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Business Valuation, Forensic Analysis, and Financial Opinion Insights

Thought Leadership in Shareholder Litigation—Breach of Fiduciary Duty and Other Tort Claims

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We welcome reader comments, suggestions, and questions. We welcome reader recommendations with regard to thought leadership topics for future *Insights* issues. In particular, we welcome unsolicited manuscripts from legal counsel, accountants, bankers, and other thought leaders involved in the valuation and forensic services community. Please address your comments or suggestions to the editor.

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Editor for This Issue: Kevin M. Zanni

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Forethoughts

This *Insights* issue focuses on shareholder tort litigation matters. More specifically, this issue focuses on valuation and forensic analysis issues related to statutory shareholder rights, dissenting shareholder appraisal rights, and shareholder oppression claims.

Shareholder grievances may involve claims against a corporation, a corporate board of directors, and/or the officers of a corporation. These grievances commonly include claims for breach of fiduciary duty, unfair and inequitable dividend policy, unjust enrichment due to excessive officers' compensation, the receipt of less than fair consideration paid in a merger or acquisition, and/or dissipation of corporate assets.

Because of the numerous business-related litigation claims filed each year in the State of Delaware, this *Insights* issue provides a significant discussion of the judicial decisions of the Delaware Court of Chancery. Many of these Delaware Chancery Court judicial decisions involve either dissenting shareholder appraisal rights claims or noncontrolling shareholder oppression claims.

This *Insights* issue also discusses best practices in the valuation of not-for-profit businesses and their assets. This *Insights* issue also describes common post-acquisition pricing disputes and price adjustments, the importance of forensic analysis to prove lost profits damages claims, and fiduciary guidelines with respect to the due diligence review of prospective financial information.

Willamette Management Associates analysts regularly provide independent financial adviser, economic damages, forensic analysis, and valuation consulting services for securities-related tort claims or breach of contract claims. These forensic analysis services include both consulting expert services and testifying expert services.

About the Editor

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Kevin's practice includes damages measurement analysis related to breach of contract claims and tort claims. In particular, Kevin has particular experience with regard to the damages analysis of intangible assets and intellectual property. Kevin holds a bachelor of science degree in business administration, with a major in finance, and a master of arts degree in international business, both from the University of Florida. Prior to college, Kevin proudly served in the U.S. Army.

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In 2014, Kevin was interviewed twice by the National Public Radio *Marketplace* radio program regarding the valuation and sale of the Los Angeles Clippers. Kevin is a past president of the Chicago Chapter of the American Society of Appraisers. He is the past president and a current board member of the Business Valuation Association of Chicago.

Thought Leadership Discussion

Standards of Value and Fair Value Decisions in the Chancery Court

Kevin M. Zanni and Chad M. Kirkland

Valuation analysts ("analysts") who provide forensic valuation services for controversy-related purposes should have a fundamental understanding of the alternative standards of value. Depending on (1) the legal jurisdiction and (2) the nature of the legal claim, the relevant valuation standard—and how to interpret the relevant valuation standard—may be an unsettled matter. Because shareholder disputes are typically governed by state law, analysts should rely on instructions from legal counsel regarding the appropriate standard of value to apply in the forensic analysis. Nonetheless, analysts who practice in this area should be generally familiar with all the alternative standards of value, premises of value, and levels of value. Even when a generally accepted business valuation standard is defined by statute or judicial precedent, the analyst should select and apply appropriate methods to develop the conclusion of value. With regard to fair value controversies decided in the Delaware courts, the analyst should be aware of recent judicial developments—and the fair value implications of such developments.

Introduction

Not every shareholder-litigation-related valuation engagement is a Delaware General Corporation Law Section 262 matter—that is, a dissenting shareholder action matter. In a Delaware Section-262-type engagement, the standard of value, premise of value, and level of value are well established.

In other states and in other matters, the standard of value, premise of value, and level of value may not be judicially settled matters. Accordingly, the analyst should be informed of the appropriate (1) standard of value, (2) premise of value, and (3) level of value in the applicable legal jurisdiction.

In litigation involving dissenting shareholder appraisal rights claims and shareholder oppression claims, legal counsel will often engage an analyst to provide forensic valuation services. In these matters, counsel will typically provide guidance as to the appropriate standard—or definition—of "value." This guidance is often communicated by way of a legal instruction.

The analyst should seek and accept the instructions from legal counsel in shareholder litigation engagements. Nonetheless, the analyst should also have a general familiarity with the legal statutes and the judicial precedent that generally determine the appropriate valuation process for these shareholder disputes.

The *Uniform Standards of Professional Appraisal Practice*—and other generally accepted valuation standards in the United States—require the valuation to include a statement of the purpose and objective of the analysis. That statement of the valuation objective should define the standard of value being sought in the analysis.

Without a clear definition of value, the subject valuation analysis may not be credible and the subject value conclusion may not be meaningful to the party relying on that valuation.

This discussion addresses the differences between, and the importance of considering, the following elements of a business valuation:

1. Standard of value
2. Premise of value
3. Level of value

This discussion explains how the same private company stock may have materially different—and equally credible—values on the same day, depending on the combination of these three elements,

In the Delaware Court of Chancery (the "Chancery Court"), the fair value standard of value is typically applied in shareholder disputes. However, in the Chancery Court, the court's interpretation of the fair value standard may run counter to the analyst's expectations. At trial, the vice chancellor may decide that the fair value of a company is best determined by:

1. the merger price,
2. generally accepted business valuation methods such as the discounted cash flow (DCF) method,
3. the merger price or the DCF value minus perceived synergistic value,
4. the historical trading price, or
5. any prior valuation evidence.

Standards of Value

Analysts should be careful to define the standard of value sought in the valuation analysis and concluded in the valuation report. There are several alternative standards of value. Without a clear definition of the standard of value (and the premise of value and the level of value), a business valuation may be an academic exercise. Analysts understand that there are different definitions of the word "value."

Unless it is defined, the term "value" may be confusing to the parties relying on a business valuation in a shareholder controversy. Therefore, the term "value" should be informed by the answers to certain principal questions. The selected definition of value should comport to the purpose and objective of the valuation.

Similarly, analysts understand that there are different definitions of the word "income." In both a valuation context and a corporate finance context, income can be alternatively defined as follows:

1. Gross operating income
2. Net operating income
3. Earnings before interest, depreciation, and taxes
4. Earnings before interest and taxes
5. Pretax net income
6. After-tax net income
7. Operating cash flow
8. Net cash flow
9. Dividend distributions

According to the textbook *Financial Valuation Application and Models*, "before analysts can attempt to value a business, they *must* [emphasis added] identify and understand the applicable standard of value for the valuation of the subject interest. The standard of value is related to and determined by the purpose of the valuation."[1]

In other words, an analysis prepared in compliance with business valuation professional standards and practices should provide a generally accepted definition of the type of value sought. The selected definition of value should comport to the purpose and objective of the business valuation.

While there are many alternative standards (or definitions) of value, there are five principal standards. These principal standards of value are listed as follows:[2]

1. Fair market value
2. Investment value
3. Intrinsic value
4. Fair value (state rights)
5. Fair value (financial reporting)

Fair Market Value

The fair market value standard of value is often applied by private companies for purposes of shareholder buyouts. In many cases, the fair market value standard is the agreed upon standard written into the private company shareholder agreements.

One reason why this standard is commonly applied is that fair market value is the principal "standard of value" required by the Internal Revenue Service for measuring private company stock transfers for federal estate and gift tax matters.

The Internal Revenue Service Revenue Ruling 59-60 provides a definition of fair market value. According to Revenue Ruling 59-60, fair market value is "the price at which the property would change hands between a willing buyer and a willing seller when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, both parties having reasonable knowledge of

relevant facts. Court decisions frequently state in addition that the hypothetical buyer and seller are assumed to be able, as well as willing, to trade and to be well informed about the property and concerning the market for such property."[3]

Investment Value

In contrast to the general market participant fair market value standard, investment value is a buyer-specific standard of value. Investment value is generally defined as the price that a specifically identified buyer or group of buyers will pay for a private company ownership interest, based on investment criteria and expected post-purchase events that are unique to the identified buyer or buyers.

According to the textbook *Standards of Value Theory and Application*, "for some companies, investment value may reflect the added value to that company of vertical or horizontal integration. For a manufacturer, it may reflect added value of a distributor in order to control the channel of distribution of the manufacture's particular products. For other companies, it may reflect the added value of acquiring a competitor in order to achieve the cost savings of combined operations and possibly eliminate some price competition."[4]

A valuation analysis developed under the investment value standard may conclude a higher value estimate than an analysis developed under other standards of value. That is because, under this investment of value standard, the analysis includes the synergistic potential of the private company based on the implied investor-specific improvements to the subject business made possible through a controlling ownership interest business transaction.

Intrinsic Value

The intrinsic value standard is primarily applied by equity analysts who follow publicly traded companies. Those equity analysts make security pricing and buy/sell recommendations. Intrinsic value is generally based on a DCF method valuation analysis. To recommend investment decisions, equity analysts typically compare:

1. the DCF valuation analysis conclusion for the public company to
2. the market-derived stock price for the public company.

The comparison generally informs and provides support to the equity analyst for the decision regarding a public stock buy, sell, or hold recommendation.

According to the *International Glossary of Business Valuation Terms*, intrinsic value is defined as the "value that an investor considers, on the basis of an evaluation or available facts, to be the 'true' or 'real' value that will become the market value when other investors reach the same conclusion. When the term applies to options, it is the difference between the exercise price or strike price of an option and the market value of the underlying security."[5]

In certain litigation situations, "courts have used the term intrinsic value rather liberally. Because of this, if analysts are requested to determine the intrinsic value of a company or a fractional interest in a company, they should seek further definition or clarification of what type of value is being sought."[6]

Fair Value (State Rights)

Both dissenting shareholder appraisal rights claims and shareholder oppression claims are governed by state law, which includes state corporation statutes. State courts often conclude fair value as the standard to estimate the value of the noncontrolling shareholder shares. Fair value is the standard for certain shareholder appraisal rights actions in 47 states and the District of Columbia.[7]

However, the definition of fair value and the application of fair value may vary from state to state.

According to the textbook *Financial Valuation Application and Models*, "in most states, fair value refers to fair market value without discounts for lack of control and lack of marketability."[8]

The Delaware Supreme Court clarified the meaning of fair value in that state in 1950. That Supreme Court decision defined fair value as the value that had been taken from the dissenting shareholder:[9]

> The basic concept of value under the appraisal statute is that the shareholder is entitled to be paid for that which has been taken from him, viz., his proportionate interest in a going concern. By value of the stockholder's proportionate interest in the corporate enterprise is meant the true intrinsic value of his stock which has been taken by the merger.

This judicial interpretation has been cited in many shareholder appraisal rights cases and shareholder oppression cases. This interpretation was further expanded in recent years, identifying "what has been taken from the shareholder" as the pro rata share of the value of the company as a whole.

The Model Business Corporation Act ("MBCA") of 1984, published by the American Bar Association ("ABA"), is a often cited source to provide the definition of the fair value standard. The MBCA defines fair value as follows: "The value of the shares immediately before the effectuation of the corporate action to which the shareholder objects, excluding any appreciation or depreciation in anticipation of the corporate action unless exclusion would be inequitable."[10]

In 1999, the MBCA revised the definition of fair value as follows:[11]

> The value of the corporation's shares determined immediately before the effectuation of the corporate action to which the shareholder objects using customary and current valuation concepts and techniques generally employed for similar businesses in the context of the transaction requiring appraisal without discounting for lack of marketability or minority status except, if appropriate, for amendments to the articles pursuant to section 13.02(a)(5).

While most state statutes vary, many rely on the MBCA of 1984—and the 1999 revision—as the foundation for their statutes. Statutes and judicial precedent in many states do not allow discounts for lack of control or discounts for lack of marketability in the measurement of fair value. However, a few states still allow pricing discounts by precedent:

1. at the court's discretion or
2. in special circumstances.

Further, price premiums in the company value that result from synergies achieved by the transactions are typically excluded in the measurement of fair value in most shareholder appraisal rights statutes.

In states where there is no specific shareholder oppression statute, the courts may act under their own equitable authority. For example, Delaware does not have a shareholder oppression statute.

If the Delaware court concludes there is a conflict of interest in the actions of the majority shareholder, or oppressive corporate behavior has occurred, it may allow a breach of fiduciary duty entire fairness action to be filed. Entire fairness cases involve the controlling shareholder breaching his or her fiduciary duties—often in a corporate action that was not fair to the noncontrolling shareholder.

If the case is recognized as a fairness case, the Delaware court will generally apply the same standard of value it uses in dissenting shareholder appraisal rights cases (i.e., fair value) to determine the noncontrolling share value.

Fair Value (Financial Accounting)

Fair value is the standard of value for financial-accounting fair value measurements, as set forth in the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC").

Specifically, ASC Topic 820 defines fair value as follows: "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date."[12]

According to the textbook *Financial Valuation Application and Models*, "fair value for financial reporting purposes often has been equated with fair market value. However, in certain situations, for example, purchase of a business, fair value for a company or a segment of a company would include synergies within a transaction, if present. As such, in those situations, the purchase price may have more aspects of investment value than fair market value or fair value. In other situations, such as the value of certain individual assets, synergies may not be included, and fair value would be more similar to fair market value. It is important for the analyst to look for guidance from FASB and the SEC in terms of their views on fair value and its applications."[13]

It may be confusing to some parties that the FASB adopted a standard called fair value for fair value measurement purposes. Typically, the fair value (financial accounting) standard described above is applicable only for U.S. generally accepted accounting principles compliance purposes.

Premises of Value

There are two principal premises of value related to private company business valuation include the following:

1. the going-concern premise of value and
2. the liquidation premise of value.

The going-concern premise is sometimes referred to as the value in use (or value in continued use) premise. The liquidation premise is sometimes referred to as the value in exchange premise. The selection of the intended premise of value may have a direct influence on the business value conclusion.

The *International Glossary of Business Valuation Terms* defines premise of value as "an assumption regarding the most likely set of transactional circumstances that may be applicable to the subject valuation, e.g., going concern, liquidation."[14]

Going-Concern Premise of Value

For a private company business valuation, the going-concern premise of value is more frequently applied than the liquidation premise of value. Assuming the private company business valuation is based on a highest and best use assumption, the going-concern premise analysis will often conclude a greater value than the liquidation premise—for a financially successful private company.

The *International Glossary of Business Valuation Terms* defines going-concern value as "the value of a business enterprise that is expected to continue to operate into the future. The intangible elements of going concern value result from factors such as having a trained work force, an operational plant, and the necessary licenses, systems, and procedures in place."[15]

Black's Law Dictionary defines going-concern value as "the value of a commercial enterprise's assets or of the enterprise itself as an active business with future earning power, as opposed to the liquidation value of the business or of the assets."[16]

Liquidation Premise of Value

The *International Glossary of Business Valuation Terms* defines liquidation value as "the net amount that would be realized if the business were terminated and the assets were sold piecemeal. Liquidation can be either forced or orderly."[17]

In a forced (or involuntary) liquidation, the private company assets (both tangible assets and intangible assets) are assumed to be sold involuntarily and will likely yield a value less than in an orderly (or voluntary) liquidation. Forced liquidation premise of value analyses are often performed to estimate private company value in a bankruptcy-related matter. In this context, asset-based lenders often base their lending decisions on the forced liquidation premise of value.

In an orderly (or voluntary) liquidation, the private company assets (both tangible assets and intangible assets) are assumed to be sold over time in order to maximize their value. Orderly liquidation premise of value assumptions are often used to estimate private company value related to the scheduled or planned business termination.

In the case of an operating private company assumed to continue business operations, an orderly liquidation premise of value may be estimated if the value of the operating assets is greater on a value in exchange basis than it is on a value in use basis.

In order for the analyst to conclude an orderly liquidation premise of value, the subject business interest should be a controlling ownership interest level of value. The reason why the business interest should be a controlling ownership interest, for a liquidation-based premise of value analysis, is that only a controlling interest can direct a company to liquidate and sell substantially all of its assets.

Levels of Value

According to the textbook *Financial Valuation Application and Models*, "level of value of the subject interest or asset must be identified at the outset of any engagement. Prior to applying any discounts or premiums to an analysis, the level of value of the preliminary indication should be determined and compared to the level of value required. For example, if the subject interest is a minority, nonmarketable interest in a company, but the preliminary indication of value is on a control, marketable basis, applications of discounts for lack of control and lack of marketability may be necessary."[18]

Fair Market Value Compared to Fair Value

The analysis and conclusion based on the fair market value standard of value may not be the same as the analysis and conclusion based on the fair value standard of value. The fair market value standard of value is intended to emulate the result of an interaction of hypothetical market participants.

