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# Confronting Behavior Bias

Posted date: **October 30, 2019** In: **QuickRead Top Story, Valuation/Appraisal**

## In Financial Projections (Part II of II)

This is a two-part article that considers the review and assessment of prospective financial information. Specifically, this discussion describes the behavioral bias that may influence financial projections. This discussion should inform any party involved in compiling or assessing financial projections. This discussion is particularly relevant for fiduciaries who may be involved in the transaction or other investment decision-making process.

In Part I of this article, the authors discussed key questions fiduciaries should ask to understand financial projections and eliminate or reduce bias. In this second-part, the authors discuss company-specific considerations—a qualitative approach and a quantitative approach—that may be helpful to avoid cognitive biases.

**Company-Specific Considerations**

An analysis of company-specific factors may assist the financial adviser or the fiduciary in determining how the business will perform in comparison to the economy and industry. In addition, a financial adviser may want to analyze potential risk factors that could prevent a company from meeting its earnings expectations.

The following guideline questions1 may help the financial adviser to assess the company-specific aspects of the financial projections:

- How does the subject company compare to the industry? Is the company a large player or a small player in the industry?

A large industry player is likely to have more control than a small player and, therefore, may have the ability to push smaller players out in order to increase its market share.

A larger company is also likely to benefit from economies of scale. A financial adviser may want to consider how economies of scale influence financial projections.

- How old is the company? Is the company in a growth stage?

A mature company is likely to have an established customer base and product. Therefore, a mature company is likely to experience less volatility compared to a growth-stage company. However, a mature company is likely to experience low to medium levels of growth, compared to a growth-stage company, which is likely to anticipate high levels of growth.

A financial adviser may want to consider how the age of a company may influence a company's future performance when assessing financial projections.

- What percentage of market share does the company have?

A company with a high level of market share is likely to have more control of an industry and may benefit from economies of scale; however, its growth potential is limited by the available remaining market share.

Market share may be a value driver in the financial projections. In some instances, it may be useful to create multiple scenarios with various levels of market share that may be captured.

- Does the company distribute its products locally, regionally, nationally, or internationally?

Where a company distributes its products may influence the potential market share of that company. If a company can only distribute its products to a limited area, then it may not have the market share potential of a company that can distribute products to a broad area.

If a company is planning to expand the area in which it distributes products, then the financial adviser may want to consider how that plan is incorporated in the financial projections.

- Are there alternative products available in the marketplace that may affect the future of the company's goods and services?

Alternative products may force a company to compete on price in order to maintain desirable revenue levels and market share, therefore, decreasing future performance.

- What is the attrition rate of employees?

A company with a high attrition rate may not be able to meet projected financial results if it is unable to retain enough employees to complete projects and operate efficiently.

- What is the management structure of the company? Is the business highly dependent on a few key people?

Additional risk may be considered if a company is highly dependent on a few key personnel in order to grow or maintain current operating levels. The management structure of a company may change during an acquisition.

The financial adviser may want to consider how a change in the management structure may change the story and future cash flow of a company.

- Is there a succession plan for management?

A management succession plan may be an important aspect of the projection story, creating a clearer outlook for the future of a company.

- Is the company highly dependent on a select group of customers or suppliers? How is the company's relationship with these customers or suppliers and what sort of customer or supplier contracts does the company have in place?

A company that is highly dependent on a select group of customers or suppliers is more susceptible to concentration risk than a company with a diversified portfolio of customers and suppliers.

However, strong relationships with customers and suppliers may reduce costs and uncertainty for a company. Contracts also allow a company to better project costs and earnings.

- What level of capital expending will assist a company in meeting its earnings goals?

For a company to operate effectively, it may require capital expending.

The financial adviser may want to consider what an appropriate level of capital expending may be when assessing projections. The financial adviser may want to consider how capital expending may differ during a high growth period compared to a low growth period.

- What prospective clients and projects are in the company's pipeline?

Projections that consider specific clients and projects reduce the haziness associated with more ambiguous forecasts. An analysis may then be performed regarding the likeliness of a company obtaining/retaining specific clients and projects, and how they may affect future cash flow.

Analyzing the various factors that may affect the earning potential of a company may help a financial adviser determine the reasonableness of projections. These factors may support or weaken the "story" that management has incorporated in its financial projections.

**Quantitative Analyses**

In addition to analyzing the qualitative aspects and potential biases associated with projections, a financial adviser may also want to consider the application of quantitative methods.

A practical quantitative approach is to compare the projected financial fundamentals and ratios with historical financial fundamentals and ratios. Some of the financial fundamentals and ratios that may be considered include the following:

- Return on assets
- Return on equity
- Earnings before interest and taxes margins
- Earnings before interest, taxes, depreciation, and amortization margins
- Ratio of capital expenditures to sales
- Revenue growth rates
- Ratio of free cash flow to sales
- Working capital turnover

After comparing projected financial metrics with historical metrics, a statistical analysis can be performed in order to determine if a projected financial metric is reasonable.

