a valuation analyst ever intends on using regression analysis in practice, it is important that he or she understands all the assumptions and how they affect the validity of the regression results. In order to demonstrate the importance of understanding these various assumptions, I will briefly discuss two of the major assumptions and how they can lead to erroneous conclusions.

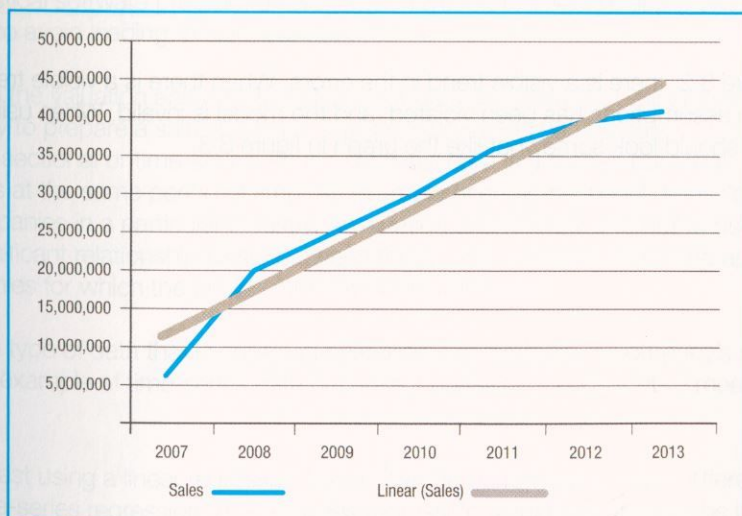
One assumption of a linear regression model is that the relationship between the independent and dependent variable is linear. Although this seems simple, this assumption is critical for a meaningful linear regression. For example, suppose a company's historical and projected revenues are presented as follows:

Year	Revenues	Changes
2010	\$ 6,500,000	—
2011	20,000,000	207.7%
2012	25,000,000	25.0%
2013	30,000,000	20.0%
2014	35,850,000	9.5%
2015	39,350,000	9.8%
2016	41,500,000	4.6%

As indicated in the preceding table, the company's revenues grew from approximately \$6.5 million in 2010 to \$20 million in 2011. Going forward, management projected that the company would continue to grow at double-digit rates over the next two years before its growth would decline to a more sustainable level.

Hypothetically speaking, let's assume that the forecast needed to be extended for an additional five years. Also, let's assume that the valuation analyst was considering using a linear trend line to forecast future revenues because the R^2 statistic was 93.28 percent.

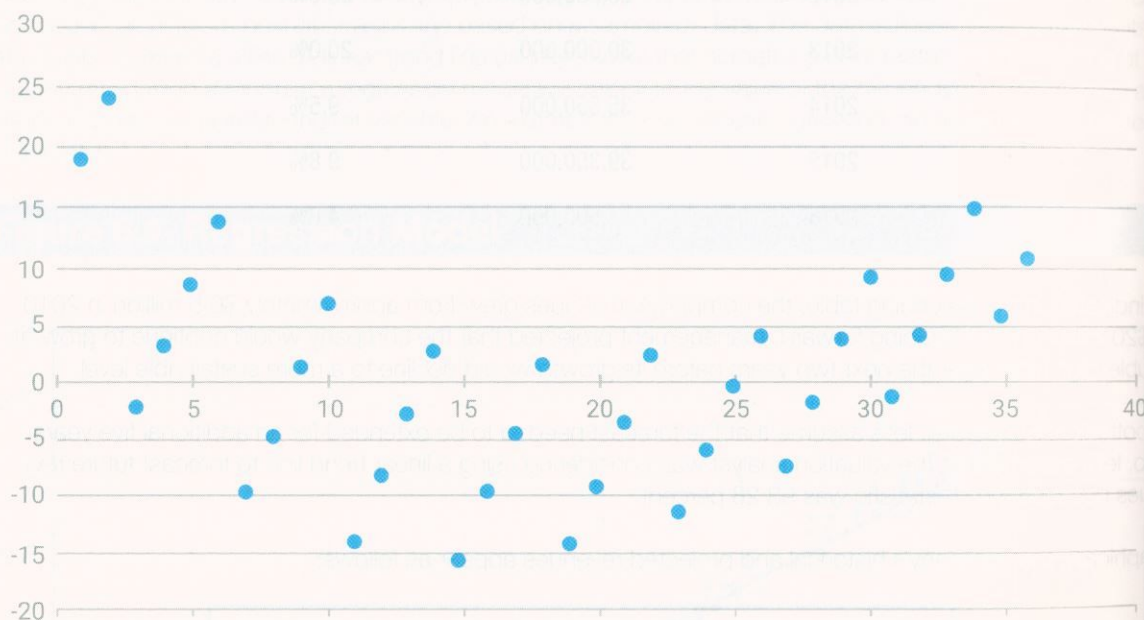
Graphically, the company's historical and projected revenues appear as follows:



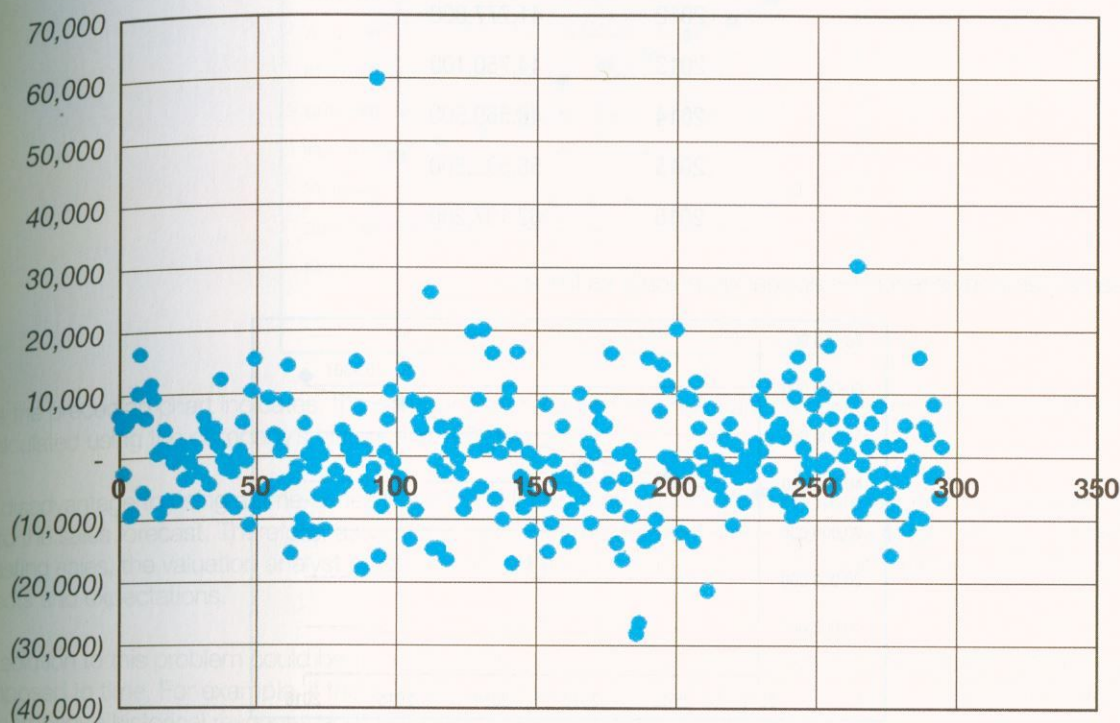
The preceding chart shows one of the problems associated with the use of a linear regression model. From approximately 2011–2015, the linear trend line consistently underestimated the company's sales. Beginning in 2016, the linear trend line appears to be overstating sales. This indicates that a linear trend line would be inappropriate in trying to forecast this particular company's sales. Therefore, before considering using a linear regression model, it is recommended that the valuation analyst graph the data to determine whether a linear regression model appears to make sense.

Another key assumption of a regression model is that the errors are uncorrelated across all observations. In English, the errors (the difference between the actual value of the dependent variable and the predicted value of the dependent variable), should be random and have no trends. For example, suppose a valuation analyst attempts to use regression analysis to forecast a seasonal data set. The R^2 value is determined to be 93 percent, so the analyst is confident that the model is valid. However, after calculating and graphing the errors, the analyst sees the data in figure 8.2.

Figure 8.2 Regression Error



As can be seen in figure 8.2, there is a visible trend in the errors. When there is a visible trend in the errors, one of the linear regression assumptions has been violated, and the model is invalid. When using a linear regression model, the errors should look somewhat like the graph in figure 8.3.

Figure 8.3 A Better Looking Regression

In this instance, the errors appear to be random and have no visible trends. As a result, this model is not in violation of the linear regression assumption that the errors are uncorrelated across observations.

The preceding examples are intended to highlight how using regression analysis blindly can lead to unreliable conclusions. In actuality, there are numerous techniques and statistical tests that are beyond the scope of this book that need to be performed in order to ensure that a regression model does not violate any of the major assumptions. Furthermore, there are various statistics, such as the R^2 , T-statistic, F-statistic, and so on, that must be analyzed in detail in order to determine whether a regression model is valid. Valuation analysts need to understand that performing a regression analysis is a much more vigorous exercise than merely plugging numbers into a statistical software program or even into Microsoft Excel without performing the additional analyses necessary to avoid leading to significant errors.

Now that I've scared the valuation analyst into not using regression analysis, I will discuss the various ways it can be used properly to prepare a sales forecast. A regression model can be calculated using two different types of data: cross-sectional or time-series. *Cross-sectional data* is a type of data that is collected by observing many data points at the same period of time. An example of cross-sectional data is a pricing multiple for a group of public companies in a particular industry. A valuation analyst may attempt to use regression analysis to determine if a significant relationship exists between the pricing multiples and some appropriate metrics for the group of companies for which the pricing multiples were calculated.