That is, fair market value is intended to represent a price that an arm's-length buyer would pay to an arm's-length seller, given their individual abilities to influence the market in which they will transact. In contrast, the fair value standard of value is intended to conclude a price that is fair and equitable to all parties to the transaction. That is, fair value represents the value where no party is economically advantaged—and no party is economically disadvantaged—after the sale transaction.

The private company example described below compares the fair market value standard of value to the fair value standard of value through the analysis of hypothetical transactions in a private company stock. In a private company, there can be different fair market values per share depending on:

1. the level of value in the subject transaction and
2. the parties to the subject transaction.

A simple example may illustrate this point. Private company Alpha Corporation ("Alpha") has two shareholders:

1. Adam owns 60 percent of the stock and
2. Brian owns 40 percent of the stock.

For the purposes of this example, let's assume that (1) the value of the total company is $1,000 and (2) there are 100 shares outstanding. Therefore, the pro rata total company value is $10 per share.

Brian decides to sell his stock. Brian meets Chris at the train stop. Chris wants to invest in private company stock. Chris offers Brian $6 per share for Brian's 40 shares. Brian accepts the $6 per share offer price. The price of $6 per share is the fair market value of 40 shares (a noncontrolling interest) of Alpha stock. Chris is a willing buyer and Brian is a willing seller.

Either party could reject the offer. Brian understands that he is selling his stock for a 40 percent ($10 per share - $6 per share) price discount compared to the pro rata total company value. In this case, the $10 per share value is not available to Brian.

Because Brian owns a noncontrolling, nonmarketable ownership interest in Alpha stock, no one will pay Brian $10 per share for his block of stock. Also, the fair market value of Adam's stock may be equal to or greater than $10 per share. However, the fair market value of Adam's ownership interest in Alpha stock is not influenced by the market participant transaction between Brian and Chris.

On the contrary, there is typically only one fair value per share in a private company—and that is the pro rata allocation of the total company value. That price per share will be fair to all transaction participants under all circumstances. In the Alpha example described above, the pro rata amount of the total company value is $10 per share. Therefore, $10 per share becomes the fair value.

At a $10 per share transaction price, no transaction participant will be economically advantaged—or disadvantaged—as a result of the transaction.

The "market"—that is, the marketplace where unrelated parties (like Brian and Chris) transact—may not always be willing to pay the fair value for a share of private company stock. For example, Chris would not pay Brian $10 per share for Brian's stock. The negotiated fair market value price was $6 per share.

However, the consideration of a different transaction illustrates how the fair market value price of $6 per share in the transaction between Brian and Chris does not represent the fair value per share.

Expanding on the Alpha example, let's assume that Adam has the ability to call in (i.e., require Brian to sell) Brian's stock. If Adam paid Brian the $6 per share fair market value price, Adam would be advantaged, and Brian would be disadvantaged.

Adam would pay Brian $6 per share for stock that Adam could turn around and sell for $10 per share by selling the entire Alpha company. Adam could quickly recognize a windfall of $4 per share on the stock that he bought from Brian. Also, Brian would lose out on the opportunity to sell his stock for $10 per share when the entire Alpha company ultimately sold.

This share price differential is not fair because:

1. Adam (unlike Chris) is economically advantaged by the transaction and
2. Brian is economically disadvantaged by the transaction (he lost the opportunity to quickly receive his pro rata share of an Alpha sale).

Furthermore, it is not fair because (unlike the transaction with Chris), Brian cannot reject the offer; Adam has exercised his right to call in Brian's stock. In this hypothetical involuntary transaction between Adam and Brian, the fair value (i.e., the fair and equitable price) for the transaction is $10 per share—the pro rata allocation of the total company value.

There is one instance when the fair market value of private company stock can equal the fair value of private company stock. Let's consider the situation where a financial acquirer makes a tender offer to buy 100 percent of the private company. In that case, the buyer (the acquirer) and the seller (the private company) negotiate at arm's length. Both parties can reject the price offer—or accept the price offer.

Therefore, the acquisition of the entire private company would qualify as a fair market value transaction.

Continuing with the Alpha example above, let's assume that a financial acquirer offers $10 per share for all of the Alpha shares. Based on an arm's-length transaction involving the entire private company sale, $10 per share would become the fair market value per share.

At the same time, $10 per share would be the fair value per share because $10 per share represents the pro rata total company value; $10 per share is the fair and equitable way to allocate the total company share price; and every Alpha stockholder would expect to receive the same $10 per share.

For shareholder controversy matters, the application of the fair value standard as opposed to the fair market value standard (or the investment value standard) strikes a balance between:

1. the dangers of shareholder oppression valuation—awarding a windfall to an opportunistic controlling shareholder who forced out noncontrolling shareholders or
2. incentivizing litigation by noncontrolling shareholders attempting to capture value from controlling shareholders whose actions have resulted in increased value.

Other Fair-Value-Related Factors to Consider

Even in courts that have decided that fair value means pro rata value excluding synergies and valuation discounts, the analyst may consider other factors. These other factors include the following:

1. The recognition of historical transactions in the subject stock
2. Estimates of value using generally accepted business valuation methodology minus synergies
3. Indicated merger price
4. Indicated merger price minus synergies

As discussed below, recent judicial decisions in the Chancery Court have provided varying guidance as to how it views the fair value standard. Of course, the recent Chancery Court decisions have generally cited and adhered to the judicial guidance provided by the Delaware Supreme Court (the "Supreme Court") decisions in *DFC Global Corporation v. Muirfield Value Partners, L.P.* ("*DFC*") and *Dell, Inc. v. Magnetar Global Event Driven Master Fund Ltd.* ("*Dell*").[19]

The Supreme Court decision in *Dell* and its implications to the Chancery Court are observable in a recent dissenting shareholder rights decision. *In re Appraisal of AOL Inc.* ("*AOL*"), the Chancery Court relied on the discounted cash flow business valuation method. That was because the court found that the deal process was not "*Dell Compliant*."[20]

According to the Chancery Court in AOL, for a transaction to be "Dell Compliant" generally means the following:

> Where, however, transaction price represents an unhindered, informed, and competitive market valuation, the trial judge must give particular and serious consideration to the transaction price as evidence of fair value. Where information necessary for participants in the market to make a bid is widely disseminated, and where the terms of the transaction are not structurally prohibitive or unduly limiting to such market participation, the trial court in its determination of fair value must take into consideration the transaction price as set by the market.[21]

In *DFC*, the Supreme Court rejected the Chancery Court's decision to give equal weight to the DCF analysis value conclusion, the comparable companies analysis value conclusion, and the deal price in determining fair value.

On remand, the Supreme Court concluded (1) that the Chancery Court should reconsider the weighting applied to the value conclusions to arrive at fair value and (2) that the Chancery Court it may conclude that its findings regarding the sales process, when considered in conjunction with other relevant factors, suggest that the deal price was the most reliable indication of fair value.

The Supreme Court did conclude that the Chancery Court has the discretion to apply various business valuation methods and attribute weight to each value indication. The weighting, however, should be explained and supported by the record.

In *AOL*, the Chancery Court decided that the fair value was 2.6 percent lower than the $50 per share deal price. The Chancery Court concluded that the

fair value indicated by the discounted cash flow method was lower than the deal price because the deal price "may contain synergies that have been shared with the seller in the deal that are not properly included in fair value."[22]

In the *In re Appraisal of SWS Group, Inc.* ("*SWS*") matter, the Chancery Court also concluded a lower than deal price fair value based on a discounted cash flow method.[23]

The Chancery Court found that, in *SWS*, the "public sales process that develops market value is often the best evidence of statutory fair value."[24]

However, in the instant case, the respondent analyst, the petitioner analyst, and the Chancery Court agreed that the merger price was not a fair value indication. As a result, the Chancery Court found the fair value of SWS Group, Inc., the company that is the subject of the litigation, to be lower than the merger price.

In *SWS*, several of the petitioning shareholders had acquired shares in the subject company, with the hope of perfecting an appraisal arbitrage strategy. Based on its discounted cash flow method fair value estimate, the Chancery Court concluded that the fair value was approximately 7.8 percent less than the deal price.

In recognizing its concluded value was below the merger price, the Chancery Court stated that the result is "not surprising." This is because "the record suggested that this was a synergies-driven transaction whereby the acquirer shared value arising from the merger with SWS."[25]

Perhaps because of more recent emphasis on the transaction deal price, the Delaware courts appear to be focused on evidence of deal price synergies. According to recent professional guidance, documented evidence of acquisition related synergistic value is considered to be "less than scientifically precise," and "the treatment of synergies in finance literature [has] largely [been] neglected."[26]

Synergistic value is considered to be a somewhat ambiguous concept because there is "relatively sparse literature . . . and inconsistent" literature that addresses how much synergistic value is included in an acquisition.

In a recent breach of fiduciary duty matter related to a sale transaction, *In Re PLX Technologies Inc.* ("*PLX*"), the Chancery Court assessed the fair value of PLX Technologies, Inc.[27]

The Chancery Court concluded that (1) the company's directors in *PLX* did breach their fiduciary duties to the plaintiffs and (2) the sale process by which the company was sold was flawed.

However, because the plaintiff's analyst relied on aggressive financial projections—the company had a history of underperforming its projections—and a questionable beta estimate, the Chancery Court concluded that the plaintiff's evidence did not provide sufficient evidence to base a damages award.

In *PLX*, the Chancery Court referenced the *Dell* decision in its damages decision by way of the following citation:

> A far more persuasive source of valuation evidence is the deal price that resulted from the Company's sale process. The Delaware Supreme Court has explained that when a widely held, publicly traded company has been sold in an arm's-length transaction, the deal price has "heavy, if not overriding, probative value." Although this decision has found that the sale process was flawed, largely because of Singer and Deutsche Bank's failure to disclose Avago's tip to the rest of the Board, I believe the sale process was sufficiently reliable to exclude the plaintiffs' damages contention.[28]

According to counsel for the *PLX* plaintiffs, Randall J. Barron, the plaintiffs agreed that the vice chancellor in *PLX* made the right decision regarding the breach of fiduciary duty claim.[29]

However, according to Barron, the concern is the vice chancellor was "constrained by the recent Delaware Supreme Court opinions on appraisal."[30]

In other words, it is apparent that the *DFC* and *Dell* decisions were significantly influential to the vice chancellor's ruling in *PLX*.

It is sometimes appropriate for the analyst to consider data from sources other than generally accepted business valuation methods when performing a valuation for a shareholder rights litigation case. For example, in cases that involve a merger, the analyst may consider whether the deal price includes synergies that should be excluded from the deal price to net to fair value. Further, the analyst may confer with legal counsel as to whether the deal process was fair and robust with information widely disseminated.

In cases that involve interests in publicly traded companies, it may be appropriate for the analyst to determine whether the publicly traded price equals fair value. The analyst may consider whether the stock trades in an efficient market. The analyst may research the stock's trading history, daily or weekly trading volume, float, analyst coverage, bid/ask spreads, and price responsiveness to new information.

In the matter of *Verition Partners Master Fund Ltd. v. Aruba Networks, Inc.* ("*Aruba*"), the Chancery Court concluded a fair value of $18.20 per share—the deal price less synergies—compared to the $24.67 per share merger price.[31] In its decision, the Chancery Court gave significant weight to the guidance provided by the Supreme Court in *DFC* and *Dell*.

In the *Aruba* decision, the Chancery Court stated the following: "The Delaware Supreme Court's decisions in *Dell* and *DFC* endorse using the market price of a widely traded firm as evidence of fair value. As in *Dell* and *DFC*, the market for the Aruba shares exhibited attributes associated with the premises underlying the efficient capital markets hypothesis. Under *Dell* and *DFC*, these attributes provide sufficient evidence of market efficiency to make the Aruba stock price a possible proxy for fair value."[32]

In the *Aruba* decision, the Chancery Court cited the publicly traded Aruba Networks, Inc., 30-day average unaffected market price of $17.13 per share as fair value consideration. Because the court did not have confidence in the financial experts in *Aruba*, the court concluded its own fair value estimate.

In controversy matters, the analyst considers all relevant data and information when performing a valuation analysis. For example, in disputes that involve a merger, the analyst may consider whether the deal price includes synergies. If there is evidence of synergistic value included in a dispute-related transaction, the analyst may address it in the valuation report.

If the subject company was publicly traded prior to the transaction, then the analyst may also consider publicly traded stock price evidence as a possible indication of fair value.

Summary and Conclusion

Analysts should have an understanding of the principal standards of value applicable to valuation analysis assignments. The principal standards of value include the following:

1. Fair market value
2. Investment value
3. Intrinsic value
4. Fair value determined by state statute
5. Fair value for financial reporting purposes

In addition to an understanding of the standards of value, the analyst should have an understanding of the alternative premises of value. The principal premises of value include the following:

1. Going-concern value
2. Liquidation premise of value

The level of value is also an important consideration—primarily the ability to affect controlling decision making. That importance is highlighted in the fair market value compared to fair value example.

As state statutes and judicial precedent vary by state, the analyst may seek guidance from legal counsel on the appropriate standard of value to apply when preparing an analysis within the construct of shareholder rights litigation. Even in jurisdictions where the standard of value is well informed, the court may consider other factors. In the Chancery Court, the considerations involve all relevant factors—and not just generally accepted business valuation methods—to determine fair value.

Recent Chancery Court and Delaware Supreme Court decisions provide fair value guidance—guidance primarily provided by decisions in Section 262 type matters—that may deviate from the analyst's expectations.

Analysts should consider how the transaction deal price may be viewed by the Chancery Court. In other words, could the subject transaction be considered "Dell Compliant?" In order to be Dell Compliant, the subject transaction would likely be negotiated at arm's-length and the result of a robust sale process.

"The exclusion of synergistic value may result in a determination of fair value that is below the transaction deal price."

To the extent that the subject transaction deal price includes post-merger synergy value, the Chancery Court has concluded that the value of these synergies should be excluded from the deal price in determining fair value. The exclusion of synergistic value may result in a determination of fair value that is below the transaction deal price.

The DCF method and other generally accepted business valuation methods may continue to be applied by the Chancery Court in its determination of fair value. That conclusion is particularly true for matters where the Chancery Court is not convinced that the transaction price is a reliable estimate of fair value.

In some instances, the Chancery Court may decide that neither the deal price nor a valuation of the company provides a reliable estimate of fair value. In such an instance, the Chancery Court may rely on the unaffected trading price of the target company in its determination of fair value.

In Delaware, the implications of *Dell* and *DFC* decisions extend beyond Section 262 dissenting shareholder type matters. By way of the *PLX* decision, the consideration of how all relevant factors affect fair value should also be considered in breach of fiduciary duty matters.

Notes:

1. James R. Hitchner, *Financial Valuation: Applications and Models*, 4th ed. (Hoboken, NJ: John Wiley & Sons, 2017), 3.
2. Ibid., 3-4.
3. Rev. Rul. 59-60 (159-1 C.B. 237).
4. Jay E. Fishman, Shannon P. Pratt, and William J. Morrison, *Standards of Value: Theory and Applications*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2013), 24.
5. See https://www.nacva.com/content.asp?contentid=166, accessed December 11, 2018.
6. Fishman, Pratt, and Morrison, *Standards of Value*, 27.
7. Ibid., 121–122.
8. Hitchner, *Financial Valuation*, 5.
9. Tri-Continental v. Battye, 74 A.2d 71, 72 (Del. 50).
10. MBCA Section 13.01(3) (ABA 1984).
11. Model Business Corporation Act § 13.01(4) (ABA 1999).
12. ASC Topic 820, "Fair Value Measurements and Disclosures."
13. Hitchner, *Financial Valuation,* 6.
14. See https://www.nacva.com/content.asp?contentid=166#terms_F, accessed July 6, 2018.
15. Ibid.
16. Bryan A. Garner, *Black's Law Dictionary*, 9th ed. (St. Paul, MN: West Group, 2009), 1691.
17. See https://www.nacva.com/content.asp?contentid=166#terms_F, accessed July 6, 2018.
18. Hitchner, *Financial Valuation,* 392.
19. Dell, Inc. v. Magnetar Global Event Driven Master Fund Ltd., 177 A.3d 1 (Del. 2017) and DFC Global Corporation v. Muirfield Value Partners, L.P., 172 A.3d 346 (Del. 2017).
20. In re Appraisal of AOL Inc., C.A. No. 11204-VCG, 2018 WL 1037450 (Del. Ch. Feb. 23, 2018).
21. Id. at *1.
22. Id. at *21.
23. In re Appraisal of SWS Group, Inc., C.A. No. 10554—VCG, 2017 WL 2334852 (Del. Ch. May 30, 2017).
24. The Court cited In Re Appraisal of Petsmart, Inc., No. 10782, 2017 WL 2303599 (Del. Ch. May 26, 2017) as evidence of Court precedent.
25. Id. at *18.
26. Lawrence A. Hamermesh and Michael L. Wachter, "Finding the Right Balance in Appraisal Litigation: Deal Price, Deal Process, and Synergies," *Business Lawyer*, 73 Bus. Law 961 (Fall 2018).
27. In re PLX Technologies, Inc. Stockholders Litigation, C.A. No. 9880-VCL, 2018 WL 5018535 (Del. Ch. Oct. 16, 2018).
28. Id. at *54.
29. Vince Sullivan, "No Proof Potomac Hurt Investors in PLX Deal Chancery Says," Law360 (October 16, 2018).
30. Ibid.
31. Verition Partners Master Fund Ltd. v. Aruba Networks, Inc., C.A. No. 11448-VCL, 2018 WL 922139 (Del. Ch. Feb. 15, 2018).
32. Id. at *1.