Statistical models benefit from their dependence on historical data points, which creates a level of objectivity. In addition, a statistical model benefits from the ability to be easily replicated.

However, a statistical model is likely to neglect several variables and drivers that may be important in order to project future earnings and, therefore, may be applied to assist a financial adviser in reviewing financial projections, not to create bespoke explicit projections. A statistical model may provide evidence regarding the reasonableness of the financial projections.

One type of statistical model is an econometric model. An econometric model determines relationships between economic variables by applying probability and frequency distributions. Frequently applied econometric models include time-series models and panel-data models.

A time-series model tracks observations (i.e., historical revenue) at different time intervals and projects outcomes based on a distribution. Time-series models are designed to determine possible outcomes for the next period (i.e., net income in one year).

A panel-data model applies a combination of time-series models and cross-sectional data in order to determine outcomes for multiple periods (i.e., year-1, year-2, and year-3 net income) and have the capability to determine binary outcomes (i.e., will a company be profitable in the next year?).

An econometric model may be utilized to determine the reasonableness of projected growth rates when compared to historical growth rates. Several simulations may be run through an econometric model, and the data collected could be utilized to determine a distribution of possible future outcomes.

A financial adviser could then select a confidence interval range in order to determine a reasonable range of growth rates for the projected period. If the actual projected growth rates are outside of the confidence interval selected by the financial adviser, it may signal that more questions need to be asked about the financial projections.

One of the limitations of this methodology is that it is solely dependent on historical data. However, this dependence on historical data promotes the objectivity of this method.

**Alternatives to Relying on Financial Projections**

In some circumstances, the application of projections may not support the most appropriate indicator of value. There are various other valuation methods and approaches that may be applied when financial projections are not the best indicator of value.

*Income Approach—Direct Capitalization Method*

In the direct capitalization method, an appropriate measure of income is estimated and divided by an appropriate investment rate of return. The normalized income measure is typically based on historical levels or a one-year budget. This is different from the DCF method, which projects the appropriate measure of income for several discrete time periods into the future.

Instances when the direct capitalization method may be applicable include the following:

- The company is in the mature stage of its life cycle
- A company is projected to have stable earnings into the future
- A company does not anticipate experiencing any significant changes during the near-term
- Financial projections are unreliable or are unavailable

*Asset-Based Approach*

The Asset-based Approach relies on valuation methods that analyze the value of a company's assets and liabilities. Indications of the value for each asset and each liability are estimated in order to derive an indication of the total company value.

***Market Approach***

The Market Approach relies on publicly available financial fundamentals in order to derive market-based pricing multiples. These pricing multiples are applied to the subject company's financial fundamentals in order to derive an indication of value. Two Market Approach methods rely on (1) guideline publicly traded company pricing multiples and (2) merger and acquisition transaction data.

The Market Approach may be applicable when there are publicly traded companies or available merger and acquisition transaction data involving companies that are sufficiently comparable to the subject interest. In addition, both historical and prospective data can be applied in a Market Approach. However, financial projections are not typically required in order to apply the Market Approach.

**Summary and Conclusion**

The task of reviewing financial projections is a challenge. The fiduciary and the financial adviser are in the position of assessing future prospects and assigning risk to the charted path. The financial adviser's assignment is almost always subject to scrutiny—and those reviewing the analysis in the future will have the benefit of hindsight—or they will likely be influenced by hindsight bias.

The fiduciary and the financial adviser are not expected to predict the future. Rather, the fiduciary and the financial adviser are expected to understand the expected performance (the expected outcomes) of the company and assess the risk of those outcomes.

The fiduciary process of reviewing projections may be improved by adjusting for behavioral bias and understanding the story that the projections present and whether alternative stories are available.

Understanding the various factors and drivers of financial projections is not a simple task. However, it is an important task in the adviser's assessment of financial projections.

Obtaining a comprehensive understanding of economic-, industry-, and company-specific factors allows the fiduciary and the financial adviser to better analyze projections. Additionally, a financial adviser may be able to apply quantitative models in order to signal potential issues in projections.

By applying a knowledge of behavioral bias to the development of financial projections, a fiduciary or financial adviser may better assess the reasonableness of projections. A comprehensive and documented analysis of the forms of bias that may be of

concern in the development of projections is not necessarily the duty of the fiduciary (or the financial adviser) but may be proven useful in the instance that a transaction is scrutinized.

*This article was previously published in* Willamette Insights, Spring 2019, *and is reprinted here with permission.*

Notes:

1. Some questions taken from Trugman, *Understanding Business Valuation*, 176.

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