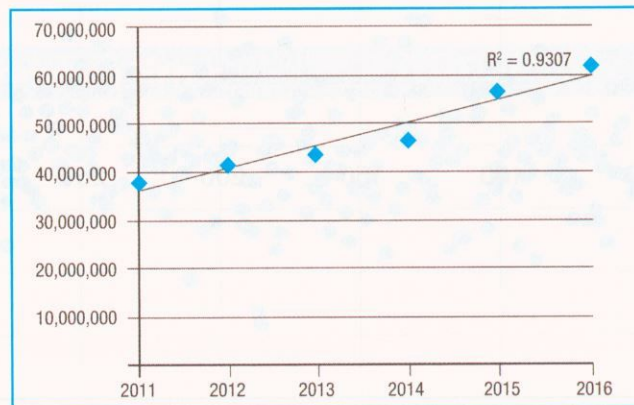
Time-series data is a type of data that is collected over time. For example, a company's sales over the past several years are an example of time-series data because it consists of consecutive measurements over equal time intervals.

Constructing a forecast using a linear regression model can be performed in many different ways. One way is through use of a time-series regression. A time-series regression would use time as the independent variable and sales as the dependent variable. This type of trend assumes that the company's revenues change at a constant rate with time.

For demonstration purposes, consider a company with the following historic revenues:

2011	38,663,000
2012	41,777,900
2013	44,750,100
2014	46,569,500
2015	56,532,800
2016	62,107,200

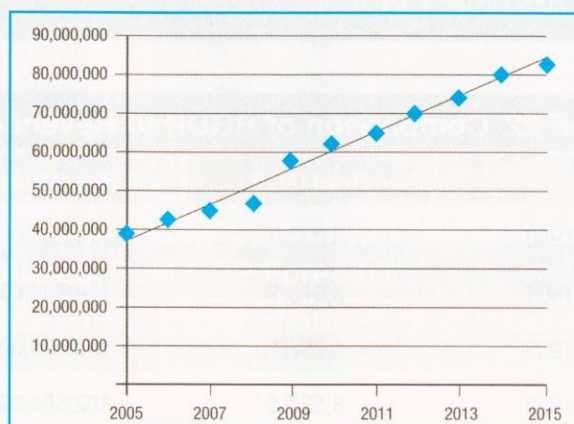
This same company's revenues appear graphically as follows:



As the preceding chart indicates, the company's sales have increased steadily over the past five years. The trend of the company's historical revenues resembles a line. In this instance, assuming that the company's future expectations are consistent with the past, a time-series linear trend may be a good way to forecast the company's revenues going forward. Forecasting this company's revenues using a time-series trend line results in the following revenue forecast:

Year	Revenues	% Change
2011	38,663,000	—
2012	41,777,900	8.06%
2013	44,750,100	7.11%
2014	46,569,500	4.07%
2015	56,532,800	21.39%
2016	62,107,200	9.86%
2017	64,730,593	4.22%
2018	69,396,453	7.21%
2019	74,062,313	6.72%
2020	78,728,173	6.30%
2021	83,394,033	5.93%

This data appears graphically as follows:



As the preceding chart indicates, the company's forecasted revenues are calculated on a best-fit line that was calculated using the company's historical revenues.

A disadvantage to using a time-series linear trend line is that it doesn't incorporate economic or industry data into the sales forecast. Therefore, as was the case with the arithmetic average growth rate method for forecasting sales, the valuation analyst must ensure that the company's historical results reflect its future prospects and expectations.

A solution to this problem could be to use economic and industry variables as the independent variables as opposed to time. For example, if the valuation analyst can establish a strong statistical relationship between a company's historical revenues and a variable such as GDP, the company's revenues can be forecasted into the future in relation to independent third-party economic forecasts of real GDP. In some instances, it may be appropriate to use more than one variable when forecasting revenues. Shown in exhibit 8.3 is a real-life example in which we forecasted revenues for a trucking company using real GDP as the independent variable.

The example presented in exhibit 8.3 brings up another point. When constructing a forecast using a linear regression model using a time-series, economic data, or industry data, the valuation analyst must still use his or her judgment and make sure that the forecast is reasonable. This is the same example as in the previous chapter. In this instance, we constructed three potential revenue scenarios to account for the various uncertainties associated with the company's future financial results.

EXHIBIT 8.3 Linear Revenue Forecast

In order to forecast revenues, we are presenting three different models. These are as follows:

1. Most Optimistic
2. Most Conservative
3. Most Likely

MOST OPTIMISTIC

The most optimistic forecast model uses sales that are forecast by taking into consideration the statistical relationship of The Company's revenues to real gross domestic product (RGDP). We used RGDP instead of nominal GDP for two reasons: It had approximately the same statistical correlation, and it resulted in more conservative growth rates.

We began our analysis by comparing RGDP to The Company's revenues beginning in 1990, up to and including the latest 12 months ended June 30, 2009. These figures are shown in table 22.

(continued)

EXHIBIT 8.3 Linear Revenue Forecast *(continued)***TABLE 22 Comparison of RGDP to Revenues**

	Real GDP	Revenues
1990	8,033.9	\$114,041,000
1991	8,015.1	114,739,000
1992	8,287.1	103,438,000
1993	8,523.4	102,594,000
1994	8,870.7	103,298,000
1995	9,093.7	109,812,000
1996	9,433.9	123,381,000
1997	9,854.3	133,835,000
1998	10,283.5	139,272,000
1999	10,779.8	153,191,000
2000	11,226.0	166,173,000
2001	11,347.2	186,077,000
2002	11,553.0	193,422,000
2003	11,840.7	189,704,000
2004	12,263.8	213,733,000
2005	12,638.4	242,081,000
2006	12,976.2	254,772,000
2007	13,254.1	265,675,000
2008	13,312.2	246,350,000
LTM June 30, 2009	12,901.5	224,713,000

Using regression analysis, we determined that there is a high degree of correlation between the data in table 22. In fact, the R2 indicates that there is a 92.6 percent correlation between RGDP and revenues. This means that about 93 percent of The Company's change in revenues can be explained by a change in RGDP. Perfect correlation would be 100 percent. Having 20 observations makes the statistical correlation very reliable.

EXHIBIT 8.3 Linear Revenue Forecast

In order to use RGDP as a predictor of The Company's trucking revenues, we first had to forecast what RGDP would be after June 30, 2009. In order to accomplish this, we turned to Consensus Forecasts and Wachovia Economics. These two sources provided us with the information necessary to review the quarterly or annual forecasted growth rates, or both, in RGDP. Using the annual growth rates published in these publications, we calculated RGDP as presented in table 23.

TABLE 23 Real GDP Forecast

	Real GDP	Annual Growth Rate
Q2 2009 (Actual)	12,902	
Q3 2009	13,001	3.1%
Q4 2009	13,079	2.4%
Q1 2010	13,161	2.5%
Q2 2010	13,253	2.8%
Q3 2010	13,346	2.8%
Q4 2010	13,450	3.1%
Q1 2011	13,557	3.2%
Q2 2011	13,676	3.5%
Q3 2011	13,768	2.7%
Q4 2011	13,868	2.9%

Using the calculated RGDP forecast, we were then able to use these figures as a predictor of revenues for The Company on a latest 12-month basis. Applying the regression formula results in predicted revenues of \$249,094,543 and \$261,316,272 for the years ended December 31, 2010 and 2011, respectively. This would be the predicted sales in the most optimistic forecast.

MOST CONSERVATIVE

In order to determine the most conservative forecast, we started with the actual sales volume for the 6 months ended June 30, 2009, rather than using the sales from the latest 12 months ended at that time. We divided that number in half in order to estimate the most recent quarter of sales. This amounted to \$51,550,000. We then applied the predicted growth rates using the RGDP relationship to revenues against the actual quarterly sales in order to grow The Company's revenues from the low base at which The Company is currently operating. This allowed us to forecast the remainder of 2009, plus the four quarters of 2010 and 2011, respectively. Our calculations are shown in table 24.

(continued)

EXHIBIT 8.3 Linear Revenue Forecast *(continued)***TABLE 24 Quarterly Revenues Using Predicted Growth Rates and Average Quarterly Revenues from Past 6 Months**

	Revenues	Predicted Growth Rate
Q2 2009 (Actual)	\$ 51,555,000	
Q3 2009	52,201,089	1.3%
Q4 2009	52,705,164	1.0%
Q1 2010	53,233,392	1.0%
Q2 2010	53,828,705	1.1%
Q3 2010	54,428,186	1.1%
Q4 2010	55,096,542	1.2%
Q1 2011	55,791,805	1.3%
Q2 2011	56,558,333	1.4%
Q3 2011	57,154,828	1.1%
Q4 2011	57,799,833	1.1%
Predicted 2nd Half 2009 Revenues	\$104,906,253	
Actual 1st Half 2009 Revenues	103,110,000	
Predicted 2009 Revenues	\$208,016,253	
Predicted 2010 Revenues	\$216,586,825	4.1%
Predicted 2011 Revenues	\$227,304,799	4.9%

In order to complete this portion of the forecast, we took the predicted revenues from the third and fourth quarter of 2009 and added them to the actual revenues for the first half of 2009. This provided us with an estimation of 2009 revenues in the amount of \$208,016,253. Using the predicted growth rates for 2010 and 2011 allowed us to grow the 2009 revenues to reflect estimated revenues for these subsequent periods. As indicated in the data in table 24, these amounts are \$216,586,825 and \$227,304,799, respectively.

In determining the reasonableness of the figures that we have calculated, we have considered the fact that in most instances, the first half of the year's revenues for The Company tends to be lower than the second half, due to the large shipping volume in the second half for the back-to-school and the holiday seasons. We performed a review of the revenues from the first half of the year to the second half of the year for 2006–2008. This information is presented in table 25.