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The Treatment of Synergistic Value in Dissenting Shareholder Appraisal Rights Matters

Brandon L. McFarland

The Delaware Court of Chancery decisions on the treatment of synergistic value in dissenting shareholder appraisal rights cases provide meaningful guidance to valuation analysts ("analysts"), legal counsel ("counsel"), and other courts. This discussion focuses on recent judicial decisions issued by the Delaware Court of Chancery where synergistic value was a consideration in a dissenting shareholder appraisal rights matter. This discussion provides insights related to the treatment of synergistic value within the context of a statutory appraisal rights fair value controversy.

Introduction

The Delaware Court of Chancery (the "Chancery Court") is known for providing legal guidance related to business disputes. The Chancery Court is considered by many to be a preeminent forum for business law matters. That is because, the Chancery Court chancellors are experienced in overseeing business dispute actions and other business-related matters.

In other words, the Chancery Court has become an authoritative voice on matters relating to business valuation and security analysis. Counsel and analysts often review Chancery Court opinions for guidance on valuing business interests for purposes of dissenting shareholder appraisal rights actions.

The Chancery Court is a nonjury trial court, and it hears all matters relating to equity. The Chancery Court primarily adjudicates cases related to trusts, real property, guardianships, and commercial litigation.

A typical issue in many shareholder disputes is the interpretation of fair value. Fair value is defined in the Delaware court system as a value that is

> exclusive of any element of value arising from the accomplishment or expectation of the merger or consolidation . . . In determining such fair value, the Court shall take into account all relevant factors.[1]

In a recent judicial decision, the Chancery Court ruled that, in a fair value matter, its "Ultimate goal in an appraisal proceeding is to determine the 'fair or intrinsic value' of each share on the closing date of that merger."[2] Pursuant to this, the Chancery Court observes the premerger company as a "going concern"[3] and stand-alone entity. Furthermore, the Chancery Court has stated that it should exclude "any synergies or other value expected from the merger giving rise to the appraisal proceeding."[4]

DFC Global and *Dell*

Recently, in two Delaware Supreme Court ("Supreme Court") decisions, the valuation opinions issued by the Chancery Court were reversed and remanded. These two judicial decisions are *DFC Global Corporation v. Muirfield Value Partners,*

L.P. ("*DFC*") and *Dell, Inc. v. Magnetar Global Event Driven Master Fund Ltd.* ("*Dell*").

In *DFC*, an appraisal action was sought after DFC Global Corporation ("DFC Global"), a publicly traded company, was bought by a private equity fund.

In the initial decision issued by the Chancery Court, the court arrived at fair value by applying equal weight to the discounted cash flow method, comparable company analysis, and the transaction price. According to the Chancery Court, each of the valuation methods applied in *DFC* suffered from limitations arising from the tumultuous regulatory environment around DFC Global leading up to its sale.[5]

Because of these perceived limitations, the Chancery Court weighted each method equally. The Chancery Court arrived at a value for DFC Global stock that was approximately 8 percent higher than the transaction price.[6]

On appeal, the Supreme Court reversed and remanded the *DFC* matter back to the Chancery Court. According to the Supreme Court, in *DFC*, the purpose of the fair value judicial determination "is not to make sure that the petitioners get the highest conceivable value," but rather "to make sure that they receive fair compensation for their shares in the sense that it reflects what they deserve to receive based on what would fairly be given in an arm's length transaction."[7]

The Delaware Supreme Court found that "market prices are typically viewed superior to other valuation techniques, because unlike, for example, a single person's discounted cash flow model, the market price should distill the collective judgement of the many based on all the publicly available information about a given company and the value of its shares."[8]

Although market price data are typically considered to provide superior price indications, the Supreme Court cautioned that this is not always the case—such as in matters involving a less than robust sale process.

Following the *DFC* decision, the Delaware Supreme Court provided similar guidance in its appraisal opinion in the *Dell* matter. In its original opinion, the Chancery Court found confidence in and completely relied on the discounted cash flow method. The Chancery Court applied zero weight to the market indicators (i.e., unaffected stock price and deal price).

The Supreme Court overturned the Chancery Court decision by way of it finding that the market for the Dell publicly traded stock was efficient—that is, the Dell sale process was efficient. The Supreme Court ruled that the Chancery Court erred by disregarding the Dell transaction pricing.

Regarding the Dell transaction deal price, the Delaware Supreme Court found that "it is clear that Dell's sale process bore many of the same objective indicia of reliability" as the one in *DFC*.[9]

The Supreme Court summarized its decision to rely on the deal price in this case as follows:

> In so holding, we are not saying the market is always the best indicator of value, or that it should always be granted some weight. We only note that, when the evidence of market efficiency, fair play, low barriers to entry, outreach to all logical buyers, and the chance for any topping bidder to have the support of Mr. Dell's own votes is so compelling, then failure to give the resulting price heavy weight because the trial judge believes there was mispricing missed by all the Dell shareholders, analysts, and potential buyers abuses even the wide discretion afforded the Court of Chancery in these difficult cases.[10]

The Supreme Court decisions suggest that efficient market principles tend to support negotiated market price transacted values. However, the deal price is only reliable when a robust sales process has taken place. These principles are discussed in the following paragraphs.

The conditions by which a subject matter fair value is estimated and the methodology applied are essential considerations in determining if a value indication includes synergies. For certain matters, the Chancery Court—and analysts—may need to determine:

1. if synergies influenced transaction pricing and how to quantify them and
2. the most appropriate valuation method to apply and which data to rely on in order to yield fair value so not to include synergistic value in the value determination.

Verition Partners Master Fund Ltd. v. Aruba Networks, Inc.

In *Verition Partners Master Fund Ltd. v. Aruba Networks, Inc.* ("*Verition*"), the Chancery Court addressed an issue that was not addressed in *DFC* or *Dell*. In *Verition*, the subject transaction pricing included certain economic synergies.

As can sometimes be the case, the opposing analysts arrived at materially different estimates of fair value. As a result, the Chancery Court was tasked

with deciding the best indicator of fair value in a synergy-driven transaction.

Background of the Case

In May 2015, Hewlett-Packard Company ("HP") acquired Aruba Networks ("Aruba") through a merger transaction. According to the transaction merger agreement, shareholders of Aruba common stock received $24.67 per share. Following the merger transaction announcement, the petitioners invoked their statutory right to forgo the merger consideration and to seek an appraisal for the fair value of their Aruba stock.[11]

Prior to the merger talks with HP, Aruba's publicly traded stock price was pressured following the release of its third quarter of 2014 performance results. In May of 2014, Aruba announced that it had exceeded its own revenue guidance and the Wall Street consensus estimates. However, Aruba also announced that its gross profit margin was 70.5 percent, which was 1.5 percent below consensus estimates and Aruba's own target of 71.0 percent to 73.0 percent.

Following the announcement, the Aruba stock price decreased by 12.1 percent from $20.06 to $17.63 per share.[12]

Because of the profit margin underperformance, Aruba management developed a cost optimization plan called "Project Greyhound."

In August of 2014, Aruba announced its fourth quarter and fiscal year 2014 results. In fiscal year 2014, Aruba achieved record revenue. Aruba's chief executive officer Dominic Orr told investors that the company had achieved "significant market share gains" and had a "strong platform for future growth."[13]

At the same time, Aruba announced its Project Greyhound cost optimization plan to its investors. Following these announcements, the Aruba stock price increased by 8.7 percent, from $20.24 to $22.01. Shortly after the announcements, HP approached Aruba regarding a potential merger transaction. After a series of negotiations, the companies formally announced the merger transaction on March 2, 2015.

Synergistic Value

At trial, both analysts in the *Verition* case applied a discounted cash flow method that incorporated some synergistic value to conclude a fair value of Aruba stock. In the *Verition* opinion, Vice Chancellor Laster stated that "the *Dell* and *DFC* decisions recognize that a deal price may include synergies and endorse deriving an indication of fair value from the deal price by deducting synergies."[14]

The Chancery Court has recognized the difficulty in quantifying synergies in these types of cases. For example, in *Union Illinois*,[15] Chief Justice Strine (a Vice Chancellor at the time) discounted the transaction deal price by 13 percent to reflect synergies captured by the seller. In another Chancery Court matter, *Highfields*,[16] Vice Chancellor Lamb concluded that the respondent analysts' shared synergies of 25 percent were too high and ultimately settled on a synergistic value per share that resulted in a 13 percent discount.

In *Verition*, during the course of the merger transaction negotiations and the appraisal action, a range of synergy estimates emerged. The HP deal team anticipated $1.4 billion in synergistic value due to the transaction. McKinsey and Company, the transaction financial advisor to HP, projected $1.6 billion in synergies from the transaction. In the instant case, Vice Chancellor Laster considered applying a 13 percent discount for synergies based on the guidance provided by the *Union Illinois* and *Highfields* cases.

However, the Vice Chancellor relied on a study by the Boston Consulting Group that was cited by Aruba's analyst. The Boston Consulting Group study advised that sellers collect 31 percent of the capitalized value of synergies, with the sellers share varying widely from 6 percent to 51 percent.[17]

Ultimately, Vice Chancellor Laster concluded that a fair value based on the (1) the deal price less (2) synergies value was equal to (3) $18.20 per share. The discount from the transaction pricing was based on the midpoint of the Boston Consulting Group range of estimates. The other indication of fair value that Vice Chancellor Laster considered in *Verition* was the Aruba 30-day unaffected market price of $17.13.

In *Verition*, Vice Chancellor Laster provides guidance related to two issues with applying the deal-price-less-synergies indication of value:

1. The calculation of the value may have "errors at multiple levels."[18]
2. The "deal-price-less-synergies figure continues to incorporate an element of value resulting from the merger."[19]

In his discussion of the first issue, Vice Chancellor Laster cites several factors. These factors include (1) a possible misinterpretation of the synergy data provided by the Aruba analyst, (2) a possible error in making a case-specific allocation of synergies to the sell-side, and (3) possible errors in the data itself as reasons why a "judgement-laden exercise

of backing out synergies"[20] may be problematic.

In regard to the second issue, Vice Chancellor Laster found that "when an acquirer purchases a widely traded firm, the premium that an acquirer is willing to pay for the entire firm anticipates incremental value both from synergies and from the reduced agency costs that result from unitary (or controlling) ownership."[21]

The Chancery Court's Decision

In *Verition*, Vice Chancellor Laster found that applying the Aruba "unaffected market price provides the more straightforward and reliable method for estimating the value of the entity as a going concern."[22]

In other words, by invoking the efficient market hypothesis argument used in both Dell and DFC Vice Chancellor Laster ruled that "the market has more data and is more reliable than any one analyst," including himself.

In his decision, Vice Chancellor Laster found that the "Delaware Supreme Court's expressed preference in Dell and DFC for market indicators over discounted cash flow valuations"[23] to determine fair value in a merger case. Therefore, the court did not have confidence in either analyst's discounted cash flow analyses in favor of its own analysis, using the previously discussed market indicators.

Post *Dell* and *DFC*, the Chancery Court appears to be moving away from the dependence on discounted cash flow analyses in favor of sale transaction pricing—with adjustment for synergistic value, if appropriate.

Chancery Court Decisions Not Favoring Transaction Sales Pricing

In contrast to *Verition*, there are instances in which the Chancery Court has deviated from the subject transaction deal price. These instances arise when the Chancery Court determined that the subject transaction deal process was flawed.

For example, in *Blueblade Capital Opportunities LLC v. Norcraft Cos.* ("*Norcraft*"), sales price was found to be unreliable. In *Norcraft*, Vice Chancellor Slights ruled that the merger price of $25.50 was an unreliable indicator of fair value. That was because the Chancery Court considered the sale process to be flawed for the following reasons:[24]

- Norcraft and its advisors were fixated on one buyer (Fortune Brands) and did not shop for other potential buyers.
- Norcraft's lead negotiator was focused on securing benefits for himself.
- The 35-day post-signing go-shop process was deemed ineffective as deal-protection measures constrained the process.

Norcraft was tried before, but decided after, the *Dell* decision was announced. In *Norcraft*, Vice Chancellor Slights cited consideration for the Delaware Supreme Court decisions in "*DFC* and *Dell*."[25]

Vice Chancellor Slights gave specific consideration to the deal-price-less-synergies method of calculating fair value.

However, in *Norcraft*, the court found that the transaction sales process was a flawed process. Therefore, the court did not rely on the deal-price-less-synergies calculation that the respondents' expert provided. Similarly, the court ruled that it could not rely on the unaffected market price.

Vice Chancellor Slights concluded that, because Norcraft had gone through an initial public offering only 18 months prior to the acquisition transaction, it had limited trading history. In other words, the Norcraft equity market price was not a reliable indicator of value.

In *Norcraft*, the court ultimately relied on a discounted cash flow method using certain components provided in one of the analyst's discounted cash flow analyses. The count was mindful to exclude synergistic value and arrived at an equity value per-share of $26.16. The $26.16 per share

price was greater than the transaction deal price of $25.50.

Another example where the Chancery Court did not rely on market indicators is *In re AOL Inc.* ("*AOL*"). In *AOL*, the Chancery Court relied on the discounted cash flow method. That was because the court concluded that the deal process was not "*Dell Compliant.*"

According to the Chancery Court, "*Dell Complaint*" means:

> (i) Information was sufficiently disseminated to potential bidders so that (ii) an informed sale could take place (iii) without undue impediments imposed by the deal structure itself.[26]

In *AOL*, the Chancery Court agreed with both analysts that the discounted cash flow method was the best indicator of fair value. However, in *AOL*, the petitioners abandoned their analysts' opinion and agreed with the Chancery Court finding that the AOL analysts' opinion would be the starting point. After making some adjustments to the respondent analyst's discounted cash flow analysis, Vice Chancellor Glasscock determined that the fair value per share of AOL, as of the merger date, was $48.70.

A fair value price of $48.70 was less than the $50.00 per share deal price. The court explained the difference by suggesting that the deal price included synergies.[27]

In *Norcraft*, the Chancery Court determined fair value by applying the discounted cash flow method, arriving at share prices greater than the deal price. In *AOL*, the Chancery Court applied the same valuation method but concluded that the fair value was less than the deal price. These matters illustrate the risk shareholders should consider in deciding to enact their appraisal rights as opposed to the receipt of transaction consideration.

In re Appraisal of Solera Holdings, Inc.

In re Appraisal Solera-Holdings, Inc. ("*Solera*"), Vice Chancellor Bouchard concluded that synergies can exist even when a financial sponsor is the acquiring firm. In the instant case, the Chancery Court determined the value of Solera Holdings, Inc. ("Solera") as of March 13, 2016. On that date the Solera was acquired by Vista Equity Partners ("Vista") for $55.85 per share.[28]

In *Solera*, Vice Chancellor Bouchard concluded that the Supreme Court's emphasis on the efficient market hypothesis, in recent rulings, now requires the Chancery Court to assess whether a transaction is "*Dell Compliant*." In *Solera*, the court ruled that the sale process was adequate and that the transaction was "*Dell Compliant*." Therefore, the Chancery Court relied on market indicators as applied in *Dell* and *DFC*.

After the *Solera* trial, and before the Chancery Court made its ruling, the *Verition* case was decided. As a result of that decision, the analysts in the instant case were given the opportunity by Vice Chancellor Bouchard to adjust their fair value analyses. The Solera analyst prepared an analysis based on the company's 30-day unaffected stock price as the "best evidence"[29] of fair value.

Ultimately Vice Chancellor Bouchard dismissed the unaffected share price because, among other reasons, it had not been introduced or argued as fair value by either side prior to the *Verition* decision being made public.

Vista owned four other portfolio companies that were similar to Solera. This ownership provided a basis for the acquisition of Solera because Vista had significant "touch points" (i.e., synergies) with Solera. These perceived "touch points" were quantified into synergies by the respondents' analyst.

Because the Chancery Court concluded that the transaction had been "Dell Compliant" and the Supreme Court guidance endorses the use of market efficiency principles in appraisal actions,[30] Vice Chancellor Bouchard determined that the deal price less estimated synergies value of $53.95 provided by the respondents' analyst, was the Solera fair value at the time of the acquisition.

In *Solera*, the Chancery Court again invoked the guidance provided by the DFC and Dell decisions to determine fair value. However, the courts analysis in the instant case differs from the previously discussed cases presented in this discussion. For example, in the instant case, the Chancery Court decided to go with the respondents' analyst and use the deal price less estimated synergies calculation. It is noteworthy that, in this instance, much of the analysis performed by the respondents' analyst went largely uncontested by the petitioners.

Another major take-away from the Chancery Court's decision in *Solera* is that Vice Chancellor Bouchard dismissed Vice Chancellor Laster's finding that the deal price less synergies calculation is prone to "human error" due to the fact that fair value should account for reduced agency costs. Vice Chancellor Bouchard found that Vice Chancellor Laster did not interpret the *DFC* and *Dell* decisions to suggest that agency costs had a separate value attributable to the merger price and should be excluded.

Vice Chancellor Bouchard goes on to say that "had that been the Supreme Court's intention, I believe it would have said so explicitly."[31]

The Chancery Court applies this reasoning to support its use of the deal price less estimated synergies in this case.

Finally, it is noteworthy that, in the instant case, perceived synergies were considered in matters involving a financial-buyer and not a pure synergistic-type buyer. Vista was able to demonstrate that Solera had what it called "touch points" with Vista's other portfolio companies and that its expert was able to quantify them. In this case, the Chancery Court said that "synergies do not only arise in the strategic-buyer context."[32]

Here the Chancery Court confirmed that it believes synergies may also exist in a financial buyer context.

Summary and Conclusion

Due to the court's extensive experience in deciding valuation-related matters, the decisions of the Chancery Court are closely followed by counsel, analysts, and other courts. The Chancery Court has repeatedly addressed issues related to the treatment of synergistic value in a transactional context.

It is clear that the court may consider and determine if a transaction is deemed "Dell Compliant." This determination is an important variable that may have fair value implications. The Chancery Court appears to be favoring market indicators when there is:

1. an efficient market for a company's stock and
2. a robust sales process in its recent decisions.

However, with each fair value decision, the Chancery Court provides more information about its interpretation of *DFC* and *Dell* decisions. Analysts involved in fair value matters should be aware of the recent Chancery Court decision and should be mindful of future decisions related to these issues.

This discussion provided insight as to how the Chancery Court adopted the guidance provided by the *Dell* and *DFC* decisions. The *Dell* and *DFC* decisions are relevant to and should be considered in Chancery Court fair value case matters. While the consideration of the transaction deal price is an important consideration in fair value matter, the analyst should also consider how synergistic value may be included in the transaction deal price.

Notes:

1. 8 Delw. C. Sect. 262(h)
2. Verition Partners Master Fund Ltd. and Verition Multi-Strategy Master Fund Ltd. v. Aruba Networks, Inc., C.A. No. 11448-VCL 13, 2018 WL 922139 (Del. Ch. Feb. 15, 2018).
3. Id.
4. Id.
5. In re Appraisal of Solera Holdings, Inc., Consolidated C.A. No. 12080-CB 10, 2018 WL 3625644 (Del. Ch. July 30, 2018).
6. Id.
7. Id.
8. Id.
9. Id.
10. Id.
11. Verition Partners Master Fund Ltd. v. Aruba Networks, Inc., 2018 WL 922139.
12. Id.
13. Id.
14. Id.
15. Id.
16. Id.
17. Id.
18. Id.
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23. Id.
24. Blueblade Capital Opportunities LLC v. Norcraft Companies, Inc., C.A. No. 11184-VCS 1, 2018 WL 3602940 (Del. Ch. July 27, 2018).
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26. "Chancery Relies on DCF Where Deal Process Is Not 'Dell Compliant'," BVLAW Case Update (May 2018), accessed December 5, 2018. www.bvresources.com.
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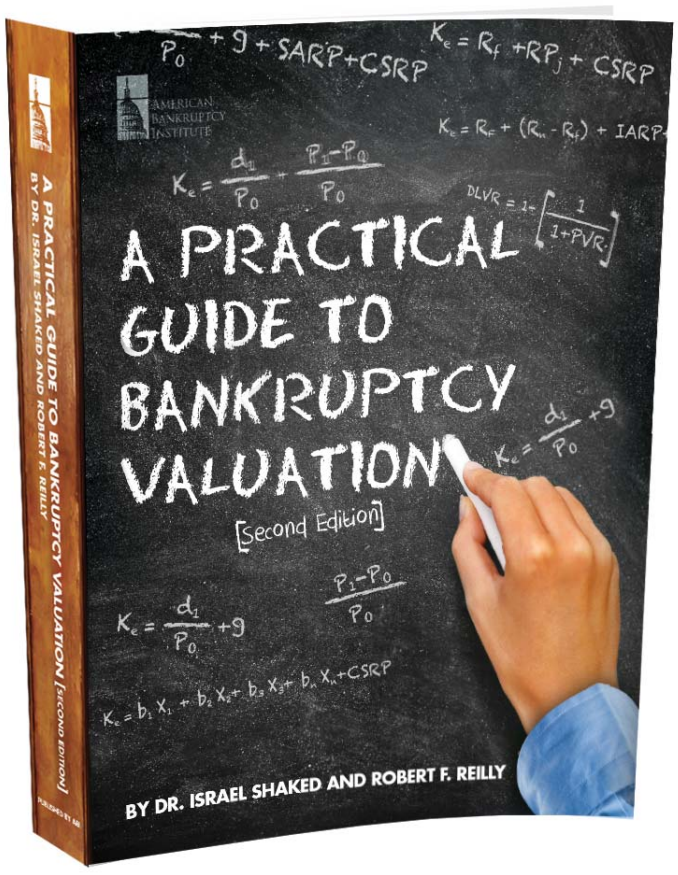

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A PRACTICAL GUIDE TO BANKRUPTCY VALUATION

Dr. Israel Shaked and Robert F. Reilly

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Glossary

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Valuation Discounts in Dissenting Shareholder Appraisal Rights and Shareholder Oppression Claims

Matt C. Courtnage

In statutory shareholder appraisal rights and shareholder oppression matters, various state statutes and judicial precedent provide conflicting guidance as to the measurement of fair value. For the most part, shareholder appraisal rights matters—and shareholder oppression matters—typically involve the fair value of equity shares determined without consideration of valuation discounts. In certain matters, however, there is judicial precedent for the inclusion of a valuation discount. This discussion focuses on fair value valuation analyses, and this discussion provides examples of judicial decisions regarding the application of valuation discounts in statutory fair value matters.

Introduction

A shareholder appraisal right is a statutory remedy that is available in a majority of states. By definition, this statutory remedy is intended to compensate noncontrolling stockholders who object to certain actions taken by the corporation. These statutory shareholder appraisal rights provide an option to the dissenting shareholders that generally requires the corporation to purchase the dissenting shareholders' stock.

In a statutory appraisal rights valuation, the typical definition of value is fair value. Fair value is generally defined as the pro rata business enterprise value—a total equity value that is not discounted for lack of marketability or lack of ownership control. This fair value is equivalent to the corporation's pro rata value immediately prior to the corporate action to which shareholders are dissenting.

A majority of states have enacted their own statutes regarding shareholder appraisal rights. Many of these statutes provide guidance as to the appropriate definition of fair value. There is considerable similarity in the fair-value-related terminology between the states.

However, there can also be certain differences in fair-value-related terminology from state to state. Furthermore, certain statutory language allows for substantial judicial discretion in interpreting fair value on a case-by-case basis.

This discussion addresses the application of a discount for lack of control ("DLOC") and a discount for lack of marketability ("DLOM") in statutory appraisal rights valuations. This discussion focuses on the interpretation of fair value in shareholder appraisal rights matters.

More specifically, the judicial decision examples discussed herein illustrate the extraordinary considerations that may allow for the application of valuation discounts despite the generally accepted meaning of fair value.

Dissenting Shareholders and Shareholder Oppression

Dissenting shareholders can invoke statutory appraisal rights in certain business-related transactions. These transactions typically include a merger,

the sale of substantially all the corporate assets, a recapitalization, amendments to the articles of incorporation, or other significant changes that affect their investment in the corporation.

Typically, a corporation's board of directors is required to give notice of a contemplated corporate action from which noncontrolling shareholders may dissent. If a noncontrolling shareholder(s) dissents from the corporate action, the dissenting shareholder(s) will then:

1. decline the subject consideration related to the corporate action and
2. demand a payment of fair value for their shares in a notice to the board of directors.

The notice is typically provided before the corporate action is implemented.

This demand initiates the appraisal rights action in which the dissenters lose all rights to the corporation, except the right to receive the payment of the fair value of their company shares.

Shareholder oppression actions taken by noncontrolling shareholders typically result from:

1. claims of unfair treatment by the controlling shareholder(s) and
2. demands for the dissolution of the corporation or a buyout of their shares due to the alleged unfair treatment.

The oppressed shareholders are required to prove that the controlling shareholder(s) excluded them from their proper share of the benefits of corporate ownership. If the court concludes that acts of shareholder oppression did occur, then the corporation will likely have to pay the fair value per share to the oppressed shareholders.

Fair Value Defined

Fair value has been defined in numerous jurisdictions and in the legal literature. Certain definitions of "fair value" are summarized below.

When the courts determine the noncontrolling share price in an appraisal rights action or in an order for the buyout of an oppressed noncontrolling shareholder, typically the price of the award or buyout is the "fair value" as determined by the court.[1]

The model statutes proposed by the American Bar Association ("ABA") and the American Law Institute ("ALI"), combined with the Delaware appraisal statutes, have had a significant influence on individual state statutes regarding fair value.

The Model Business Corporation Act ("MBCA") of 1984 is a frequently cited source to provide the definition of the fair value standard of value. The MBCA defines fair value as follows: "The value of the shares immediately before the effectuation of the corporate action to which the shareholder objects, excluding any appreciation or depreciation in anticipation of the corporate action unless exclusion would be inequitable."[2]

In 1999, the MBCA revised the definition of fair value as follows:[3]

1. The value of the corporation's shares determined:
   a. immediately before the effectuation of the corporate action to which the shareholder objects;
   b. using customary and current valuation concepts and techniques generally employed for similar businesses in the context of the transaction requiring appraisal; and
   c. without discounting for lack of marketability or minority status except, if appropriate, for amendments to the articles pursuant to section 13.02(a)(5).

The ALI has defined fair value as follows:[4]

> The value of the eligible holder's proportionate interest in the corporation, without any discount for minority status or, absent extraordinary circumstances, lack of marketability.
>
> Extraordinary circumstances exist when a court finds that a dissenting or oppressed shareholder is trying to exploit a transaction to divert value that could not be made available proportionately to other shareholders. The Lawson and the Balsamides cases . . . are defined by the guiding principle that a marketability discount cannot be used unfairly by the controlling or oppressing shareholders to the detriment of the minority or oppressed shareholders. Equitable considerations generally state that minority discounts should not be applied in determining the FV of a minority shareholder's stock when the corporation or the majority stockholders elect or are compelled to purchase the minority interests. This is based upon the rationale that when a party already in control purchases a minority's shares, it is irrelevant that the shares represent a noncontrolling interest.

Under Delaware law, fair value guidance was set forth by the Delaware Supreme Court in *Tri-Continental Corp. v. Battye*.[5] In that decision, the Supreme Court explained that:

> The basic concept of value under the appraisal statute is that the stockholder is entitled to be paid for that which has been taken from him, viz., his proportionate interest in a going concern. By value of the stockholder's proportionate interest in the corporate enterprise is meant the true or intrinsic value of his stock which has been taken by the merger. In determining what figure represents this true or intrinsic value, the appraiser and the courts must take into consideration all factors and elements which reasonably might enter into fixing the value.

What is notable among these three definitions of fair value is the ALI inclusion of "extraordinary circumstances" and the Delaware guidance to "take into consideration all factors and elements which reasonably might enter into fixing the value."

Appraisal rights statutes diverge across the states on many aspects, including the definition of fair value and the applicability of a DLOC and a DLOM in a fair value determination. In some states, there are no specific statutes regarding dissenting shareholder appraisal rights and shareholder oppression.

The following discussion summarizes three judicial decisions. These decisions illustrate how individual states and the presiding courts address the following issues:

1. The measurement of fair value
2. The application of discounts in shareholder appraisal rights proceedings

New Jersey Case—*Parker v. Parker*[6]

In 2016, the New Jersey Superior Court found that it was appropriate to apply a DLOM to the value of a private company stock. The case involved the determination of a buyout price for the oppressed shareholder to purchase the interest of the oppressive shareholder. To that end, a 25 percent discount was applied to the undiscounted fair value estimate.

New Jersey is generally considered a fair value jurisdiction. In situations where shareholder oppression has been determined, DLOCs and DLOMs are typically not applied.

New Jersey protects the interest of noncontrolling shareholders in private corporations under the Oppressed Minority Shareholder Statute, N.J.S.A. 14A:12-7.

Specifically, N.J.S.A. 14A:12-7(1)(c) safeguards noncontrolling shareholders from "oppression," "abuse" or "unfair" treatment by the majority (acting as officers or directors), in the noncontrolling shareholders' "capacities as shareholders, directors, officers or employees." The remedies provided to noncontrolling oppressed shareholders include appointing a custodian, appointing a provisional director, ordering a sale of the corporation's stock, or dissolving the company.[7]

There is an exception for "extraordinary circumstances" when the circumstances of a particular case are unique to a given entity and would warrant the application of certain discounts. In this case, the trial court found that the oppressive shareholder enabled a situation that warranted a DLOM in order to achieve what the court stated was a "fair and equitable" outcome.

Background of the Case

Richard and Steven Parker, brothers, were 50/50 owners of a wholesale flower and garden center company. Richard ran the flower business and Steven managed the garden business—with very little overlap in operations between the two lines of operations.

Over a 25-year period, the brothers' working relationship dissolved to the point that the presiding judge wrote: "Both litigants seek to have the court remedy every injustice they perceive has befallen them over the last 25 years at the hand of the other."

Each brother accused the other brother of misconduct. This misconduct included numerous charges of corporate mismanagement, financial misconduct, and being frozen out from the business.

The *Parker* Decision

The court sided with Richard, finding that Steven was guilty of oppressive conduct with regard to his dealings with his brother. Specifically, the court found that Steven had engaged in shareholder oppression by:

1. allowing the business to incur substantial losses over the life of the business and
2. withdrawing funds from the business without the consent of Richard.

The court concluded that Steven had violated his fiduciary duties as director of the company, and the court ordered Steven to sell his interest in the company to Richard.

Both parties retained valuation analysts to estimate the value of Steven's business interest. The court, apart from a few adjustments, accepted the value conclusion of Richard's analyst—which included a 25 percent DLOM applied to Steven's undiscounted ownership fair value. Interestingly, the court rejected an additional 15 percent DLOC, stating that New Jersey's "no-discount-absent-exceptional circumstances rule."

In terms of the application of the 25 percent DLOM, the court stated the following:

> The court believes a marketability discount should be applied. The actions of the defendant [Steven] were the cause of the lawsuit. He cannot be rewarded by not applying this discount. In cases where the oppressing shareholder instigates the problems, as in this case, fairness dictates that the oppressing shareholder should not benefit at the expense of the oppressed. . . . In this matter, Steven Parker's wrongful act caused an extraordinary circumstance which requires this court to apply a marketability discount. Steven Parker, the oppressing shareholder, cannot receive a windfall as a result of his actions, the marketability discount will be applied.

Related Valuation Issues

In the case of *Parker v. Parker*, the court allowed the application of a valuation discount (in this instance, a DLOM) as a penalty tool. It appears that this penalty tool was applied due to the wrongful behavior of the oppressive shareholder.

The application of the DLOM by the court seems to have created more questions than answers for both analysts and counsel. The controversial issues raised by the decision include the following:

1. Why was the application of a DLOM allowed but not a similar application of a DLOC?
2. How is the definition of a DLOM consistent with a legal penalty?
3. Should the penalty for oppressive shareholder behavior be left entirely to a judge's discretion?
4. If the situation were reversed, such that Steven (the oppressive shareholder) was instead buying out the interest of Richard (the oppressed shareholder), would the DLOM have still been applied?

Colorado Case—*Pueblo Bancorp. v. Lindoe, Inc.*[8]

In 2003, the Colorado Supreme Court ruled that, by virtue of a noncontrolling shareholder's specific holding, a DLOM is not to be applied to the shareholder level. The court ruled that the corporation is to "be valued as a going concern" and that neither marketability nor noncontrolling discounts should be applied when valuing a dissenter's shares.

The *Pueblo* decision established that a dissenting noncontrolling shareholder's fair value is his or her proportionate interest in the corporation on a strictly pro rata basis. This valuation is made

without the inclusion of a discount based on a specific noncontrolling share ownership.