EXHIBIT 8.3 Linear Revenue Forecast**TABLE 25 Half-Year Revenues**

	1st Half Revenues	2nd Half Revenues	% Change
2006	\$119,921,000	\$134,851,000	12.45%
2007	124,464,000	141,211,000	13.46%
2008	124,747,000	121,603,000	-2.52%

What is noticeable about the 2006 and 2007 figures is the 12 percent to 13 percent change from the first half of the year to the second half of the year. Although 2008's figures were down approximately 2.5 percent, this was largely due to the failing economy, particularly in 2008. This also was significantly affected by the dramatic decline in diesel prices, which would have also affected the lag of the surcharges for the second half of the year. Diesel prices fell approximately 47 percent from June 2008 to December 2008. This would cause this unusual change from the first half to the second half of the year.

During the last half of 2008, GDP fell as well. This would explain the movement in the 2008 figures. Nevertheless, our calculation for 2009, where the second half of the year is predicted to perform better than the first half of the year, would create the expectation that second half revenues should be considerably greater than first half revenues. Places where we have predicted slightly higher revenues are certainly not in proportion to these other years. This is the reason why we believe this is an extremely conservative estimate for 2009 revenues. Because 2010 and 2011 are calculated based on the results of 2009, we believe this model represents the most conservative scenario of the three models that we present.

MOST LIKELY

Rather than presenting data solely based on one extreme to the other, we also presented what we believe is the most likely scenario for The Company. In this particular model, we once again use regression analysis to predict what the latest 12 months revenues would equate to for the third and fourth quarters of 2008, as well as the third and fourth quarters of 2009. Based on RGDP declining during 2009, relative to the same period in 2008, we calculated the average change that was being predicted for the second half of 2009 as compared to the second half of 2008. This amounted to a 2.3 percent decline in revenues. We applied this percentage to the second half of 2008 revenues in order to estimate the predicted revenues for the second half of 2009. Our calculations are presented in table 26.

TABLE 26 Regression Equation Predictions

	Predicted LTM	% Change from Same
Q3 2008	\$245,443,461	
Q4 2008	240,106,070	
Q3 2009	236,004,039	-3.8%
Q4 2009	238,282,989	-0.8%

(Table continued)

(continued)

EXHIBIT 8.3 Linear Revenue Forecast *(continued)***TABLE 26 Regression Equation Predictions** *(continued)*

Average Predicted % Change 2nd Half 2009 vs. 2nd Half 2008 -2.3%	
2nd half 2008 revenues	\$121,603,000
Predicted 2nd half 2009 revenues	\$118,803,002
Actual 1st half 2009 revenues	103,110,000
Predicted full year 2009 revenues	\$221,913,002
Predicted full year 2009 revenues	\$221,913,002
Predicted change 2010 vs. 2009	4.5%
Predicted 2010 revenues	\$231,981,805
Predicted full year 2010 revenues	\$231,981,805
Predicted change 2011 vs. 2010	4.9%
Predicted 2011 revenues	\$243,363,904

Based on the calculations in table 26, the predicted 2009 revenues amount to \$229,913,002. This is compared to a more conservative estimate of approximately \$208,000,000, and the most optimistic estimate of approximately \$249,000,000. For 2010 and 2011, we applied the predicted 2009 revenues against a predicted change for each of the subsequent years. These figures are shown in table 26.

When performing a linear regression for forecasting purposes, the valuation analyst should be familiar with the regression statistics, assumptions of a linear regression model, and other potential problems associated with linear regression models. Many of these issues are complex, and valuation analysts should familiarize themselves with these issues before blindly using a linear regression model. I have now made this statement twice.

Monte Carlo Simulation

Another alternative to forecast sales is the use of a Monte Carlo simulation. In most projections, the outcomes depend on different inputs. Minor changes in one of these inputs can have more significant effects at the net income level. The Monte Carlo simulation deals with this by assigning probability distributions to each of the key factors. The power of Monte Carlo simulations to consider and account for potential variability of the inputs in a forecast makes it a useful tool for business valuations. The Monte Carlo simulation has become more popular in recent years. I am constantly surveying students in the classes that I teach to find out how many of them use this technique. It seems that only the large firms use it, probably due to the complexity of their assignments. A detailed discussion about this subject is beyond the scope of this book, but there are courses offered by various organizations on this topic, as well.

Projecting Sales for a New Business

Most of the revenue-forecasting methods that have been discussed so far require sufficient historical data that will allow the valuation analyst to analyze a company's historical growth trends and use these trends to forecast the future. However, what happens when a company has little or no historical revenue data available? This is often the case in lost profits damages matters involving new businesses.

When forecasting revenues for a new business, the valuation analyst must perform a detailed analysis of the potential market in order to determine how the new business would fit in. It is important to gain an understanding of the competitive environment and the growth outlook for the target market, as well as to have an understanding of the various revenue streams anticipated by the new business. Historical financial information for companies with similar operations, products, and services serve as benchmarks for growth trends and expense structures for the new business.

A common mistake in forecasting revenues for start-up businesses is ignoring the effects of the competition in the marketplace. In one instance, we were engaged in a litigation involving the athletic apparel industry. This industry is heavily saturated with several billion dollar publicly traded companies. A forecast that we reviewed in this matter made the assumption that this new business would experience immediate product acceptance and capture 10 percent of the entire market in its first year of operations. These types of assumptions ignore the stages of the typical product life cycle, not to mention reality. When forecasting revenues for a new business, it is important to have a thorough understanding of the market that the new business is trying to penetrate, who the major players are in the industry, and how the company plans to position its products in the market.

A sales forecast that we prepared for a start-up operation is contained in exhibit 8.4. In this instance, the business was an international amusement park that was looking to expand its operations. In order to forecast revenues for this company, we had to perform a thorough analysis of the tourism market and the competitive environment in the country in which the expansion was taking place. We constructed the sales forecast for this company using comparative data from other facilities operated by management and benchmarking data that we were able to obtain from local competitors.

EXHIBIT 8.4 Forecasting Sales For A New Business

According to management, visitors to The New Amusement Park most likely would have been nonresident tourists traveling into the country. Therefore, we believe that the tourist market provides a good indication of the potential market for The New Amusement Park.

We obtained historic tourist data for the years 2000–2010. This data is presented in table 13.

Note: Some tables were omitted to save space.

TABLE 13 Historic Tourist Data

Year	Tourist
2000	600,000
2001	800,000
2002	900,000
2003	1,000,000
2004	1,300,000
2005	1,400,000
2006	1,500,000
2007	1,600,000
2008	1,700,000
2009	1,800,000
2010	2,000,000

(continued)

EXHIBIT 8.4 Forecasting Sales For A New Business *(continued)*

As the data in table 13 indicates, tourism has grown steadily from 2000–2010. The next step in the analysis involved constructing a forecast of future tourism. We located a forecast of overnight visitor arrivals for as far back as 2000 for the entire country in which The New Amusement Park was located from the World Travel & Tourism Council's (WTTC) online searchable database. Using this data, we performed a regression analysis by analyzing the historic tourism data for the entire country and the historic tourism data for the entire city from 2000–2010. From 2000–2010, the R^2 statistic between overnight visitor arrivals in the entire country and tourists in the city was 98.5 percent. Statistically, this means that 98.5 percent of the changes in the number of city tourists can be explained by changes in overnight visitor arrivals for the country. With a strong correlation statistic, we performed a linear forecast of nonresident airport tourists by using the WTTC's forecast. The results of this forecast are presented in table 16.

TABLE 16 Tourism Forecast

	Overnight Visitor Arrivals—Country	Tourists—City	City as a % of Country
2000	5,000,000	600,000	12%
2001	5,100,000	800,000	16%
2002	5,200,000	900,000	17%
2003	5,300,000	1,000,000	19%
2004	5,400,000	1,300,000	24%
2005	5,500,000	1,400,000	25%
2006	5,600,000	1,500,000	27%
2007	5,700,000	1,600,000	28%
2008	5,800,000	1,700,000	29%
2009	5,900,000	1,800,000	31%
2010	6,000,000	2,000,000	33%
2011	6,100,000	2,134,545	35%
2012	6,200,000	2,269,091	37%
2013	6,300,000	2,403,636	38%
2014	6,400,000	2,538,182	40%
2015	6,500,000	2,672,727	41%
2016	6,600,000	2,807,273	43%
2017	6,700,000	2,941,818	44%
2018	6,800,000	3,076,364	45%

Bolded values represent forecasts.

EXHIBIT 8.4 Forecasting Sales For A New Business

Now that we have constructed a forecast of future tourism for the city, we have an estimate of the total potential market size for The New Amusement Park going forward. The next step in the analysis is to use this information to determine the number of people who would have attended The New Amusement Park for the years 2011 and beyond. Considering the fact that visitors to The New Amusement Park would have consisted of airport visitors, this would represent the pool of potential visitors to this park. Taking this into consideration, the number of estimated visitors to The New Amusement Park was forecast to increase based on the number of airport visitors expected to arrive in the city for 2011–2018. We had previously calculated the expected visitors to the park for 2009–2010. Although a regression analysis based on only two years would not be statistically valid, we tested a linear forecast to determine whether or not the percentage relationship would make sense compared to these other years. For 2009–2010, the tourist capture rate was approximately 4.4 percent, on average. We wanted to make sure that future results would approximate this capture rate. The results of these calculations are presented in table 17.

TABLE 17 Visitor Forecast Amusement Park

	Tourists The City	Visitors to The New Amusement Park	Tourist Capture Rate for The New Amusement Park
2000	600,000	—	—
2001	800,000	—	—
2002	900,000	—	—
2003	1,000,000	—	—
2004	1,300,000	—	—
2005	1,400,000	—	—
2006	1,500,000	—	—
2007	1,600,000	—	—
2008	1,700,000	—	—
2009	1,800,000	80,000	4.4%
2010	2,000,000	90,000	4.5%
2011	2,134,545	96,727	4.5%
2012	2,269,091	103,455	4.5%
2013	2,403,636	110,182	4.6%
2014	2,538,182	116,909	4.6%
2015	2,672,727	123,636	4.6%
2016	2,807,273	130,364	4.6%
2017	2,941,818	137,091	4.7%
2018	3,076,364	143,818	4.7%

Bolded values represent forecasts.