The Colorado dissenters rights statute is based on the MBCA.[18] CRS § 7-113-101(4). The provision is based on the 1984 MBCA, which states:

> Fair value, with respect to dissenters' shares, means the value of the shares immediately before the effective date of the corporate action to which the dissenter objects, excluding any appreciation or depreciation in anticipation of the corporate action except to the extent that exclusion would be inequitable.[9]

Background of the Case

Pueblo Bancorp. ("Pueblo") and Lindoe Inc. ("Lindoe") were both C corporation bank holding companies. Lindoe held 6,525 of the 114,217 outstanding shares of Pueblo. To obtain more favorable income tax treatment, Pueblo formed a subchapter S corporation into which it would merge.

Shareholders such as Lindoe that did not qualify for S corporation share ownership were offered a cash buyout. Lindoe believed the offer price undervalued the company's value. Lindoe dissented and filed a shareholder appraisal rights action.

The *Pueblo* Decision

The initial trial court concluded that the Lindoe shares should be equal to the company's proportionate share of the corporation at fair value *less* a 30 percent combined DLOC and DLOM.

The court concluded that the combined discount was applicable in this case. This was because Lindoe's stockholding was a noncontrolling position in Pueblo. According to the court, the Pueblo noncontrolling position was perceived to be extraordinary difficulty to sell.

Lindoe appealed the trial court ruling. The Colorado Court of Appeals affirmed the trial court fair value determination but ruled against the application of either a DLOC or a DLOM. The appeals court noted that there was nothing extraordinary in regards to the matter at issue and thus no discount was warranted. Pueblo appealed this decision, arguing that fair value should be determined on a "case-by-case" basis.

The Colorado Supreme Court agreed with the Colorado Court of Appeals in ruling that no discount should have been applied to the fair value determination. The court concluded that a "case-by-case" interpretation of "fair value" results in a definition that is too imprecise to be useful in the business community. The court held that fair value should have a "definitive meaning" and that such meaning is different than "fair market value."

In summary, the court concluded the following:

1. The concept of fair value implied no provision for a DLOC or a DLOM.
2. Its finding was consistent with the underlying purpose of the dissenting shareholder appraisal rights statute.
3. Its finding was consistent with the national trend against applying valuation discounts.

Related Valuation Issues

The *Pueblo v. Lindoe* case established that "fair value" for issues involving dissenter's rights is the proportionate value of the entity "valued as a going concern." This interpretation and application of fair value is consistent with the majority of courts that have considered the issue.

While the Colorado Supreme Court primarily relied on the Colorado dissenters' rights statutes and the court's interpretation of how to define fair value in the subject case, the court did address the issue of extraordinary circumstances. The court noted that the facts of the case did not lend to any findings of extraordinary circumstances attributable to the dispute and was thus not applicable in this case.

In other words, the court's ruling effectively left open the issue of whether extraordinary circumstances are applicable under Colorado law. If extraordinary circumstances are applicable under Colorado law, then the application of DLOC and DLOM may be considered appropriate.

New York Case—*Ferolito v. AriZona Beverages USA LLC*[10]

In 2014, a New York trial court ruled that, based on extraordinary circumstances involved in *Ferolito v. AriZona Beverages USA LLC* (the "*Ferolito*" case"), a 25 percent DLOM was applicable. The 25 percent discount was applied to estimate the business enterprise fair value—used to calculate the buyout amount to be paid to the plaintiff, Ferolito.

The decision in the *Ferolito* case was controversial in its own right, but especially given that, just a week prior, a New York trial court disallowed the application of a DLOM in a noncontrolling dissenting shareholder case.[11]

In that case, the court opined that the application of a DLOM to the noncontrolling shareholder

ownership interest would be tantamount to the imposition of a noncontrolling discount.

The New York courts have a long history of judicial interpretation of Section 623(h)(4) of the Business Corporation Law, which makes no reference to discounts in its text. The statute reads:

> In fixing the fair value of the shares, the court shall consider the nature of the transaction giving rise to the shareholder's right to receive payment for shares and its effects on the corporation and its shareholders, the concepts and methods then customary in the relevant securities and financial markets for determining fair value of shares of a corporation engaging in a similar transaction under comparable circumstances and all other relevant factors.

Background of the Case

At the time of the judicial decision, AriZona was the largest privately owned beverage company in the United States. The company was founded in 1992 by Ferolito (the plaintiff) and Vulaggio (the defendant).

The various companies that made up AriZona Beverages sold iced teas, lemonade-tea blends, and assorted fruit juices primarily under the AriZona Iced Tea brand name.

Ferolito and Vulaggio each owned 50 percent of the stock upon the founding of the company and as of the date of the trial. The two partners began to disagree about matters regarding the company's operations early on in their partnership.

The decision was made to allow Vulaggio to handle the day-to-day decision making for the company. In addition, the owner's agreement was amended to limit the transfer of shares in AriZona to only a specified class of transferees.

Between 2005 and 2010, two companies expressed interest in acquiring part or all of AriZona. The first suitor was Tata, the second largest tea manufacturer in the world. At some point, Tata estimated that AriZona might be worth $4.5 billion in its entirety, but negotiations broke down and no formal offer was made.

Nestlé expressed interest in buying Ferolito's 50 percent ownership. The Nestlé offer of $1.45 billion for the 50 percent ownership was conditioned on additional due diligence. The Nestlé offer included the option to also purchase the 50 percent ownership held by Vulaggio. However, the Nestlé discussions failed to provide a bona fide offer, and the proposed transaction fell apart.

Ferolito argued that a combination of (1) the transfer restrictions in the ownership agreement and (2) the unwillingness of Vulaggio to release detailed financial data precluded Ferolito from selling his shares at a fair value. Ferolito sued the company for dissolution.

The *Ferolito* Decision

In the judicial decision, the trial court judge stated that the DLOM "reflects that shares in privately held companies may be less marketable because those shares cannot be liquidated for cash."

The court concluded that there were numerous obstacles for either shareholder to liquidate their shares and, consequently, there was sufficient rationale to apply a 25 percent DLOM.

The justification for the 25 percent DLOM was based on the following rationale:

1. Despite his interest in selling, the plaintiff had not been able to sell his shares in the past
2. AriZona did not have sufficient audited financial statements
3. History of extensive litigation between the shareholders

"Unfortunately, there is no default rule as to whether discounts can be applied in dissenting shareholder appraisal rights or shareholder oppression valuations."

4. Uncertainty regarding the company's S corporation status
5. Transfer restrictions in the Owner's agreement

The judge in the case ruled against the application of a noncontrolling discount for the same reason that most fair value decisions do not allow either a DLOM or a DLOC. The court justified not applying a noncontrolling discount by citing a New York case, *Friedman v. Beway Realty Corp.*[12] which stated:

> [A] minority discount would necessarily deprive minority shareholders of their proportionate interest in a going concern would result in minority shares being valued below that of majority shares, thus violating our mandate of equal treatment of all shares of the same class in minority stockholder buyouts.

Related Valuation Issues

The *Ferolito* decision seems to establish that a DLOM may be applicable in a dissenting shareholder fair value determination. At the same time, the decision disallowed a DLOC because courts typically do not allow either a DLOC or DLOM in dissenting shareholder rights and shareholder oppression cases.

From the vantage point of the plaintiff, it would seem that the application of any discount in a buyout scenario is a loss for the seller and an offsetting gain for the buyer, regardless of whether the discount was a DLOC or a DLOM.

This judicial decision highlighted that, at least in New York, (1) decisions are made on a case-by-case basis, (2) a DLOM is more likely to be applicable than a DLOC in a shareholder appraisal actions, and (3) the definition of extraordinary circumstances is open to interpretation.

Summary and Conclusion

The vast majority of state statutes and judicial decisions are based on the concept that the noncontrolling shareholder's value should be determined as a pro rata share of the total business enterprise value—without the application of a DLOC or a DLOM at the shareholder level.

Nonetheless, the statutory definition of fair value often differs between states, and such definitions offer language such as "extraordinary circumstances" or "case-by-case basis." That language allows for judicial discretion when it comes to allowing the application of shareholder level discounts.

The three judicial decisions presented in this discussion highlight the degree to which courts consider—and sometimes apply—shareholder discounts in appraisal rights proceedings.

Unfortunately, there is no default rule as to whether discounts can be applied in dissenting shareholder appraisal rights or shareholder oppression valuations. Individual state statutes, relevant judicial decisions within a particular state, and the circumstances of individual cases should all be considered in the application of a DLOC or a DLOM in a statutory appraisal rights valuation.

Notes:

1. Douglas K. Moll, "Shareholder Oppression and 'Fair Value': Of Discounts, Dates, and Dastardly Deeds in the Close Corporation," 54 *Duke Law Journal* 293, 310 (2004).
2. MBCA Section 13.01(3) (ABA 1984).
3. Model Business Corporation Act § 13.01(4) (ABA 1999).
4. American Law Institute, Principles of Corporate Governance, 1992, at § 7.22.
5. Tri-Continental Corp. v. Battye, 74 A.2d 71 (Del. 1950).
6. Parker v. Parker, UNN-C-108-13, 2016 N.J. Super Unpub. LEXIS 2720 (N.J. Dec. 22, 2016).
7. N.J.S.A. 14A:12-7(1).
8. Pueblo Bancorp. v. Lindoe, Inc., 37 P.3d 492, (Colo. App. 2001) aff'd, 63 P.3d 353 (Colo. 2003).
9. http://www.duree.com/images/pdfs/06JuneBusinessLaw.pdf
10. Ferolito v. AriZona Beverages USA LLC, No. 004058-12, 2014 WL 5834862 (N.Y. Sup. Oct. 14, 2014).
11. Zelouf Intl. Corp. v. Zelouf, 999 N.Y.S.2d 731, (N.Y. 2014)
12. Friedman v. Beway Realty Corp., 87 N.Y.2d 161 (N.Y. 1995).

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Treatment of Nonoperating Assets and Nonoperating Liabilities in Private Company Business Valuations

Jason Bolt

The treatment of nonoperating assets and nonoperating liabilities in a private company business valuation may have a material impact on the value conclusion. When considering the treatment of nonoperating assets and liabilities, there are two primary factors that the analyst may consider: (1) the standard of value and (2) the level of value (noncontrolling or controlling ownership interest). Based on the facts and circumstances of the valuation, the analyst may decide (1) whether to adjust the business income to exclude any income or expenses related to nonoperating assets and liabilities and (2) how much value to assign to the nonoperating assets and liabilities in the value reconciliation. The analyst should develop an understanding of (1) the different standards of value and (2) the differences between a noncontrolling ownership interest and a controlling ownership interest. The analyst should apply that understanding in deciding how to treat the subject company nonoperating assets and nonoperating liabilities.

Introduction

The existence and treatment of nonoperating assets and nonoperating liabilities may have a material impact on the concluded value in a private company business valuation. Identifying the appropriate standard of value, defining the purpose and the objective of the business valuation, and defining the subject ownership interest are important elements when the analyst considers the appropriate treatment of nonoperating assets and liabilities.

Appropriately reflecting the value of nonoperating assets and nonoperating liabilities may have a material impact on the private company value conclusion.

Nonoperating assets are "assets not necessary to ongoing operations of the business enterprise."[1]

That is, any asset owned by a business enterprise that can be sold or distributed to shareholders without affecting the ongoing operating capabilities of the business enterprise is a nonoperating asset.

A nonoperating liability, on the other hand, is an amount owed by a business enterprise that is not related to the ongoing operations of the business. A nonoperating liability may also be a contingent or off-balance-sheet liability which may occur depending on the outcome of a future event.

Under U.S. generally accepted accounting principles ("GAAP"), a contingent liability is only recorded on the company's balance sheet if the outcome is probable. However, for business valuation purposes, the analyst may decide to adjust the company's balance sheet (or income statement) to reflect the impact of contingent liabilities.

The following are a few examples of nonoperating assets:

- Excess cash or excess net working capital
- Marketable securities such as stocks or mutual funds
- Ownership interests in other companies unrelated to the principal business

- Real estate and personal property unrelated to the current business activities
- Art collections or other collectibles
- Loans receivable from company owners
- Assets associated with any discontinued operations

The following are a few examples of nonoperating liabilities:

- Lawsuits
- Product warranties
- Dividends payable
- Liabilities associated with any discontinued operations

When considering the treatment of nonoperating assets and nonoperating liabilities, there are two principal factors that the analyst may consider:

1. The standard of value
2. The level of value (noncontrolling or controlling ownership interest)

Based on the facts and circumstances of the business valuation, the analyst may decide:

1. whether to adjust the earnings to exclude income or expenses related to nonoperating assets and liabilities and
2. how much value to assign to the nonoperating assets and liabilities in the value reconciliation.

The analyst should develop an understanding of the (1) different standards of value and (2) the differences between a noncontrolling interest and a controlling interest. This understanding may help the analyst decide how to treat any nonoperating assets and nonoperating liabilities.

There are a number of factors for the analyst to consider in this regard. A few examples may help to clarify the nuances in the appropriate treatment of nonoperating assets and nonoperating liabilities.

Standard of Value

The standard of value can have an impact on the valuation treatment of nonoperating assets and nonoperating liabilities. The standard of value "identifies the type of value being used in a specific engagement—for example, fair market value, fair value, or investment value."[2]

Fair market value and fair value are two standards of value that are often applied for regulatory, financial accounting, and litigation purposes.

Fair market value is sometimes defined as "the price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arms length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts."[3]

Fair market value is the standard of value that is typically applied in federal tax valuation matters.

Fair value can have a different definition depending on the purpose of the valuation. For financial accounting purposes, the definition of fair value is based on Accounting Standards Codification ("ASC") Topic 820. In ASC 820, fair value is defined as "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date."

This definition of fair value is similar to (but not the same as) the definition of fair market value.

In business valuations prepared for dissenting shareholder rights litigation and shareholder oppression litigation, the definition of fair value is based on either (1) a state-specific statute in which fair value is defined or (2) state judicial precedent (often referred to as "statutory fair value").

When performing a statutory fair value analysis in a litigation environment, the analyst should review the specific state's definition of fair value as definitions can vary from state to state.

One difference between the statutory fair value standard among the states is the application of a discount for lack of control ("DLOC") and a discount for lack of marketability ("DLOM"). In general, for statutory fair value purposes, most states do not accept a discount for lack of control or a discount for lack of marketability.[4]

Levels of Value

The analyst may be asked to provide an estimate of value based on one of the generally accepted levels of value. Exhibit 1 provides a simplified summary of the levels of value within a private company business valuation context.[5]

According to the textbook *Financial Valuation Application and Models*, Exhibit 1 is described as follows:[6]

> Control strategic can refer to the level of value in a public or a private company.

Exhibit 1
General Levels of Value
Presented in *Financial Valuation: Application and Models*

Level of Value	Type of Company	Value Characteristics
Control Strategic	Public Company Private Company	Control and/or Strategic Value
Minority/Control Standalone Liquid	Public Company	Actively Traded Minority Price per Share x Number of Shares Outstanding
Minority Liquid	Public Company	Actively Traded Minority Price per Share
Control Liquid	Private Company	Actively Traded Public Equivalent Value
Control Standalone	Private Company	Control Private Company Value
Minority Nonmarketable	Private Company	Minority Private Company Value

Note: *Financial Valuation: Application and Models*, Exhibit 103, p. 394.

An example of minority/control standalone liquid is the value resulting from the application of the guideline public company method. Some analysts consider the result a minority value. In more recent years more analysts consider the level of value from the guideline public company method as both minority and control. An example of control liquid is the value derived from the application of the income approach (with control cash flows), where the discount or cap rate is based on returns from the public marketplace. Control standalone is the value of a private company after application of the income approach with a discount to reflect the lesser liquidity of a control interest in a private company versus public stock. An income approach using a rate of return derived from public company data and adjusted for a size risk premium likely reflects a liquid value, but not as liquid as a large company stock. Many small companies are highly illiquid with large bid-ask spreads (that may contribute to the small size premia).

Publicly traded guideline company data used to calculate a subject value would indicate a marketable liquid value, but the degree of liquidity depends upon the liquidity of the guideline companies used. The guideline company transactions method presumably provides a control, illiquid but marketable conclusion of value. The asset approach would likely indicate a control marketable value, depending on the type of assets and the methods used to value the assets of the subject company.

Minority nonmarketable value is the value after the consideration of and/or application of all discounts for lack of control and lack of marketability. Some of these "levels" of value may be higher or lower than the others, depending on the circumstances. The DLOM is considered primarily with the bottom three levels for a private company.

The business valuation methods applied by the analyst may be influenced by the level of value sought. An ownership interest in which a shareholder owns over 50 percent of the outstanding equity is known as a controlling interest. Except for certain circumstances where supermajority voting is required, a controlling interest holder can force the liquidation and distribution of nonoperating assets. Conversely, a noncontrolling interest is an ownership interest in which less than 50 percent of the outstanding equity is owned.