(continued)

EXHIBIT 8.4 Forecasting Sales For A New Business *(continued)*

The forecast presented in table 17 shows that The New Amusement Park would have captured between 4.4 and 4.7 percent of the total number of tourists that come into the city.

We compared the implied tourist capture rate from our forecast to tourist capture rates of other facilities with similar operations to those of The New Amusement Park. This comparison is presented in table 18.

TABLE 18 Capture Rate Comparison

Total Visitors as a % of Total Airport Tourists				
	Fun Land	Roller Coaster Adventure	Thrill Park Mania	The New Amusement Park
2006	16.40%	10.00%	9.49%	
2007	16.30%	9.50%	7.12%	
2008	16.20%	9.00%	5.20%	
2009	16.10%	8.50%	5.10%	4.44%
2010	16.00%	8.00%	5.00%	4.50%
2011				4.53%
2012				4.56%
2013				4.58%

Forecasted values in bold.

As the data in table 18 indicates, the implied tourist capture rate for The New Amusement Park lags those of Fun Land, Roller Coaster Adventure, and Thrill Park Mania. This makes sense because The New Amusement Park would be fighting for market share against competing facilities that have already established a market presence. Other factors that need to be considered include the fact that Fun Land's percentages are inflated because it is the only facility in the area, and it has a notable local market. Roller Coaster Adventure's figures are also likely overstated because the facility only had one competitor in 2006. Thrill Park Mania was the only facility in the market until 2007 when a competing facility completed its expansion and added roller coasters. As can be seen, the entrance of this competitor into the market, along with deteriorating economic conditions, significantly reduced Thrill Park Mania's tourist capture rate.

Now that we have forecasted the number of people expected to attend The New Amusement Park, we must determine two things:

1. What types of passes would these people have purchased?
2. What price would The New Amusement Park charge for these passes?

In order to answer these questions, we turned to data from Fun Land because the same activities at Fun Land would have been offered at The New Amusement Park.

We allocated the number of people forecasted to attend The New Amusement Park using percentages derived from Fun Land. The allocation percentages used for the forecast were calculated as presented in table 20.

EXHIBIT 8.4 Forecasting Sales For A New Business**TABLE 20 Activities as a Percentage of Total Admissions for The New Amusement Park**

	2005	2006	2007	2008	2009	2010	Average
Regular Admission	29,445	32,085	32,430	32,854	17,055	8,943	25,469
% of Total Admissions	46.77%	51.48%	57.06%	66.37%	53.04%	41.78%	53.52%
Junior Admission	33,508	30,223	24,103	16,198	14,438	12,000	21,745
% of Total Admissions	53.23%	48.50%	42.41%	32.72%	44.90%	56.07%	45.69%
Senior Admission	5	200	300	400	60	193	
% of Total Admissions	0.01%	0.35%	0.61%	1.24%	0.28%	0.41%	
Two-Day Admission	8	100	150	265	400	185	
% of Total Admissions	0.01%	0.18%	0.30%	0.82%	1.87%	0.39%	
Total Admissions	62,953	62,321	56,833	49,502	32,158	21,403	47,591

As the data in table 20 indicates, the percentages for each type of pass varied from year to year but remained in a relatively tight range, particularly for regular and junior admissions. Therefore, we will calculate the revenue forecast using the simple averages of the percentages calculated in table 20 to account for the yearly variations in the data.

We must also determine the price for each activity. The quoted price from Fun Land's website for each activity is presented in table 21.

TABLE 21 Fun Land Quoted Prices

	Price
General Admission	\$50.00
Junior Admission	30.00
Senior Admission	30.00
Two-Day Admission	80.00

The next step is to determine how the prices charged at Fun Land differ due to the differences in the economic and competitive environments between the city in which Fun Land operates and the city in which The New Amusement Park operates. In order to determine if these prices should be adjusted, we first looked at hotel room rates in these two cities. Average daily rates for both cities are presented as follows:

Average Daily Hotel Rate—Fun Land's City	185.23
Average Daily Hotel Rate—The New Amusement Park's City	114.12
Adjustment Factor	1.623

(continued)

EXHIBIT 8.4 Forecasting Sales For A New Business *(continued)*

The preceding data shows that average daily rates for hotels in Fun Land's city are 62.3 percent higher on average than those in The New Amusement Park's city. This would indicate that prices at Fun Land should also be greater.

We also looked at prices charged by competing facilities in the area. This information is as follows:

- Roller Coaster Adventure—\$60 for general admission
- Thrill Park Mania—\$80 for general admission

The preceding pricing data indicates that competitors' prices range from \$60 to \$80 for passes into the park. Our estimated prices for The New Amusement Park range from \$30 to \$80 for the various types of passes. This falls in line with competitors' prices. Neither of the competitors offers junior, senior, or two-day admissions. Based on the analysis discussed previously, no adjustments were made to the prices for Fun Land because the prices fall in line with those charged by competitors of The New Amusement Park.

Prospectively, prices were increased by 4.56 percent per year. This represents the approximate annual growth rate of price increases at Thrill Park Mania from 2005–2010. Our assumption is that price increases for amusement parks in The New Amusement Park's city will be similar to those experienced on average historically.

Now that we have determined all of the necessary information related to visitors, activities, prices, and price increases, we can forecast activity revenue, which is shown in table 22 on the following page.

The next step in the revenue forecast for Phase 1 involves calculating revenues for the gift shop and the sale of food and beverages. We forecasted revenues for these categories by using the historical percentage of revenues for these items as a percentage of total activity revenues. This analysis is presented in table 29.

TABLE 29 Other Revenues

Historic Revenues—Fun Land							
	2005	2006	2007	2008	2009	2010	
Tickets and Transportation	\$8,614,202	\$8,499,853	\$8,211,912	\$8,342,581	\$5,725,053	\$3,881,298	
Gift Shop	2,166,372	2,161,553	2,117,417	2,044,346	1,434,983	979,433	
Food and Beverage	512,610	494,724	1,003,087	976,000	775,824	690,628	
Other Revenues—As a Percentage of Tickets and Transportation							
	2005	2006	2007	2008	2009	2010	Average
Gift Shop	25.15%	25.43%	25.78%	24.50%	25.06%	25.23%	25.19%
Food and Beverage	5.95%	5.82%	12.22%	11.70%	13.55%	17.79%	11.17%

As the calculations in table 29 indicate, other revenues for Fun Land have been 36.37 percent of tickets and transportation, on average, historically. This is consistent with management's estimate that other revenues consist of 33 percent of tickets and transportation revenues. This also happens to be the approximate median based on the data in table 29.

EXHIBIT 8.4 Forecasting Sales For A New Business

TABLE 22 Activity Revenue Forecast

	Tourists	Number of Participants	Regular Admission (55.62%)	Price	Total Regular Admission	Junior Admission (\$43.55%)	Price	Total Junior Admission	Senior Admission (0.42%)	Price	Total Senior Admission	Two-Day Admission (0.40%)	Price	Total Two-Day Admission	Total Activity Revenue
2009	1,800,000	80,000	42,812	\$50.00	\$2,140,600	36,553	\$30.00	\$1,096,590	324	\$30.00	\$ 9,720	310	\$ 80.00	\$24,800	\$3,271,710
2010	2,000,000	90,000	48,164	52.28	2,518,109	41,122	31.37	1,289,964	365	31.37	11,450	349	83.65	29,194	3,848,717
2011	2,134,545	96,727	51,764	54.67	2,829,840	44,196	32.80	1,449,667	392	32.80	12,858	375	87.47	32,801	4,325,165
2012	2,269,091	103,455	55,364	57.16	3,164,780	47,270	34.30	1,621,261	420	34.30	14,405	401	91.46	36,676	4,837,121
2013	2,403,636	110,182	58,964	59.77	3,524,398	50,343	35.86	1,805,462	447	35.86	16,031	427	95.64	40,836	5,386,727
2014	2,538,182	116,909	62,564	62.50	3,910,250	53,417	37.50	2,003,138	474	37.50	17,775	453	100.00	45,300	5,976,463
2015	2,672,727	123,636	66,164	65.35	4,323,981	56,491	39.21	2,215,096	501	39.21	19,645	480	104.56	50,191	6,608,913
2016	2,807,273	130,364	69,765	68.34	4,767,400	59,565	41.00	2,442,229	529	41.00	21,690	506	109.34	55,324	7,286,643
2017	2,941,818	137,091	73,365	71.45	5,242,216	62,638	42.87	2,685,438	556	42.87	23,837	532	114.33	60,822	8,012,313
2018	3,076,364	143,818	76,965	74.72	5,750,443	65,712	44.83	2,945,805	583	44.83	26,135	558	119.54	66,706	8,789,089

(continued)

EXHIBIT 8.4 Forecasting Sales For A New Business *(continued)*

Accounting for all sources of revenue results in the following revenue forecast:

TABLE 30 Total Revenue Forecast

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Revenues: Activities	\$3,271,710	\$3,848,717	\$4,325,165	\$4,837,121	\$5,386,727	\$5,976,463	\$6,608,913	\$ 7,286,643	\$ 8,012,313	\$ 8,789,089
Gift Shop (25.9%)	847,373	996,818	1,120,218	1,252,814	1,395,162	1,547,904	1,711,708	1,887,241	2,075,189	2,276,374
Food & Beverage (11.17%)	382,790	450,300	506,044	565,943	630,247	699,246	773,243	852,537	937,441	1,028,323
Total Revenue	\$4,501,873	\$5,295,834	\$5,951,428	\$6,655,879	\$7,412,137	\$8,223,612	\$9,093,864	\$10,026,421	\$11,024,943	\$12,093,786

EXHIBIT 8.4 Forecasting Sales For A New Business

As a sanity check, we compared our revenue forecast to revenues of other facilities for which data existed. This comparison is presented in table 32.

TABLE 32 Revenue Sanity Check

	Fun Land	Roller Coaster Adventure	Thrill Park Mania	The New Amusement Park
2004	\$ 8,052,904	\$14,242,271	\$ —	\$ —
2005	\$11,293,184	\$16,576,124	\$ —	\$ —
2006	\$11,179,347	\$16,752,559	\$ 7,572,161	\$ —
2007	\$11,618,058	\$14,147,751	\$ 7,776,564	\$ —
2008	\$11,637,718	\$10,880,236	\$ 9,219,113	\$ —
2009	\$ 8,277,549	\$ 9,199,428	\$ 9,704,432	\$ 4,501,873
2010	\$ 7,993,510	\$11,224,286	\$10,183,745	\$ 5,295,834
2011	\$ —	\$ —	\$ —	\$ 5,951,428
2012	\$ —	\$ —	\$ —	\$ 6,655,879
2013	\$ —	\$ —	\$ —	\$ 7,412,137
2014	\$ —	\$ —	\$ —	\$ 8,223,612
2015	\$ —	\$ —	\$ —	\$ 9,093,864
2016	\$ —	\$ —	\$ —	\$10,026,421
2017	\$ —	\$ —	\$ —	\$11,024,943
2018	\$ —	\$ —	\$ —	\$12,093,786

Bolded values represent forecasts.

As the data in table 32 indicates, our revenue forecast is consistent and in line with the level of revenues achieved by facilities with similar operations to those of The New Amusement Park.

Cost of Goods Sold

Once sales are forecast, it becomes possible to forecast expenses. Expenses can be broken down into two categories: fixed and variable. Obviously, sales will have a limited impact on fixed expenses. In the short run, these expenses will probably not change. However, over a long period of time, these fixed expenses will no longer remain fixed because even an expense such as rent will change as the business grows. If rent is \$10,000 a month, it is \$10,000 a month regardless of the sales volume; unless of course, the sales are so large that the business must expand into additional facilities. Variable expenses, on the other hand, are directly related to sales. These expenses are generally forecast as a percentage of sales. For example, if the product costs are \$20 for every \$100 in sales, it is easy to use 20 percent of sales to determine this expense. When

forecasting expenses, it is important to look at trends and management expectations to ensure that the valuation analyst's results are reasonable.

The expense forecast often begins with an analysis of the company's cost of goods sold. For companies that have sufficient historical financial data available, a good starting point to forecast cost of goods sold is to look at the company's historical gross profit margins. If the company's historical gross profit margins have been stable, this indicates that the company's cost of goods sold is primarily variable and can be forecasted as a percentage of sales. However, if the company's historical gross profit margins are volatile, the valuation analyst must determine the factors that are causing the company's gross profit margins to fluctuate from year to year. This could be the result of various factors including changes to the company's product lines, issues with the company's suppliers, or changes in raw material prices. When analyzing historical gross profit margins, the valuation analyst should be aware of any fixed or semifixed expenses, such as labor and depreciation, that may be included in the company's cost of goods sold.

Although the company's historical gross profit margins can be used as a starting point, a forecast should reflect future expectations and, as a result, the valuation analyst must understand the various factors that will affect the company's gross profit margins going forward. For example, if steel is the primary material used in the manufacturing of the company's products, the valuation analyst must understand how changes in steel prices affect the company's profitability. If the company is unable to pass through price increases of raw materials to its end users, it is likely that the company's gross profit margins will fluctuate with changes in these raw material prices. When this is the case, the valuation analyst should perform independent research to gain an understanding of the future outlook for these various raw material prices and determine how changes to these prices would affect profitability.

In some cases, a company will offer different product or service lines with different levels of profitability. In these instances, the valuation analyst should obtain from management historical revenues and gross profit margin information broken down by product line. This information could be useful in preparing a forecast of revenues and cost of goods by product line. We used this methodology to calculate cost of goods sold for the gift shop and the food and beverage revenues generated by The New Amusement Park in our example presented earlier. This example is presented in exhibit 8.5.

EXHIBIT 8.5 Forecasting Cost of Goods Sold

Cost of goods sold was broken down into two categories: (a) food and beverage and (b) photo and gift.

We analyzed each of these items on a common size basis in relation to the sales amounts for each category. These calculations are summarized in table 35.

EXHIBIT 8.5 Forecasting Cost of Goods Sold

TABLE 35 Cost of Sales

	Historic					Common Size							
	2005	2006	2007	2008	2009	2010	2005	2006	2007	2008	2009	2010	4-Year Average
Food & Beverage Sales	\$ 512,610	\$ 494,724	\$1,003,087	\$ 976,000	\$ 775,824	\$690,628	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Snack Bar Cost of Sales	182,812	158,953	141,423	117,140	73,086	183,959	35.7%	32.1%	14.1%	12.0%	9.4%	26.6%	15.5%
Guest Lunch Cost	316,993	301,508	281,414	262,911	135,802	—	61.8%	60.9%	28.1%	26.9%	17.5%	0.0%	18.1%
Food & Beverage Supplies	59,670	59,410	69,587	50,469	31,574	25,974	11.6%	12.0%	6.9%	5.2%	4.1%	3.8%	5.0%
Total Food & Beverage Cost of Sales	\$ 599,579	\$ 519,871	\$ 492,425	\$ 430,521	\$ 240,463	\$209,293	109.1%	105.1%	49.1%	44.1%	31.0%	30.4%	38.6%
	2005	2006	2007	2008	2009	2010	2005	2006	2007	2008	2009	2010	6-Year Average
Photo and Gift Sales	\$2,166,372	\$2,161,553	\$2,117,417	\$2,044,346	\$1,434,983	\$979,433	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Photo and Gift Cost of Sales	\$ 343,137	\$ 436,678	\$ 382,848	\$ 371,863	\$ 264,179	\$156,860	15.8%	20.2%	18.1%	18.2%	18.4%	16.0%	17.8%

(continued)

EXHIBIT 8.5 Forecasting Cost of Goods Sold *(continued)***FOOD AND BEVERAGE**

For purposes of this analysis, food and beverage cost of goods sold consists of cost of goods sold for the snack bar, food and beverage supplies, and the category of expenses called "guest lunch costs," which represents lunch costs for visitors into the park. As the data in table 35 indicates, cost of sales for food and beverages has declined over the past four years in comparison to 2005 and 2006. This is primarily the result of the significant increase in food and beverage sales that occurred in 2007. Therefore, we calculated an average based on the years 2007–2010 to calculate cost of sales within this category.

GIFT SHOP

Gift shop cost of sales as a percentage of sales has shown more stability in comparison to food and beverage. Therefore, we calculated the six-year average common size percentage to account for cost of sales in this category.

When analyzing a company's gross profit margins, we often find it beneficial to compare the gross profit margins of the subject company to benchmarking data from composite data, industry surveys, or guideline public companies. In particular, Value Line's industry and company reports contain forecasts for gross profit margins. This information can be useful in analyzing expected trends in profitability because Value Line's forecasts typically account for factors such as expected changes in raw materials prices. Financial benchmarking data can be useful for forecasting gross profit margins for new companies or to serve as a reasonableness check for the gross profit margins forecasted for the valuation subject.

Operating Expenses

Once cost of goods sold is forecasted, the next step is to forecast operating expenses. Before preparing a forecast of operating expenses, the company's historical income statements should be normalized such that the historical expense data does not contain discretionary, non-operating, and nonrecurring items. Once the historical expense data has been adjusted for these items, a good starting point is to look at a company's expenses, line item by line item, to determine which expenses are variable and which are fixed.

Variable expenses typically increase or decrease in accordance with some measure, usually revenues. In order to determine if a particular expense is variable, the valuation analyst can look at the company's historical common size income statements. If the expense is dependent on revenues, the common size percentage for the expense items should be relatively stable. Some expenses may be variable in accordance with a measure other than revenues. For example, employee benefits and payroll taxes may vary with total salaries and wages as opposed to revenues.

Fixed expenses, on the other hand, are minimally affected by revenues in the short run. These expenses typically include rent, salaries, utilities, real estate taxes, and insurance. Because fixed expenses usually have a low correlation with revenues, the valuation analyst needs to review various documents, such as leases and insurance policies, to gain an understanding of how these expenses will change going forward. Oftentimes, forecasted inflation can be used to estimate future increases of some fixed expenses. The valuation analyst also needs to be aware that FASB has issued another new pronouncement on lease accounting. This pronouncement will have a significant impact by decreasing the number of operating leases and recording the discounted present value of all future lease payments in the liability side of the balance sheet and may change the classification of expenses formerly classified as rent. This pronouncement is effective for publicly held companies in the year 2019 and for closely held companies in the year 2020. Those folks at FASB have been busy, haven't they?

Depreciation and Capital Expenditures

Another expense that often needs to be forecasted is depreciation. The depreciation forecast should reflect the economic depreciation of the company's existing assets and capital expenditures to be made during the forecast period. If this is done, the impact on taxes must also be considered. Alternatively, if tax depreciation is used, the tax benefit should be reflected in the forecast. The type of depreciation used will depend on the purpose of the valuation assignment.

Before forecasting depreciation, the valuation analyst should ensure that the company is currently depreciating its fixed assets throughout their appropriate economic useful lives. If this is not the case, it may be necessary to normalize the company's historical depreciation before forecasting future depreciation.

In order to properly forecast depreciation, it is important to know the condition of the company's existing fixed assets to gain an understanding of what replacement expenditures the company will need to make in the near future. In addition, the valuation analyst should obtain anticipated capital expenditure data from management. The company's historical balance sheets can provide guidance on what a normal level of annual replacement expenditures have been historically. When forecasting depreciation, the valuation analyst should ensure that depreciation expense does not exceed capital expenditures in the terminal period because a company cannot depreciate more than it purchases into perpetuity (this will be discussed further in chapter 12). When a company reaches a stabilized level of performance, its depreciation expense and capital expenditures should approximate each other, with capital expenditures being greater than depreciation due to inflation. Oftentimes, it is necessary to extend the forecast out over a long enough period of time until depreciation expense and capital expenditure purchases stabilize.