A noncontrolling interest holder cannot force the liquidation of nonoperating assets by themselves. Thus, the treatment of nonoperating assets in the valuation of a noncontrolling interest depends on the standard of value and the specific facts and circumstances of the valuation.

The level of value may also be affected by the standard of value. For a fair market value engagement, the standard of value will typically be based on the actual ownership interest (for example, a 1 percent interest is a noncontrolling interest). In a statutory fair value engagement, the same 1 percent interest may not necessarily be valued on a noncontrolling interest basis.

In a statutory fair value valuation, the estimated value typically excludes the application of a discount for lack of control and a discount for lack of marketability.

Thus, a 1 percent interest in a statutory fair value valuation may be assigned the pro rata value of a 100 percent business ownership interest.

Simplified Illustrative Example

The previous discussion provided the framework for the factors that the analyst considers when deciding

how to treat nonoperating assets and liabilities. This section presents the following two examples on how to treat nonoperating assets:

1. A statutory fair value valuation
2. A minority interest fair market value valuation

In the following examples, the analyst considers (1) the treatment of the nonoperating assets and liabilities on a company's financial statements and (2) the appropriateness of making normalizing adjustments. The analyst considers the appropriateness of applying discounts to the nonoperating assets.

In the following examples, let's call our hypothetical illustrative company Subject Company. Let's assume that the valuation date is December 31, 2018. Let's assume that Subject Company owns an equity interest in an unrelated—and unconsolidated—company. Let's assume that the fair market value of that equity investment is $4 million. In addition, the company's latest fiscal year-end earnings are assumed to represent a normalized level of earnings.

The only business valuation approach applied in this simplified example is the income approach. Summary income statement information for Subject Company is presented in Exhibit 2.

Nonoperating assets and liabilities are not necessary to the ongoing operations of a business. They may generate income for the company or cause the company to incur expenses.

When developing a business valuation, the analyst may apply a market approach wherein the analyst selects a sample of guideline companies that are sufficiently similar to the subject company. An analysis of the subject company's financial ratios is compared to the financial ratios of the guideline companies in order to facilitate the selection of a valuation pricing multiple.

In order to facilitate comparability between the subject company and the guideline companies, income or expenses related to nonoperating assets may be removed from both the subject company's earnings and the guideline companies' earnings. In addition, if sufficient information is available, the balance sheets of the subject company and the guideline companies may be adjusted as well.

In the application of the market approach, the analyst may remove the impact of nonoperating assets and liabilities from the subject company's earnings. To conclude a value indication, the analyst will apply a market-based multiple to a measure of the subject company's earnings.

Exhibit 2
Subject Company
Treatment of Nonoperating Assets
Income Statement Summary and Fair Market Value of the Equity Investment
As of December 31, 2018

Income Statement Summary	Year Ended 12/31/2018 $000
Operating Income	2,000
Earnings from Equity Investment	500
Pretax Income	2,500
Less: Income Taxes @ 20%	500
Net Income	2,000
Assumed Fair Market Value of the Equity Investment	4,000

The selected market-based pricing multiple considers the risks inherent in the industry and the growth prospects in the industry. Including income or expenses from nonoperating assets or liabilities may overstate—or understate—the business value of the subject company.

The nonoperating assets or liabilities may not be subject the same risks or growth opportunities as the industry represented by the guideline companies.

In the application of the income approach, the analyst may determine the value of the company by applying either (1) a direct capitalization method or (2) a discounted cash flow ("DCF") method.

In the direct capitalization method, the analyst may consider the company's historical earnings as one of many factors to determine normalized cash flow. Since historical earnings may form a part of the analyst's determination of normalized cash flow, earnings or expenses related to nonoperating assets or liabilities may be adjusted to remove their impact from pretax and after-tax earnings.

Similarly, when the analyst applies the DCF method, if the projected financial information contains income or expense from nonoperating assets, the projected cash flow may be adjusted to remove the impact of such nonoperating assets.

Example 1: Statutory Fair Value Case

Statutory fair value valuations typically exclude consideration of a DLOM and a DLOC. That is, in a statutory fair value valuation, the ownership interest value is estimated based on the pro rata value of 100 percent of the subject company value.

In this example, let's assume the facts as presented in Exhibit 1. The valuation subject in a hypothetical shareholder oppression claim is a 25 percent ownership interest in Subject Company.

To account for nonoperating assets or liabilities in the statutory fair value valuation, the analyst may adjust the earnings for the income or expense related to the nonoperating assets or liabilities. The analyst may add the fair market value of the nonoperating assets or deduct the full amount of nonoperating liabilities from the value of the private company operations.

Following the facts presented, the analyst may remove from pretax income the earnings associated with the equity investment. As presented in Exhibit 3, the earnings from the equity investment are removed from pretax income. Adjusted pretax income is then tax affected to arrive at adjusted net income.

In this simplified example, it is assumed that adjusted net income represented a normalized level of income on a controlling ownership interest basis and the equity direct capitalization rate is 10 percent.

Based on these valuation variables, the estimated value of the ongoing operations of the business is $16 million. To this, the analyst adds the fair market value of the equity interest of $4 million to arrive at a value of 100 percent of the equity of the company of $20 million, presented in Exhibit 3.

Exhibit 3
Subject Company
Statutory Fair Value Valuation
Adjustments to Pretax Income and Estimated Fair Value
As of December 31, 2018

Normalization Adjustments to Pretax Income	Year Ended 12/31/2018 $000
Pretax Income, as Reported	2,500
Less: Earnings from Equity Investment	500
Adjusted Pretax Income	2,000
Less: Income Taxes @ 20%	400
Net Income	1,600
Income-Based Direct Capitalization Rate	10%
Conclusion of Fair Value	$000
Estimated Fair Value of Business Operations on a Controlling Ownership Interest Basis	16,000
Plus: Fair Market Value of Equity Investment	4,000
Fair Value of Total Equity	20,000
Statutory Fair Value of a 25% Equity Interest in Subject Company on a Controlling, Marketable Ownership Interest Basis	5,000

Since the standard of value is statutory fair value, no valuation discounts are applied to the 100 percent equity interest to arrive at a noncontrolling interest value.

Example 2: Minority Interest Fair Market Value Case

In family law matters, the jurisdiction-specific standard of value may be fair market value. One difference between fair market value and statutory fair value is the application of valuation discounts in the fair market value case. To illustrate the impact of discounts, let's assume the same facts and circumstances as in Example 1.

Another factor to be considered is whether the income is projected on a controlling ownership interest basis or a noncontrolling ownership interest basis. Finally, the analyst needs to understand whether the nonoperating assets are expected to be liquidated in the near-term and the proceeds distributed[7] to the shareholders.

Let's first consider the case where income is projected on a controlling ownership interest basis and the equity is expected to be retained. In this case, the conclusion of value of a 100 percent equity interest is similar to that presented in Example 1.

The main difference is the application of the DLOC and the DLOM. Let's assume a discount for lack of control of 25 percent and a discount for lack of marketability of 30 percent. The estimated noncontrolling, nonmarketable value of a 25 percent interest is $2.6 million, 48 percent lower than the concluded statutory fair value. Exhibit 4 summarizes the fair market value indication in this case.

Now, let's assume that the Subject Company nonoperating assets are expected to be sold and the cash proceeds will be immediately distributed to the shareholders. Therefore, the conclusion of the fair market value may change somewhat. In this instance, the DLOC and the DLOM are applied only to the operating business value, as presented in Exhibit 5.

The pro rata amount of the expected cash proceeds from the immediate sale of the nonoperating assets are added directly to the concluded noncontrolling, nonmarketable value.

Based on this set of hypothetical circumstances, the calculation of the noncontrolling, nonmarketable value of a 25 percent interest in Subject Company is presented in Exhibit 5.

Exhibit 4
Subject Company
Estimated Fair Market Value
Nonoperating Assets Retained in the Business
Noncontrolling Ownership Interest Fair Market Value Case
As of December 31, 2018

Conclusion of Fair Market Value		As of 12/31/2018 $000
Estimated Value of Business Operations on a Controlling Ownership Interest Basis		16,000
Plus: Fair Market Value of Equity Investment		4,000
Fair Market Value of Total Equity		20,000
Less: Discount for Lack of Control	25%	
Less: Discount for Lack of Marketability	30%	
Less: Combined Valuation Discounts[8]	48%	(9,600)
Fair Market Value of Total Equity on a Nonmarketable, Noncontrolling Ownership Interest Basis		10,400
Fair Market Value of a 25% Equity Interest in Subject Company on a Nonmarketable, Noncontrolling Ownership Interest Basis		2,600

Exhibit 5
Subject Company
Estimated Fair Market Value
Nonoperating Assets Will Be Liquidated
Noncontrolling Ownership Interest Fair Market Value Case
As of December 31, 2018

Conclusion of Fair Market Value		As of 12/31/2018 $000
Estimated Value of Business Operations on a Controlling Ownership Interest Basis		16,000
Fair Market Value of Business Operations Equity		16,000
Less: Discount for Lack of Control	25%	
Less: Discount for Lack of Marketability	30%	
Less: Combined Valuation Discounts[8]	48%	(7,680)
Estimated Nonmarketable, Noncontrolling Interest Value of Business Operations		8,320
Plus: Fair Market Value of Equity Investment—Assumed to Be Liquidated		4,000
Fair Market Value of Total Equity on a Nonmarketable, Noncontrolling Ownership Interest Basis		12,320
Fair Market Value of a 25% Equity Interest in Subject Company on a Nonmarketable, Noncontrolling Ownership Interest Basis		3,080

Summary and Conclusion

The standard of value and the level of value may have a material impact on the valuation of the private company business or business ownership interest. The analyst typically specifies in the engagement letter which standard of value is to be applied in the subject valuation assignment.

If the standard of value is statutory fair value, the analyst should also consider the definition of fair value provided by the statutory authority or judicial precedent.

Statutory fair value is not always formally defined in each state. In such instances, the analyst may seek legal instructions from the client's counsel as to the appropriate interpretation of fair value.

Notes:

1. "International Glossary of Business Valuation Terms." National Association of Certified Valuators and Analysts, 8 June 2001, www.nacva.com.
2. Ibid.
3. Ibid.
4. For a detailed discussion of the standards of value for litigation purposes, the reader can refer to Jay E. Fishman, Shannon P. Pratt, and William J. Morrison, *Standards of Value: Theory and Applications,* 2d ed. (Hoboken, NJ: John Wiley & Sons, 2013).
5. James Hitchner, *Financial Valuation: Applications and Models*, 4th ed. (Hoboken, NJ: John Wiley & Sons, 2017).
6. Ibid.
7. Even if the nonoperating assets are expected to be liquidated but the proceeds will not be distributed, the nonoperating asset will still exist, only as a different asset (cash instead of an equity investment in this example).
8. Calculated as 1 – [(1 – DLOC) x (1 – DLOM)]

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Forensic Analysis and Lost Profits Damages Measurements

Lisa H. Tran and Tia R. Hutton

Damages analysts ("analysts") are often asked to measure lost profits damages in either breach of contract claims or tort claims. Typically, a plaintiff will establish three principles in order to be awarded damages related to a lost profits claim: proximate cause, foreseeability, and reasonable certainty. While it is the primary responsibility of plaintiff's legal counsel to prove a lost profits claim, the analyst can assist counsel with the task. That is, the analyst can develop a lost profits measurement that is credible and supported by the facts of the case and by relevant market data. In the Horizon Health Corporation v. Acadia Healthcare Company, Inc., *decision, the plaintiff could not recover lost profits. This is because the court concluded that (1) the plaintiff's testifying expert presented an analysis that was speculative and (2) the evidence was insufficient to support the plaintiff's lost profits claim.*

Introduction

In tort claims and in breach of contract claims, damages are sometimes measured as the loss in monetary value that one party experiences as a result of another party's alleged wrongful actions.

That wrongful act may be a breach of contract, an act causing injury (e.g., tort, infringement, or fraud), or a violation of a duty that resulted in a loss of revenue, profits, or possibly long-term value (i.e., lost profits).

In a lost profits claim, the plaintiff should prove that the injury and the damages were caused by the defendant. The plaintiff typically retains an analyst to assist counsel in proving that "but for" the alleged wrongful actions of the defendant, the affected business would have realized a certain amount of income (e.g., profits or cash flow) during the damages measurement period.

The objective of the lost profits analysis is to restore the plaintiff to an equivalent economic position "but for" the alleged wrongful act—and not to make the plaintiff better off than it otherwise would have been.

Typically, the plaintiff's counsel will establish three elements in order for the plaintiff to receive an award of lost profits damages:

1. Proximate cause
2. Foreseeability
3. Reasonable certainty

The plaintiff's claim is subject to legal standards, and the measurement of damages will be scrutinized by the finder of fact and challenged by the defendant(s).

To assist counsel with the proof of damages, the plaintiff may engage an analyst to measure the lost profits damages. The lost profits damages measurement should be supportable and credible—and should be prepared in accordance with applicable professional standards.

When the plaintiff's analyst provides a damages measurement that is credible and supported by the facts and circumstances, and by company and market data, meeting the legal standards for damages is more probable. The failure to do so may result in a reduction of the damages award or even a denial of damages.

This discussion summarizes (1) the three elements that a plaintiff should establish to prove a lost profits claim, (2) the importance of selecting an analyst who can credibly measure lost profits damages, and (3) the consequences of failing to provide support for the lost profits damages claim.

The *Horizon Health Corporation v. Acadia Healthcare Company, Inc.,* judicial decision provides an example of how failing to provide support for a damages claim can result in an undesirable outcome.[1]

Defining Damages

Damages are generally defined as "the sum of money which a person wronged is entitled to receive from the wrongdoer as compensation for the wrong."[2]

From a legal perspective, there are three primary types of damages:

1. Actual or compensatory damages are awarded to a plaintiff in order to repay the actual losses incurred.
2. Nominal damages represent a small sum awarded to a plaintiff who has experienced some invasion of rights but did not suffer substantial loss or injury.
3. Punitive damages are awarded not to compensate a plaintiff but rather to penalize the defendant for acting with recklessness, malice, or deceit.

Lost Profits Damages

In commercial litigation, the award of lost profits is the remedy that a plaintiff can seek for the damages caused by the wrongful act of a defendant. However, the plaintiff can only seek "net" lost profits as damages.

"Net" lost profit damages are generally defined as "gross revenue that would have been earned but for the wrongful act reduced by avoided costs. Avoided costs are defined as those incremental costs that were not incurred because of the loss of revenue."[3]

As presented below, a general method to measure lost profits is provided by the following formula.

Lost Revenue – Avoided Costs + New Costs
= Lost Profits

Lost profits damages are typically available for claims that involve breach of contract, torts, and infringement of intellectual property. Examples of torts that can cause business lost profits include fraud, misrepresentation, and unfair competition. Lost profits damages claims related to intellectual property include patents, copyright, and trademark infringement.

Elements of Lost Profits Damages

Typically, the plaintiff's counsel should establish three elements in order for the plaintiff to be awarded lost profits damages. The plaintiff should show that:

1. the conduct upon which the claim is based caused the lost profits damages,
2. the parties contemplated the possibility of lost profits damages or that the lost profits damages were a foreseeable consequence of the conduct, and
3. the lost profits damages are capable of proof with reasonable certainty.

These three elements are usually referred to as proximate cause, foreseeability, and reasonable certainty.[4]

Proving proximate cause, foreseeability, and reasonable certainty is the responsibility of counsel. However, the analyst should be aware of the three elements and how they relate to the damages analysis work product.

Proximate Cause

Lost profits damages are recoverable only if the plaintiff can demonstrate that the defendant's wrongful act was the proximate cause of the loss. This requirement is based on the principle that "but for" the wrongful act, the plaintiff would have not suffered economic losses.

According to the *Calculating Lost Profits Practice Aid*, "there must be a link between the wrongful act and the resulting damages." Damages cannot be calculated or measured until proximate cause is proven.

There are many variables that can cause lost profits for a business; it is important for the analyst to consider all possible causes of the loss. Although it may not be possible to eliminate the effect of all other possible causes, it is important for the analyst to show that the defendant's actions were the primary case of the economic loss.

To support the plaintiff's claim of—or the defendant's denial of—proximate cause, it is important for the analyst to understand the following:

1. The subject company's industry and its position within the industry
2. The actual and projected impact of external factors on the performance of industry participants

The damages analysis should be performed over the alleged damages period. Lost profits can only be claimed over the "loss period," which is a finite length of time. The loss period typically begins no earlier than the date of the wrongful act. However, the end of the loss period can vary depending on the underlying cause of the action and the facts of the case.

Statutory authority and/or judicial precedent can have an impact on the reasonableness of the length of the damages period.