Interest Expense and Borrowing Needs

In some instances, it may be necessary to forecast interest expense. Interest expense should include interest on the company's existing debt and anticipated interest on future borrowings. If the company anticipates making significant capital expenditures in the near term, the valuation analyst should find out from management whether any of these expenditures will be financed by debt, and if so, how much. The interest rate will also need to be forecasted. In order to properly forecast interest expense, the valuation analyst should review copies of all of the company's loan documents and obtain information on the company's current and future borrowing needs. When forecasting future borrowings, the valuation analyst needs to ensure that the forecasted borrowings are not significantly increasing the company's forecasted cash flows, leading to higher valuations. In theory, a company should not be able to become more valuable by borrowing more money.

When forecasting additional borrowings, the valuation analyst needs to ensure that the forecast does not result in the company significantly deviating from its capital structure. FASB's pronouncement on lease accounting may have a significant impact on capital structure because more companies will have to increase their liabilities. The valuation analyst must pay attention to these changes in accounting because they will affect the analysis, comparisons, trends, and so on. The valuation analyst should discuss with management whether the company plans to continue to stay leveraged or eventually pay all of its debt down to zero. If the company plans to continue to finance a portion of its operations with debt, it should be assumed that the company will maintain a similar capital structure going forward. Both the company's own capital structure and the capital structure of similar companies need to be considered. Changing the capital structure may depend on whether a controlling or minority interest is being valued.

In control valuations, when the company's capital structure differs significantly from its industry peers, it may be appropriate to forecast the company's performance on an invested capital basis, which removes the impact of interest expense and changes in net borrowings from the cash flow forecast. An invested capital analysis may also be appropriate when the company's borrowing activity has been erratic in the past. In invested capital cash flow forecasts, it is assumed that negative projected cash flows would have to be financed by the company through the use of debt.

An example of an expense forecast for the valuation of a nursing school is illustrated in exhibit 8.6. As can be seen in this exhibit, when forecasting expenses, we analyzed each individual expense item and labelled it as a variable cost or a fixed cost. In addition, we had to incorporate a unique capital spending budget into the forecast.

EXHIBIT 8.6 Expense Forecast

Operating Expenses: As part of its forecast, management provided details of its operating expenses for fiscal years 2015 and 2016. In a similar manner to revenues, we adjusted these operating expenses to reflect a 12-month period ending on November 30. We categorized The Nursing School's expenses into four categories: variable, labor, other, and rent for the main campus.

Variable expenses consist of student expenses and books, journals, and subscription expenses. These expenses were forecast to increase at the same rate as revenues because these expenses vary with the number of students and the level of tuition and fees.

Labor expenses consist of salaries and wages, independent contractors, and computer equipment and miscellaneous office repairs. According to management, most of the repair expenses consist of a contractor that The Nursing School uses for The Nursing School's IT needs. For salaries and benefits and independent contractors, we forecasted annual increases of 5 percent based on management's forecast. For computer equipment and miscellaneous office repairs, we forecasted annual increases of 10 percent based on management's forecast until The Nursing School reaches capacity during the 12-month period ended November 30, 2017. Upon reaching capacity, we reduced the annual rate of increase to 5 percent, which is more in line with The Nursing School's other forecasted labor costs.

Other expenses consist of non-variable expenses and non-labor-related expenses. These expenses were grown at an annual rate of 5 percent based on management's forecast until The Nursing School reaches capacity. Upon reaching capacity, growth of these expenses was reduced to an annual rate of 3 percent, which approximates historical inflation.

Rent expense for the main facility was adjusted in accordance with the deferred rent amortization schedule provided by management. The Nursing School recognizes its rent on a straight-line basis over the term of the lease agreement. By recognizing its rent expense in this manner, The Nursing School will show a stable rent expense over the term of the lease. In the early years, The Nursing School's cash rent expense is lower than its scheduled rent expense, which creates a liability that accrues over time. Eventually, the cash rent expense will exceed the scheduled rent expense, which will reverse and reduce the liability to zero.

In forecasting The Nursing School's expense, we used The Nursing School's interim financial statements and management's forecast to construct the latest 12-month rent expense ended November 30, 2015. The rent expense in each period includes the cash rent less the deferred benefit. The difference between these items reflects the actual rent expense that will be paid. Based on The Nursing School's deferred rent amortization schedule, cash rent is increased by an inflationary rate of 3 percent per year. Using this same inflation rate, we forecasted rent expense for the remaining term of the lease agreement, until the deferred liability was reduced to zero. These calculations are presented in table 14.

EXHIBIT 8.6 Expense Forecast

TABLE 14 Deferred Rent Amortization For Remainder Of Lease Term

LTM November 30,	Cash Rent	Deferred Benefit	Rent Expense Deferred Rent Liability	Deferred Rent Liability
2015	\$341,237	\$(33,427)	\$374,664	\$(296,679)
2016	351,474	(25,878)	377,353	(322,557)
2017	362,019	(18,103)	380,122	(340,660)
2018	372,879	(10,095)	382,974	(350,755)
2019	384,066	(1,847)	385,912	(352,602)
2020	395,588	6,649	388,938	(345,953)
2021	407,455	15,400	392,055	(330,552)
2022	419,679	24,414	395,265	(306,139)
2023	432,269	33,697	398,572	(272,441)
2024	445,237	43,260	401,978	(229,182)
2025	458,594	53,109	405,486	(176,073)
2026	472,352	63,253	409,099	(112,820)
2027	486,523	70,580	415,942	(42,239)
2028	501,118	42,239	458,879	—

Depreciation and Capital Expenditures: We forecasted depreciation based on the depreciation of The Nursing School's existing assets and the depreciation of the new assets that The Nursing School expects to acquire in the future. The Nursing School's fixed assets consist of leasehold improvements, furniture and fixtures, computer equipment, and medical equipment. We depreciated leasehold improvements over a 13.5-year useful life as The Nursing School is 1½ years into its lease agreement. In addition, we depreciated computer equipment and furniture and fixtures over their remaining economic useful lives, which were estimated as 3.5 and 10 years, respectively.

The next step in the forecast of depreciation expense is to forecast future capital expenditures. According to management, The Nursing School has the following short-term capital spending needs:

	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Total
Simulator	\$ —	\$200,000	\$ —	\$ —	\$ —	\$ —	\$200,000
LHI Sim Lab	5,000	5,000	20,000	40,000	40,000	40,000	150,000
Sim Lab Furniture/ Fixtures	—	—	—	—	20,000	—	20,000
Sim Lab Computer/ Electronics	—	—	—	—	20,000	—	20,000
Total	\$5,000	\$205,000	\$20,000	\$40,000	\$80,000	\$40,000	\$390,000

(continued)

EXHIBIT 8.6 Expense Forecast *(continued)*

Based on The Nursing School's immediate needs, \$390,000 of capital expenditures were forecast to be completed during the 12-month period ended November 30, 2015. The simulator was depreciated over a 5-year useful life; the leasehold improvements were depreciated over a 15-year useful life; furniture and fixtures were depreciated over a 12-year useful life; and computers were depreciated over a 5-year useful life.

The next step in our forecast of capital expenditures is to forecast replacement expenditures of existing equipment and recently acquired equipment associated with the simulation laboratory. Replacement expenditures for each category of fixed assets are as follows:

Simulator: According to management, The Nursing School will need to acquire a new simulator approximately every five years. Therefore, built into our forecast was a large expenditure related to the purchase of a new simulator every five years. We adjusted the \$200,000 purchase price for annual inflationary increases of 3 percent throughout the forecast period. Future expenditures related to the purchase of a new simulator are as follows:

2015	\$200,000
2020	231,855
2025	268,783

Computer Equipment: Replacement expenditures for computer equipment were broken down into two categories: replacement of existing computer equipment and replacement of computer equipment associated with the simulation laboratory.

Replacement of existing computer equipment for the 12-month period ended November 30, 2016 was forecast to be \$15,000. This represents the approximate amount of The Nursing School's historic annual depreciation expense relating to computers, adjusted upwards for inflation, along with new equipment needed for additional employees to be hired. Going forward, capital expenditures relating to the replacement of existing computers are forecast to increase at an inflationary rate of 3 percent annually.

The replacement of computer equipment for the simulation laboratory was forecast to be \$4,200 for the 12-month period ended November 30, 2016. This represents an inflationary level over the annual depreciation expense associated with these assets.

Furniture and Fixtures: Replacement expenditures related to furniture and fixtures were also divided into the replacement of existing furniture and replacement of furniture associated with the simulation laboratory.

Replacements of existing furniture were forecast to be \$12,400 during the latest 12-month period ended November 30, 2016. This also represents the approximate amount of The Nursing School's historic annual depreciation expense related to furniture, adjusted upwards for inflation, along with new furniture needed for additional employees to be hired. Going forward, these expenditures were forecast to increase at an inflationary rate of 3 percent annually.

The replacement of furniture for the simulation laboratory was forecast to be \$1,800 for the 12-month period ended November 30, 2016. This represents an inflationary level above the annual depreciation expense for these assets.

Leasehold Improvements: Replacements of leasehold improvements were forecast to be \$5,000 for the 12-month period ended November 30, 2016. This \$5,000 reflects replacement expenditures for various leasehold improvements, including the security system, exterior signage, blinds, and various other recurring expenditures. The \$5,000 also reflects an upward adjustment to reflect additional leasehold improvements relating to the simulation laboratory. The capital expenditure forecast for the 12-month period ended November 30, 2016 through November 30, 2016 is presented in the following table.

EXHIBIT 8.6 Expense Forecast *(continued)*

LTM Ended November 30,					
	2016	2017	2018	2019	2020
Simulator	\$ —	\$ —	\$ —	\$ —	\$ 231,855
Computers	19,200	19,776	20,369	20,980	21,610
Furniture	14,200	14,626	15,065	15,517	15,982
Leasehold Improvements	5,000	5,150	5,305	5,464	5,628
Total	\$38,400	\$39,552	\$40,739	\$41,961	\$275,074

Taxes: Taxes have been calculated based on federal and state corporate income tax rates that were in effect as of the valuation date. Regardless of the type of entity that would operate The Nursing School, a willing buyer would either pay tax at the entity level or pass through enough cash flow to pay tax at an individual level. Therefore, these monies would not be available for reinvestment by The Nursing School.

Balance Sheet Forecast

Once the income statement forecast is completed, it becomes possible to prepare a balance sheet forecast. Similar to the income statement forecast, the balance sheet forecast can be broken down into item-by-item steps. The easiest technique may be to simply go down the balance sheet, starting at cash and ending with equity.

Assets and liabilities can be forecast based on a variety of factors. These factors include historical common size analysis, ratio analysis (for example, days accounts receivable), management estimates, or as a percentage of an income statement item (for example, sales, cost of sales, operating expenses, and so on).

After completion of the forecast, it is necessary to review the forecast, item by item, to ensure that every number makes sense. Is the financial statement forecast of sales and net income reasonable? Does the balance sheet balance? Are the asset and liability levels reasonable? How do the forecasted common size financial statements and ratios compare to the historical items? Once the forecast is finalized, it becomes possible to complete the discounted future benefits method.

Once the forecast is reviewed and finalized, net cash flow can be calculated. Remember, the definition of *cash flow*, as used in a valuation context, differs from the traditional accounting definitions as described in FASB Statement No. 95, *Statement of Cash Flows* (codified in FASB *Accounting Standards Codification* 230, *Statement of Cash Flows*). There are two ways to calculate cash flow: one based on equity and one based on invested capital. Basic net cash flow (equity) is calculated as follows:

	Normalized net income
+	<u>Normalized noncash charges</u>
=	Gross cash flow
-	Anticipated capital expenditures
+ or -	Working capital necessary to support growth
+ or -	Debt borrowings or repayment
-	<u>Preferred stock dividends</u>
=	<u>Net cash flow to common equity</u>

The manner in which net cash flow is derived will depend on whether the valuation analyst is valuing the equity or the invested capital of the company. As a reminder, valuing the invested capital involves the valuation of the total capital structure (equity and long-term debt). This used to be called *valuing the company on a debt-free basis*. The net cash flow model illustrated previously is used by a valuation analyst when he or she is valuing the equity of the company. If the goal is to value the invested capital of the company, certain modifications must be made. Interest expense is added back, net of taxes, to restate the net income on an invested capital basis. Because interest expense gives rise to a tax benefit, the add-back must be reduced by the corresponding tax benefit. Another modification is that there will be no addition or subtraction for new borrowings or repayment of old borrowings. Logically, if I am attempting to derive an invested capital result, debt should be eliminated from the model. This results in the net cash flow model for invested capital.

	Normalized net income
+	Interest expense (net of taxes)
+	<u>Normalized noncash charges</u>
=	Gross cash flow
-	Anticipated capital expenditures
+ or -	<u>Working capital necessary to support growth</u>
=	<u>Net cash flow to invested capital</u>

Continuing with the nursing school example, the steps we took in order to derive a balance sheet and a net cash flow forecast are outlined in exhibit 8.7. As can be seen in this exhibit, we analyzed each balance sheet account, line item by line item, and used the college's historical financial ratios and common size percentages as guidance to determine what the future will look like. In addition, due to the erratic nature of the school's capital expenditures, we were forced to extend the forecast over a long period of time to allow the school to reach a stable level of performance.

EXHIBIT 8.7 Balance Sheet and Cash Flow Forecast

The Nursing School's pre-tax income was negative during fiscal years 2013 and 2014 before earning a profit during the latest 12-month period ended November 30, 2014. As a result, The Nursing School would not have had the ability to pay distributions during fiscal years 2013 and 2014. Although The Nursing School was profitable during the latest 12-month period ended November 30, 2014, these profits would not be available for distribution due to large short-term capital spending requirements. However, a company's future net cash flow is an indication of its dividend-paying capacity. In order to determine future net cash flow, we first forecasted The Nursing School's balance sheet. The first five years of this forecast appears in table 15.

EXHIBIT 8.7 Balance Sheet and Cash Flow Forecast**TABLE 15 Balance Sheet Forecast**

	2015	2016	2017	2018	2019
Current Assets					
Cash	\$1,859,501	\$2,128,453	\$2,251,459	\$2,355,026	\$2,463,358
Other Current Assets	22,599	25,868	27,363	28,622	29,938
Total Current Assets	\$1,882,100	\$2,154,321	\$2,278,822	\$2,383,648	\$2,493,296
Fixed Assets					
Gross Fixed Assets	\$1,652,896	\$2,042,896	\$2,081,296	\$2,120,848	\$2,161,586
Capital Expenditures	390,000	38,400	39,552	40,739	41,961
Accumulated Depreciation	(404,339)	(594,730)	(790,558)	(958,895)	(1,133,000)
Net Fixed Assets	\$1,638,557	\$1,486,566	\$1,330,290	\$1,202,692	\$1,070,547
Other Assets	\$58,557	\$67,026	\$70,900	\$74,161	\$77,573
Total Assets	\$3,579,214	\$3,707,913	\$3,680,012	\$3,660,501	\$3,641,416
Total Current Liabilities	\$1,101,398	\$1,207,450	\$1,264,933	\$1,323,956	\$1,385,737
Total Long-Term Liabilities	296,679	322,557	340,660	350,755	352,602
Total Liabilities	\$1,398,077	\$1,530,007	\$1,605,593	\$1,674,712	\$1,738,339
Total Unrestricted Net Assets	2,181,137	2,177,906	2,074,419	1,985,789	1,903,078
Total Liabilities and Equity	\$3,579,214	\$3,707,913	\$3,680,012	\$3,660,501	\$3,641,416

The assumptions for the balance sheet forecast are as follows:

Cash: Cash was forecasted by applying The Nursing School's cash turnover ratio of 2.85 as of November 30, 2014 to The Nursing School's revenues in each forecast period.

Other Current Assets: Other current assets consisting of prepaid expenses were forecasted to remain at less than 1 percent of sales over the forecast period. This was based on The Nursing School's most recent other current assets-to-sales ratio.

Other Assets: Other assets consist of deposits and are forecasted to remain at recent historic levels of approximately 1 percent of sales.

Current Liabilities: Current liabilities consist of accrued expenses, student deposits, and deferred tuition. Accrued expenses, consisting of accrued wages and vacation were forecasted as a percentage of salaries based on The Nursing School's accrued wages-to-salaries ratio for the latest 12-month period ended November 30, 2014.

(continued)

EXHIBIT 8.7 Balance Sheet and Cash Flow Forecast *(continued)*

Student deposits were forecasted as a percentage of tuition revenues based on the student deposits-to-tuition-revenues ratio for the same period. Deferred tuition balances were calculated to reflect two months of tuition revenues in each period going forward.

Other Liabilities: Other liabilities consist of deferred rent. Using The Nursing School's deferred rent amortization schedule provided by management, we calculated The Nursing School's deferred rent liability balance as of November 30 of each year. This liability reaches a balance of 0 by the 12-month period ended November 30, 2028.

Based on the forecasted financial statements, the first five years of forecasted debt-free cash flow are as follows:

TABLE 16 Calculation of Net Cash Flow 12-Month Period Ended November 30,

	2015	2016	2017	2018	2019
Debt-Free Net Income	\$ 116,079	\$ 269,853	\$319,535	\$362,995	\$386,656
+ Depreciation	159,879	190,391	195,828	168,337	174,105
– Capital Expenditures	(390,000)	(38,400)	(39,552)	(40,739)	(41,961)
– Increase in Working Capital	(146,907)	(166,169)	(67,018)	(45,803)	(47,868)
– Increase in Other Assets (Liabilities)	20,118	17,409	14,229	6,834	(1,565)
Debt-Free Net Cash Flows	\$(240,830)	\$ 273,084	\$423,022	\$451,625	\$469,367

As the preceding table indicates, The Nursing School incurs a large cash outflow during the first period. However, The Nursing School experiences solid growth in its net income as the result of the addition of new students and the commencement of the ABCD program.

In analyzing the first five years of the cash flow forecast, it becomes apparent that depreciation expense exceeds capital expenditures. This is primarily the result of the large annual depreciation expense related to the leasehold improvements completed in 2013. Depreciation expense in excess of capital expenditures cannot continue into perpetuity because The Nursing School cannot depreciate more assets than it acquires.

Another issue that arises is the treatment of The Nursing School's deferred rent liability. The Nursing School's cash flow cannot stabilize until this liability is completely removed from the balance sheet because this liability will not exist into perpetuity.

Based on these factors, we extended the forecast an additional 11 years until the leasehold improvements were fully depreciated and the deferred rent liability was completely reversed in order to allow for stabilization. The remaining cash flows are as follows:

EXHIBIT 8.7 Balance Sheet and Cash Flow Forecast

2020	\$256,253
2021	506,991
2022	525,260
2023	544,182
2024	563,762
2025	311,969
2026	603,078
2027	625,570
2028	629,493
2029	633,541
2030	638,481

As seen previously, net cash flow declines in 2020 and 2025 due to the purchase of a new simulator. By 2030, we anticipate that the gap between capital expenditures and depreciation will close because The Nursing School will incur lower depreciation expense as the leasehold improvements are fully depreciated. In addition, capital expenditures could potentially increase due to spending on additional leasehold improvements, the recurring need to purchase a new simulator, and the various recurring replacement expenditures. Based on these factors, we believe that The Nursing School's operating performance reaches a sustainable level by 2030.