Foreseeability

Foreseeability relates to the principle that a breach of contract, tort, or wrongful conduct was likely to cause damage, not that it was foreseeable. The principle of foreseeability is relevant only in contract law.

In breach of contract claims, the parties should determine if lost profits damages were contemplated by the contract parties when they entered into the contract. To do so, the courts will examine the terms of the contract, such as the circumstances known to both parties and what liabilities were assumed by the signing parties.

In breach of contract claims, foreseeability requires the legal determination of whether the plaintiff seeks (1) an award of general damages or (2) an award of special or consequential damages.

General damages are the natural results of the breach of contract. Typically, general damages are easier to claim because they are the profits the nonbreaching party would have earned if the contract had been performed.

Special, or consequential, damages are the result of the impact of a contract breach on matters such as the nonbreaching party's ability to fulfill other agreements or inability to operate its business. The plaintiff should prove that the damages were caused by special or peculiar circumstances that the defendant had known and did not communicate at the time of contracting.

The foreseeability rule was first established in an English court over 150 years ago in *Hadley v. Baxendale*[6]—and was later adopted by the U.S. courts. In *Hadley*, the court found that damages are recoverable only if:

1. the damages were reasonably foreseeable by both parties at the time of the contract and
2. the damages arose naturally from the breach.[7]

The foreseeability rule establishes that lost profits damages are available only if the plaintiff can prove that the breaching party knew of the special circumstances that could lead to the economic loss.

Reasonable Certainty

The courts have recognized that lost profits cannot be measured with absolute certainty. Rather, lost profits should be measured based on reliable evidence. The concluded damages measurement should be rational and not speculative. This is the basis of the principle of reasonable certainty.

Nearly every court in the United States has adopted the rule that lost profits must be proven with reasonable certainty. However, the courts have not provided any concrete definition of "reasonable certainty." There are no accepted criteria or standards to determine how reasonable certainty can be met.

Courts have applied the reasonable certainty standard to claims for lost profits by considering a multitude of factors. In most cases, courts deciding on whether lost profits have been proven with reasonable certainty consider the following factors:

1. The court's confidence that the measurement is accurate
2. Whether the court is certain that the injured party has suffered at least some damages
3. The degree of blameworthiness or moral fault on the part of the defendant
4. The extent to which the plaintiff has produced the best available evidence of lost profits
5. The amount at stake
6. Whether there is an alternative method of compensating the injured party[8]

Of the aforementioned factors, the court's confidence in the accuracy of the lost profits measurement is considered to be the most important factor. The court's confidence in the analyst's loss measurement is affected by the basis (i.e., the support) for the measurement.

Courts generally award the injured party lost profits because the analyst-provided loss

measurement was based on verifiable data. The courts generally prefer the before-and-after method for measuring lost profits damages. This damages measurement method generally applies verifiable data from the plaintiff's business in the measurement of the economic loss.

In the before-and-after method, the historical, or actual, profits of the subject business before the damaging event are compared to the profits of the business after the effects of the damages event. The rationale for this method is, "but for" the damaging event, the plaintiff's profits during the two periods would have been similar.

One typical error in the application of the before-and-after method is the failure of the analyst to consider other factors that may have caused the profit loss. These other factors may include changing market conditions or company inefficiencies.

Another analysis error in applying the before-and-after method is the arbitrary selection of the time period in which to calculate the profits for comparison, potentially producing the highest differential in profits and inappropriately favoring the plaintiff.

Another damages measurement method applied by analysts is the yardstick (or comparable) method. The yardstick method also relies on data related to the plaintiff's business.

Applying the yardstick method, the analyst identifies companies or industries that are sufficiently comparable to the subject business. The financial performance of the comparable company is used to project likely revenue and profits the subject company would have realized "but for" the defendant's wrongful actions.

One challenge in applying the yardstick method is identifying a company or industry that is reasonably representative of the subject company. If the yardstick company or industry is not sufficiently comparable to the subject company, then the damages measurement will not meet the reasonable certainty standard.

In a recent judicial decision, the court determined that the plaintiff's analyst did not provide sufficient evidence to support the award of lost profits. This judicial decision is *Horizon Health Corporation v. Acadia Healthcare Company, Inc.*

Horizon Health Corporation v. Acadia Healthcare Company, Inc.

The Texas Supreme Court supported the court of appeals reversal of the trial court award of lost profits damages. The Supreme Court concluded that the Horizon Health Corporation ("Horizon") analyst's damages measurement was speculative and did not meet the reasonable certainty standard.

The Facts of the Case

Founded in 1981, Horizon provides contract management services to hospitals and health care providers to manage their psychiatric and behavioral health programs. In 2007, Psychiatric Solutions, Inc. ("PSI"), acquired Horizon.

In 2010, members of the Horizon upper management team attempted, but failed, to acquire Horizon from PSI. PSI was ultimately acquired by Universal Health Services, a public company.

Subsequently, the PSI CEO left PSI and became CEO of Acadia Healthcare Company ("Acadia"). In May 2011, the Horizon president, Michael Saul ("Saul") proposed a plan to Acadia to form a subsidiary for Acadia to manage mental-health programs for hospitals and other mental-health providers.

Acadia agreed and certain members of the Horizon management team resigned from Horizon in August and September 2011 and created Psychiatric Resource Partners ("PRP").

The new members of PRP recruited John Piechocki ("Piechocki"), a top performing sales person at Horizon, to join PRP and began competing with Horizon, soliciting business from the Horizon prospective and existing customer base.

In October 2011, Horizon filed a lawsuit against certain members of the PRP management (i.e., Saul, Peter Ulasewicz, Barbara Bayma, Tim Palus, and Piechocki—the individual defendants)—for:

1. breach of fiduciary duty;
2. misappropriation of trade secrets, conversion and liability; and
3. tortious interference with existing contracts and prospective business relationships and conspiracy.

In a forensic investigation, Horizon discovered that the defendants had copied company policies and procedures, financial models, and lists of sales leads before resigning from Horizon. Horizon also sued four members of the PRP management for breach of their convents-not-to-compete and the wrongful solicitation of Piechocki.

The Outcome of the Trial

At trial, the jury delivered a unanimous verdict in favor of Horizon. The jury awarded Horizon:

1. $898,000 in future lost profits from the Westlake Regional Hospital ("Westlake") customer contract that the PRP management team had "stolen" from Horizon in violation of the covenants-not-to compete,
2. $3,300,000 in future lost profits based on the violation of the convents-not-to solicit committed by certain members of the PRP management team in its recruitment of Piechocki,
3. $50,000 for the fair market value of the stolen property or trade secrets (i.e., copies of the Horizon computer systems, customer contracts, policies, and procedures),
4. $5,049.24 for fraudulent travel expenses for trips taken in June 2011 by certain members of the PRP management team when they were employees of Horizon,
5. $1,750,000 in exemplary damages to deter and retribute the defendants, and
6. $900,000 in attorney's fees.

In total, the jury awarded Horizon over $6.9 million for damages. The trial court accepted the full amount of damages awarded by the jury and allowed a sanction against Saul for $41,740. However, the trial court did reduce the attorney's fees award to $769,432.

The Appeal

Acadia appealed and Horizon cross-appealed on the reduction in attorney's fees.

Upon review, the court of appeals rendered a take-nothing judgment for Horizon on all its contractual and tort claims, except for theft of property and trade secrets and fraudulent expense reports. The court of appeals determined that the Horizon analyst testimony was speculative and legally insufficient.

Further, the court of appeals ruled that the jury's award of $1,750,000 in exemplary damages was unconstitutionally excessive and ordered a new trial on Horizon's attorney's fees.

Again, both the plaintiff and defendants filed petitions for review.

In reviewing the trial jury's findings, the court of appeals considered the law regarding legal-sufficiency of review in which the court is "limited to reviewing only the evidence tending to support the jury's verdict and must disregard all evidence to the contrary, except contrary evidence that is conclusive."[9]

The rule concerning the sufficiency of evidence in lost profits for damages is that the recovery of lost profits does not require an exact calculation of damages. However, opinions of lost profits should be proven with objective facts and data to establish reasonable certainty.

The Supreme Court Review

The Supreme Court of Texas agreed with the court of appeals that the evidence was legally insufficient to support with reasonable certainty that Horizon had suffered lost profits from (1) the loss of the Westlake contract and (2) the solicitation of Piechocki.

The Horizon argument for damages on the Westlake contract was based on the assumption that, but for the misconduct of the defendants, Horizon would have won the contract. The Supreme Court disagreed. The Supreme Court found no evidence that Westlake would have entered into a contract with Horizon had it not signed a contract with PRP.

Further, the Westlake contract with PRP contained a provision for an advance in construction costs, which was not found in any Horizon contracts, indicating that the Westlake contract was unique to Westlake and PRP.

At the trial court level, even the Horizon damages analyst had testified that he had no opinion as to whether Horizon would have been able to retain Westlake as a client.

The Supreme Court concluded that the loss of a contract does not establish lost profits with reasonable certainty, and that the evidence did not prove that Horizon would have won the Westlake contract. The evidence only showed that PRP would not have won the Westlake contract without the misconduct of the defendants.

The Supreme Court concluded that there was insufficient evidence to support the Horizon claim for lost profits relating to defendants' wrongful solicitation of Piechocki. The Horizon analyst based his lost profits analysis on:

1. the amount of time Piechocki would have continued working at Horizon but for the wrongful solicitation by defendants and
2. the number of contracts Piechocki would have sold if he had remained an employee at Horizon.

However, the Supreme Court concluded that this evidence was insufficient to establish lost profits with certainty. That was because the Horizon analyst relied on an average profit calculation using a typical Horizon contract—and not on the observable profit margin based on the contracts that Piechocki had sold at Horizon.

In other words, the Horizon analyst failed to tie lost profits of Piechocki competing with Horizon to the profitability of the contracts he had sold at Horizon. Due to the reliance on an under-supported analysis, the Supreme Court concluded that Horizon did not sustain lost profits from Piechocki's departure from Horizon.

Due to legally inefficient evidence presented by the Horizon analyst to support the award of damages, the plaintiff lost approximately $4.2 million. This $4.2 million amount had been originally awarded in the first trial.

Summary and Conclusion

In *Horizon Health Corporation v. Acadia Healthcare Company, Inc.*, while both the court of appeals and Texas Supreme Court concluded that legally sufficient evidence demonstrated that all of the individual defendants acted with malice and three of the individuals committed fraud, the courts still did not award lost profits damages to Horizon.

Insufficient evidence was presented to prove the lost profits claim, and lost profits could not be estimated with reasonable certainty. In the instant case, the analyst was not able to provide a supportable work product and, therefore, damages were not awarded.

As demonstrated in the *Horizon* decision, retaining a qualified analyst to assist counsel by providing a supportable work product is an important component of the damages claim. While it is the responsibility of plaintiff's counsel to prove a lost profits claim, the analyst can support counsel by presenting a lost profits damages measurement that:

1. is calculated using appropriate damages measurements methods,
2. considers the relevant facts and circumstances of the case, and
3. is supported by sufficient evidence.

Notes:

1. Horizon Health Corporation v. Acadia Healthcare Company, Inc., 520 S.W.3d 848 (Tex. 2017).
2. Frank Gahan, "The Law of Damages," 1 (1936), as cited in Bryan A. Garner, *Black's Law Dictionary*, 9th ed. (St. Paul, MN: West Publishing, 2009).
3. Richard A. Pollack, Scott M. Bouchner, Craig M. Enos, Colin A. Johns, and John D. Moyl, *Calculating Lost Profits, Practice Aid 06-4* (New York: American Institute of Certified Public Accountants, Inc., 2006), 19.
4. Jonathan M. Dunitz and Nancy J. Fannon, *The Comprehensive Guide to Economic Damages*, Vol. 1, 5th ed. (Portland, OR: Business Valuation Resources, 2018), 211.
5. Pollack, Bouchner, Enos, Johns, and. Moyl, *Calculating Lost Profits, Practice Aid 06-4*, 19.
6. Hadley v. Baxendale, 156 Eng. Rep. 145, 151 (Ex. 1854).
7. Pollack, Bouchner, Enos, Johns, and Moyl, *Calculating Lost Profits, Practice Aid 06-4*, 20.
8. Dunitz and Fannon, *The Comprehensive Guide to Economic Damages*, 95.
9. Bancorp, Inc. v. Culpepper, 802 S.W.2d 226, 227 (Tex. 1990).

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Post-Acquisition Disputes: Working Capital Adjustments and Working Capital Disputes

George Haramaras

Working capital adjustments are a typical feature in merger and acquisition ("M&A") transactions. The working capital adjustment mechanism ensures that both the buyer and the seller in an M&A transaction are made whole. That is, the buyer realizes the value of the purchase price. And, the seller does not transfer any excess cash and assets to the seller—beyond what was paid for in the purchase price. This discussion examines the mechanics of working capital adjustments. This discussion considers working capital disputes, and it describes multiple financial accounting considerations in the dispute process. This discussion provides perspective on the interaction between working capital disputes and the target company valuation. Finally, this discussion analyzes the implications of an important Delaware Supreme Court decision involving a working capital adjustment. An understanding of the financial accounting, valuation, and legal considerations associated with working capital adjustments and working capital disputes is important to both the transaction buyer and the transaction seller.

Introduction

In the United States, merger and acquisition ("M&A") transactions are a frequent occurrence. Over a long-term 30-year period, M&A trends demonstrate increasing deal volume and increasing deal size. This trend is only reinforced by the strong deal volume in the last 2-year period.[1]

As M&A transactions remain prevalent, innovations and complexities arise and change the way that parties do business. To address the typical complexities in M&A transactions, there are multiple contract provisions to ensure that both transaction parties are made whole. Of particular importance to the buyer and the seller in the M&A transaction is what occurs after the transaction closes.

One typical provision in M&A transaction agreements is the working capital adjustment. The working capital adjustment addresses the post-closing working capital balance target.

Working capital adjustments are adjustments that are made to the M&A transaction purchase price. Working capital adjustments help ensure that:

1. the buyer and the seller arrive at the agreed-upon purchase price and
2. there is sufficient working capital available for the buyer as of the transaction closing.

When the transaction participants cannot mutually agree on the level of working capital, a working capital dispute ensues. These disputes are typically settled in arbitration. This discussion focuses on the working capital adjustment and the working capital dispute, as well as on the related accounting, valuation, and legal considerations.

Working Capital Adjustments

Working capital adjustments are a typical mechanism that serve multiple purposes in M&A transactions. In a business acquisition, value is typically established on a debt-free, cash-free basis by calculating the so-called enterprise value (or long-term debt plus owners' equity) of the company.

The value of the target company is also often estimated on a going-concern basis. In other words, the value of the company includes the assumption that it continues to operate after the purchase transaction.

Fundamental to the operation of the target company is its working capital, defined as (1) current assets less (2) current liabilities.

Achieving the agreed-upon level of working capital at the closing of an M&A transaction is important so the buyer may realize the value of the purchase price. Likewise, for the seller, achieving the agreed-upon level of working capital at closing is important to ensure that excess cash and assets above the value of the purchase price are not left to the buyer.

In addition to these competing interests, other factors make working capital adjustments a challenging issue to navigate in an acquisition. Working capital can fluctuate for numerous macroeconomic, industry-specific, and firm-specific reasons. These reasons include seasonality, irregular transactions or large capital expenditures, changes in firm credit or purchasing policies, economic downturns, and the financial strength of customers.

Working capital adjustments are frequently included in purchase agreements to make the parties whole in order to ensure that both parties (1) arrive at an agreed-upon purchase price and (2) are not adversely affected by working capital fluctuations.

Mechanics of the Working Capital Adjustment

Working capital adjustments are frequently applied as purchase agreement provisions to adjust the purchase price for the exact amount of the working capital balance at the closing. These contract provisions allow the buyer and the seller to establish a targeted level of working capital ("Targeted Working Capital") immediately following the transaction.

The Targeted Working Capital is then compared to the actual working capital balance at closing ("Closing Working Capital"). Finally, the working capital adjustment typically adjusts the purchase price to reflect the difference between the Targeted Working Capital and the Closing Working Capital.

If Closing Working Capital is less than Targeted Working Capital, then the purchase price is decreased by the difference. This decrease reflects the deficiency in the value of net current assets below the specified Targeted Working Capital and in the purchase documents.

If Closing Working Capital exceeds Targeted Working Capital, the purchase price is increased by the difference. This increase reflects the excess value of the net current assets above the specified Targeted Working Capital and in the purchase.

The typical issues when dealing with working capital adjustments include the following:

1. Determining how the Targeted Working Capital is calculated
2. Determining how the Closing Working Capital is calculated
3. Adjusting the agreed-upon purchase price

Calculating Targeted Working Capital

The considerations for Targeted Working Capital typically include defining which accounts comprise the working capital. Other considerations include the determination of the optimal level of working capital.