Applicable Standards for Forecasts in Business Valuation and Economic Damage Assignments

Because this book is published by an accounting organization, I feel obligated to discuss what the reporting requirements are for a CPA valuation analyst. CPAs have a number of standards to follow, including the following:

- Statement on Standards for Valuation Services (SSVS)
- Statements on Auditing Standards (SASs)
- Statements on Standards for Accounting and Review Services (SSARSs)
- Statements on Standards for Attestation Engagements (SSAEs)

Given the increasing number of members of the AICPA who are performing business valuation engagements or some aspect thereof, the AICPA Consulting Services Executive Committee issued SSVS No. 1, *Valuation of a Business, Business Ownership Interest, Security, or Intangible Asset* (AICPA, *Professional Standards*, VS sec. 100), in June 2007. The standard is effective for engagements entered into beginning January 1, 2008. I reviewed SSVS No. 1 for those statements applicable to forecasts or the discounted future benefits method. Paragraph .33 (reproduced, in part, as follows) outlines the factors to consider in performing the income approach:

.33 Income Approach. Two frequently used valuation methods under the income approach include the **capitalization of benefits method** (for example, earnings or cash flows) and the **discounted future benefits method** (for example, earnings or cash flows). When applying these methods, the valuation analyst should consider a variety of factors, including but not limited to, the following:

- a. *Capitalization of benefits (for example, earnings or cash flows) method.* The valuation analyst should consider the following:
 - i. **Normalization** adjustments
 - ii. Nonrecurring revenue and expense items
 - iii. Taxes
 - iv. Capital structure and financing costs
 - v. Appropriate capital investments
 - vi. Noncash items
 - vii. Qualitative judgments for risks used to compute discount and **capitalization rates**
 - viii. Expected changes (growth or decline) in future benefits (for example, earnings or cash flows)
- b. *Discounted future benefits method (for example, earnings or cash flows).* In addition to the items in item a, the valuation analyst should consider the following:
 - i. Forecast or projection assumptions
 - ii. Forecast or projected earnings or cash flows
 - iii. **Terminal value**

In addition to SSVS No. 1, what other standards are applicable to forecasts prepared for use in business valuations? To answer this question, I reviewed Interpretation No. 1, "Scope of Applicable Services," of VS section 100 (AICPA, *Professional Standards*, VS sec. 9100 par. .01–.89). Illustration 22 (paragraphs .74–.75) indicates that the valuation analyst does not need to examine or compile prospective financial information in accordance with the SSAEs. Paragraphs .74–.75 are as follows:

.74 Illustration 22. In the course of performing a valuation under the Statement, if a valuation analyst prepares prospective financial information (for example, as part of a discounted cash flow or discounted earnings analysis within the income approach), does this require the valuation analyst to examine or compile such information in accordance with the Statements on Standards for Attestation Engagements (SSAEs) [AT sections 20–701]

.75 Conclusion. No, chapter 1, "Attest Engagements," of SSAE No. 10, *Attestation Standards: Revision and Recodification* [AT section 101.01], states that the attestation standards apply when a practitioner is "engaged to issue or does issue an examination, a review, or an agreed-upon procedures report on subject matter, or an assertion about the subject matter..., that is the responsibility of another party." If the valuation analyst has not been engaged to examine, compile, assemble, review, or apply agreed-upon procedures to prospective financial information, and does not issue an examination, compilation, assembly, or agreed-upon report on prospective financial information, the SSAEs [AT sections 20–701] do not apply (SSARS 14 [AR section 120]).

In performing forecasts for business valuation purposes, the valuation analyst needs to comply with SSVS No. 1 but is not required to examine or compile the forecasts in accordance with other accounting standards. Although this is the case, it is still a recommended practice to include a disclaimer such as the following:

In preparing these Financial Forecasts, we have relied upon historical financial information provided to us by management and derived from corporate tax returns. This information has not been audited, reviewed or compiled by us, and, accordingly we do not express an opinion or any form of assurance on any of this material. By their nature it is not possible to accurately predict future results of operations and financial positions of an entity. While these Financial Forecasts have been prepared in conjunction with management based on their views of the most probable assumptions as to future events and courses of actions, the actual results will differ from those projected and the variances may be material.

In other words, the traditional accounting standards do not apply to these types of engagements. However, common sense should guide the valuation analyst into doing the correct thing.

Court Acceptance

In tax-related valuation assignments, Revenue Ruling 59-60 discusses the fact that, "valuation is a prophecy of the future." This is an indication that the future is an important component of the valuation process. In *Central Trust v. United States*,⁶ the court found that "past earnings are important only insofar as they reasonably forecast the future earnings."

In the *Estate of Kirkpatrick*,⁷ the court emphasized the fact that a potential investor would analyze the business enterprise from the viewpoint of its prospects as a money-making enterprise. In the Delaware Chancery Court, there have been numerous decisions relying on a discounted cash flow methodology. In some nontax-related appraisals (divorce appraisals), the courts are still uncertain about using forecasts. However, more and more courts are beginning to accept this methodology if a well-thought-out and properly presented forecast is used in a valuation. Some judges are uncomfortable with forecasts and discount their value.

It is up to the valuation analyst to be able to explain the importance of the future in the context of a valuation assignment. Who buys history? Many divorce-related valuations refer to Revenue Rulings 59-60 and 68-609, so the valuation analyst should remember that these rulings emphasize "probable future earnings." The problem is that the judge gets an uncomfortable feeling because the forecasts are usually poorly done. This makes the forecasts seem highly speculative. Performing a forecast is not a guarantee that the company will actually achieve the forecast results, but not doing a forecast is like not really doing a valuation. Even if the valuation analyst uses historical data, he or she is effectively saying that the future is expected to resemble the past.

In *Valuing a Business*, the authors discuss the court acceptance of forecasts as follows:

In court, the parties to an action and the judge rely on evidence to support a particular position. Historical facts are often considered more credible evidence in the eyes of the court than future projections of what somebody thinks will happen. Therefore, when legal evidence is required, the focus tends to be on the historical record of financial performance; future benefits and their predictability as of the valuation date can be more difficult to establish, unless backed up with solid foundational research. The courts generally prefer provable historical results to unprovable expectations of future results, but some courts are becoming more amenable to accepting projections prepared in the ordinary course of business. The extent to which a court will accept projections as evidence in a valuation case is probably a function of the degree of confidence the court has in the validity of those projections based upon information available as of the valuation date, as well as the credibility of the evidence and the witness. While courts continue to apply judicial scrutiny to the reasonableness of specific projections, it is noteworthy that in recent years courts have become much more accepting of the application of the discounted cash flow method as a valuation methodology.⁸

The key to having the court accept a forecast is to properly document the assumptions. The valuation analyst should not just blindly ask the client for a forecast and accept it as if it is objective. Clients have desired end results, and despite what they say about not understanding the business valuation process, they almost always know if they need a good forecast or a "doom and gloom" forecast. The valuation analyst should not get caught up in being an advocate for his or her client, particularly in a litigation assignment, because it will come back to haunt the analyst.

An example of this took place in the Minnesota U.S. District Court in the case of *US Salt, Inc. v. Broken Arrow, Inc.*⁹ The court had little trouble finding that the expert's reports contained "very little analysis and were riddled with unsupported assumptions." In fact, when asked in a prior deposition whether he had done anything to verify whether the information and projections relied upon were accurate, the expert answered quite frankly:

⁶ *Central Trust v. United States*, 305 F. 2d 393 (1962).

⁷ *Estate of Kirkpatrick*, T.C. Memo 1975-344.

⁸ Shannon P. Pratt and Alina V. Niculita, *Valuing a Business*, 5th ed. (New York: McGraw Hill, Inc., 2008): 57.

⁹ *US Salt, Inc. v. Broken Arrow, Inc.*, 563 F. 3d 687, Court of Appeals, 8th Circuit, 2009.

"not that comes to mind." Without an independent, objective opinion on the part of the expert, the court found that the management's estimates were "nothing more than optimistic projections." Further, the court concluded that "[the expert's] wholesale acceptance of [management's] projections without any verification of these estimates or any independent market analysis is simply too speculative to submit to a jury."

In another case, *Richard S. Gesoff v. IIC Industries, Inc., CP Holdings Limited, Kenyon Phillips Acquisition, LLC, Bernard Schreier, John Smith, Robert M. Levy, Robert Glatter, and Alfred L. Simon*,¹⁰ the expert adjusted management's forecasts, which created a result that differed considerably from the forecasts produced by management. According to the court

Defendant's Expert personally prepared the forecasts used in his valuation for Zoko, purportedly based on management forecasts, but adjusted downward for various reasons having to do with Zoko's business situation as of the valuation date. The Court is not persuaded that Defendant's Expert's revisions to the Zoko management projections are reliable, and their use would cut against this court's belief that management projections are generally preferable to projections by third parties, especially projections by third parties created after the fact.

In these two cases, one expert relied on management's forecast and the other adjusted management's forecast; yet, each of these forecasts was deemed unreliable and was not used. What the experts failed to do was verify the acceptability of their forecasts and adequately document their assumptions. Once again, the valuation analyst should never blindly accept forecasts performed by management and if the analyst does adjust these forecasts, he or she needs to make sure to document the assumptions and make certain the final result makes sense.

Conclusion

Forecasting is not an easy task if it is done properly. It requires a considerable amount of time to properly support all the assumptions used. It does not matter whether management has provided the forecast to the analyst or if the valuation analyst had to prepare it from scratch. At the end of the process, the forecast has to make sense. If the valuation analyst is not comfortable working with forecasts, business valuation may not be the right specialty for that person. There is no way to avoid having to deal with forecasts if business valuation is the field of choice. Let's move on.

¹⁰ *Richard S. Gesoff v. IIC Industries, Inc., CP Holdings Limited, Kenyon Phillips Acquisition, LLC, Bernard Schreier, John Smith, Robert M. Levy, Robert Glatter, and Alfred L. Simon*, 902 A. 2d 1130, Del: Court of Chancery, 2006.