The Targeted Working Capital specified in the purchase agreement indicates the amount of net current assets required for the buyer to continue operations unconstrained by working capital concerns. Targeted Working Capital typically begins at the conventional definition of working capital—that is (1) current assets minus (2) current liabilities.

Targeted Working Capital is then adjusted to reflect any number of considerations, including industry-specific considerations, firm-specific considerations, and deal-specific considerations.

If the purchase price is calculated on a cash-free, debt-free basis, then the parties may remove the cash and debt accounts in the Targeted Working Capital calculation.

Unearned revenue may or may not be excluded from Targeted Working Capital, depending on the firm-specific or industry-specific context. Items included in Targeted Working Capital are typically normalized, with nonrecurring transactions and nonrecurring events removed from the balances.

The optimal level of Targeted Working Capital is frequently determined by analyzing working capital over a period—as compared to at one point in time. The time period may be an average over the latest 12-month period. Using an average working capital level allows the buyer and seller to review historical working capital and determine the necessary amount of working capital needed to continue operations, as working capital frequently fluctuates.

Several other factors—such as growth (fast growing companies typically require more working capital to scale operations) or seasonality—may also be considered when determining the optimal amount of Targeted Working Capital.

Calculating Closing Working Capital

The calculation of Closing Working Capital has considerations that may play a role in the M&A dispute. Significant issues such as how to calculate working capital may become important to the working capital adjustment. Calculating Closing Working Capital in accordance with U.S. generally accepted accounting principles ("GAAP")—as opposed to in a manner consistent with historical practice—is often an important consideration.

Buyers typically favor calculating working capital on a GAAP basis, while sellers typically favor calculating working capital in a manner consistent with historical practice. This issue is typically addressed in the purchase agreement. The purchase agreement should establish which objective, GAAP or consistency, takes priority.

The process by which Closing Working Capital is calculated can also be negotiated in an M&A transaction. The purchase agreement typically specifies (1) whether the buyer or the seller is to initially calculate the Closing Working Capital and (2) the time frame for preparing the calculation. The other contract party will then review the Closing Working Capital calculation and agree with—or dispute—the initial Closing Working Capital calculation.

The purchase agreement frequently specifies that both parties settle disputes in Closing Working Capital mutually, or if that is unachievable, in arbitration. Settling working capital disputes in an arbitration will be examined in the following sections.

Adjusting the Purchase Price

There are numerous considerations related to executing the working capital adjustment. Purchase agreements often limit upward or downward adjustments by establishing a "ceiling" or a "floor," respectively, for any purchase price adjustments.

More often than not, purchase agreements include both "ceilings" and "floors" for the purchase price, creating what is known as a "collar." In addition to limiting adjustments that are too large, purchase agreements may also call for de minimis thresholds. These thresholds are effectively the minimum amount required to make an adjustment to the purchase price.

Working Capital Disputes

Frequently, the buyer and the seller are unable to agree on the value of Closing Working Capital. In these instances, the buyer and the seller may resolve their differences through the dispute resolution process.

In a working capital dispute, both parties calculate disputed items in Closing Working Capital. Disputed items are the components and amounts of Closing Working Capital where the parties disagree.

To calculate disputed items in Closing Working Capital, the parties (1) evaluate the underlying working capital accounts in dispute and (2) support working capital account calculations with evidence and reasonable assumptions.

Typically, working capital adjustments are resolved through arbitration according to the resolution process outlined in the purchase agreement. The arbitration process differs from the traditional litigation process in several ways. Arbitration is typically cheaper and faster than the litigation process.

Accounting-type arbitrations typically emphasize accounting considerations in addition to legal considerations. Disputed items and the scope of what will be considered in an accounting arbitration may be outlined in the purchase agreement.

The primary considerations for calculating the amount of working capital in an arbitration setting are discussed in the sections below.

Primary Considerations for Calculating Working Capital

GAAP versus Consistency

A frequent theme in working capital disputes is the framework used to value the disputed items, as well as the hierarchy of multiple and conflicting frameworks used to value disputed items by the opposing parties.

The buyer may argue that disputed items should be calculated in accordance with GAAP, while the seller may argue that disputed items should be calculated in a manner consistent with historical practice. In order to justify their calculation of the disputed items, the parties may use evidence including management assertions, existing policies and procedures, and actual historical data.

Management Assertions

Certain financial statement accounts, including some accounts related to working capital, are subjective and require the use of accounting estimates. Accounting estimates are used to calculate financial statement accounts when there is no precise measurement and approximation is necessary.

Accounting estimates are typically used in practice and are called for by GAAP. Examples of working capital accounts subject to accounting

estimates include accounts receivable and allowance for doubtful accounts; inventory and corresponding reserves for obsolescence, excess and quality issues; and accrued liabilities such as accrued warranty liabilities.

Since these accounting estimates are called for by GAAP, the assertions made by management to develop these accounting estimates may be important supporting information in the dispute process.

Both the buyer and the seller may obtain management assertions supporting their assumptions for calculating the accounting estimates. And, both parties may use this information to support their calculations and conclusions for the working capital accounts.

Policies and Procedures

More evidence to support the position in a working capital dispute may be found in the existing policies and procedures for calculating financial statement accounts.

While management may make assertions about how financial statement accounts were calculated in relation to disputed items, it is often easy to discover how financial statement accounts were effectively calculated by observing and analyzing company information, policies, and procedures.

Opposing parties use company information, policies, and procedures to support their calculations of disputed items. Like management assertions, the evidence from company information and policies and procedures may be used to support the arguments that disputed items were or were not in conformance with GAAP.

Historical Data

Evidence to determine whether financial statement accounts are calculated in accordance with GAAP may be provided by both (1) company management assertions and (2) company policies and procedures. However, management assertions should also be comparable to what occurred; that is, the management assertions should be reasonable.

Similarly, effective policies and procedures need to reflect stated policies and procedures; a stated procedure on its face may be considered GAAP, but if the application of the procedure is different and not in line with GAAP, then it is not GAAP.

To address this issue, opposing parties may support their claims by analyzing historical data, which supports or refutes their claims relating to disputed items. For example, allowance for doubtful accounts assumptions will be compared with historical collections data, inventory reserve assertions will be analyzed against sales and cost data, and accrued liabilities estimates will be compared with actual expenses incurred.

Historical data can reveal whether revenue recognition and lease classification were applied properly. Finally, parties may claim or deny that the assertions and policies used to calculate working capital are in line with actual outcomes.

Considerations for the Adjustment

Once disputed amounts are settled and a conclusion about the adjustment is reached, applying the adjustment is fairly straightforward. Typically, the adjustment is applied to the purchase price on a dollar-for-dollar basis. Occasionally, the dollar-for-dollar adjustment will include interest.

Dollar-for-dollar adjustments make sense in the context of working capital adjustments. Working capital disputes are disagreements over the value of working capital at the time of closing, not of working capital in the valuation of the target company.

Targeted Working Capital is a normalized working capital figure adjusted for nonrecurring items, seasonality, growth, and other factors. It represents an approximation of the working capital needed to operate the target company to realize its value as a going concern.

The difference between Targeted Working Capital and Closing Working Capital is either an excess or a deficiency in the net current assets necessary to operate the target company and is a correction to arrive at the Targeted Working Capital figure.

In a working capital dispute, the value of working capital as it pertains to the target company valuation is not in dispute. No adjustments to the purchase price should typically arise due to the target company's valuation in a working capital adjustment.

The application of interest for the dollar-for-dollar adjustment can also be justified to compensate the buyer or the seller for the return that would have been realized had the adjustment amount been disbursed at closing.

It is noteworthy that while working capital adjustments and working capital disputes result in dollar-for-dollar adjustments to correct Closing Working Capital to Targeted Working Capital, the conclusions reached in a working capital dispute can imply other adjustments beyond the dollar-for-dollar difference of Targeted Working Capital and Closing Working Capital. Most glaring are the conclusions relating to the GAAP compliance of working capital accounts.

If Closing Working Capital is adjusted due to a working capital recalculation made by applying methods more closely aligned to GAAP, then such adjustments may have implications beyond the working capital adjustment.

The relationship of working capital in the working capital dispute and in the target valuation is examined in the following section.

Relationship of Working Capital in a Working Capital Dispute and in Target Company Valuation

The relationship of (1) the working capital measurement in a working capital dispute and (2) the working capital measurement in the target company valuation is an important consideration. The outcome of the working capital dispute may have implications regarding the target company valuation.

Working Capital in a Working Capital Dispute Context

In a working capital dispute, both parties calculate disputed items in Closing Working Capital. This process involves evaluating the underlying disputed working capital accounts. The arguments made to support the calculations of working capital accounts often involve whether the historical methods of calculating these working capital accounts were GAAP-compliant.

As a result, it could be concluded in a working capital dispute that historical methods for calculating working capital accounts were not calculated in accordance with GAAP. According to the conclusion reached in the working capital dispute, certain working capital accounts are calculated using methods other than what were historically used.

In other words, it could be interpreted from a working capital dispute that certain working capital accounts were incorrectly calculated in the past.

Working Capital in a Target Valuation Context

Working capital, defined as current assets less current liabilities, may have an important impact on the valuation of a target company. Working capital considerations affect the generally accepted business valuation approaches—the income approach, the market approach, and the asset-based approach—analysts apply to estimate the value of the target company.

Working capital directly affects cash flow in the income approach. Working capital also affects the income measures used in both the income approach and the market approach.

The income approach evaluates the sum of future cash flow discounted to the present using a present value discount rate. One income approach method is the discounted cash flow ("DCF"). In the DCF method, net cash flow to invested capital may be evaluated. Net cash flow is a calculation that begins with net operating income, adds back noncash expenditures, subtracts capital expenditures, and subtracts (or adds) increases (or decreases) to working capital.

Therefore, working capital directly affects net cash flow to invested capital, and, as a result, directly affects the value calculated in the DCF method.

Working capital changes can also affect income measures used in the income and market approaches such as net income, debt-free net income ("DFNI"); earnings before interest, taxes, depreciation and amortization ("EBITDA"); and earnings before interest and taxes ("EBIT").

Working capital changes can affect these income measures. This is because various working capital accounts are inherently tied to income statement revenue and expense items. For example, accounts receivable and unearned revenue are tied to revenue, inventory is tied to cost of goods sold, prepaid expenses and accounts payable are tied to selling, general and administrative expenses ("SG&A"), and accrued liabilities can be tied to cost of goods sold or SG&A.

Therefore, changes in working capital accounts may affect the income measures applied to value a target company.

How Do Working Capital Disputes Affect the Value of a Target Company?

It is important to note two facts regarding the relationship between working capital as it relates to working capital disputes and valuation:

1. The conclusions reached in working capital disputes can imply that historical working capital accounts were incorrect
2. Working capital accounts can have direct and indirect effects on the target company valuation

If it is implied in a working capital dispute that historical working capital accounts were not GAAP-compliant, then the target company valuation (relying on historical working capital accounts) could also be incorrect. As a result, the analyst should inquire about the results of a post-acquisition working capital dispute and their resolutions, as historical normalizing adjustments may be required in the valuation analysis.

Chicago Bridge & Iron Co. NV v. Westinghouse Electric

The working capital adjustment and working capital dispute processes are defined terms and concept in the typical purchase transaction agreement. Distinguishing between—and interpreting—purchase agreement provisions are nuanced legal considerations. These legal considerations are largely determined by the structure and details of the purchase agreement.

To better understand the legal aspects of working capital adjustments, a judicial decision relating to working capital disputes is discussed in the next section.

Background of the Case

In the *Chicago Bridge & Iron Co. NV v. Westinghouse Electric* ("*CBI*") matter, Chicago Bridge & Iron Co. NV ("Chicago Bridge") sold a subsidiary company, CB&I Stone & Webster Inc. ("Stone"), to Westinghouse Electric Co., LLC ("Westinghouse Electric").[2]

In the purchase agreement, there was a working capital adjustment provision that called for a change in purchase price related to the difference between Closing Net Working Capital and Targeted Working Capital.

In the purchase agreement, Targeted Working Capital was calculated to be $1.2 billion. Chicago Bridge calculated Closing Working Capital as $1.6 billion, which implied a $0.4 billion payment from Westinghouse Electric to Chicago Bridge.

Westinghouse Electric concluded Closing Working Capital to be negative $1.0 billion, implying a $2.2 billion payment from Chicago Bridge to Westinghouse Electric. Westinghouse Electric, to arrive at their Closing Working Capital figure, argued that the seller did not calculate working capital accounts on a GAAP basis.

The parties attempted to settle the discrepancies over Closing Working Capital, but they were unable to arrive at a resolution. Westinghouse Electric then moved to initiate a review of the Chicago Bridge calculations by the independent auditor, as was called for in the purchase agreement to resolve disputes involving the final purchase price.

Chicago Bridge then filed a court action seeking a declaration that the Westinghouse Electric claims concerning the GAAP compliance of Closing Working Capital constituted indemnification claims. That is, a claim for compensation from the seller due to misrepresentations the seller made. According to the purchase agreement, indemnification claims were barred.[3]

Westinghouse Electric maintained that GAAP issues surrounding working capital accounts were not indemnification claims but were a part of the working capital dispute process. The primary decision in *CBI* involved the examination of whether the scope of the working capital dispute process, as outlined in the purchase agreement, was wide-ranging enough to address significant GAAP compliance issues.

The *CBI* Treatment of the Working Capital Dispute

On December 2, 2016, the Delaware Court of Chancery ("Chancery Court") ruled in favor of Westinghouse. The Chancery Court observed that the working capital adjustment process outlined in the purchase agreement could address significant GAAP compliance issues.[4]

The Chancery Court concluded that the significant GAAP issues Westinghouse Electric raised were indeed within the scope of the working capital adjustment process and were not an indemnification claim.

On June 27, 2017, the Delaware Supreme Court overturned the Chancery Court decision,

concluding that the working capital adjustment provision must be considered in the context of the broader purchase agreement.[5]

According to the Delaware Supreme Court, on its face, the working capital adjustment provision appeared to be the avenue to address the GAAP issues that Westinghouse raised.

However, when considering the contract as a whole, allowing Westinghouse to address GAAP issues in the working capital dispute would have violated the bar on indemnification in the purchase agreement and, therefore, would have changed a fundamental component of the contract.

As a result, the GAAP issues Westinghouse raised in their Closing Working Capital calculation could not be addressed in the working capital dispute process.

Important Working Capital Adjustment Decisions in *CBI*

In *CBI*, an important subject in the working capital adjustment provision was whether Closing Working Capital should be calculated in accordance with GAAP or in accordance with historical practice. The purchase agreement specified that the statements be "prepared and determined from the books and records of [Stone] and in accordance with United States [GAAP] applied on a consistent basis throughout the period indicated and with the [agreed principles]."[6]

It is clear from the purchase agreement that the frameworks used to calculate Closing Working Capital are GAAP and consistency. Ultimately, however, the hierarchy of applying the GAAP and consistency frameworks is ambiguous in the purchase agreement. Although it is generally understood in the accounting profession that GAAP compliance prevails over historical consistency, such an assumption is insufficient when drafting a purchase agreement.

The Delaware Supreme Court ultimately interpreted this passage to be a representation that historical financials were GAAP-compliant, and Closing Working Capital should, therefore, be calculated in a manner consistent with historical practice.

As a result, claims by Westinghouse Electric that Closing Working Capital accounts were not GAAP compliant would, therefore, constitute an indemnification claim, which was barred in the purchase agreement.

It is also important to consider the interplay between the indemnification provision and the purchase price adjustment provision. In the *Chicago Bridge* case, the purchase agreement barred the buyer from seeking indemnification.

While GAAP-compliance issues in working capital adjustment calculations are not always interpreted as indemnification claims, in the case of *Chicago Bridge*, the indemnification provision limiting the buyer from seeking indemnification was significant enough to affect the scope of the working capital adjustment and working capital dispute.

Summary and Conclusion

The working capital adjustment and the working capital dispute may appear to be a mere accounting issue—or true-up—associated with M&A transactions. Upon further examination, however, working capital adjustments and working capital disputes involve other considerations as well.

While accounting considerations guide the working capital adjustment process and the arbitration process in a working capital dispute, the working capital adjustment affects—and is affected by—legal considerations and valuation considerations.

The way that the purchase agreement is drafted has implications in working capital disputes. And, the calculations in working capital disputes can have implications on the valuation of the target company. An understanding of the interaction between these considerations can allow the M&A transaction counterparties to be more prepared, and such an understanding may prevent unexpected outcomes.

Notes:

1. https://imaa-institute.org/mergers-and-acquisitions-statistics/ accessed January 10, 2019.
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3. Id.
4. Chicago Bridge & Iron Company N.V. v. Westinghouse Electric Company, LLC, C.A. No. 12585-VCL, 2016 WL 7048031 (Del. Ch. Dec. 2, 2016).
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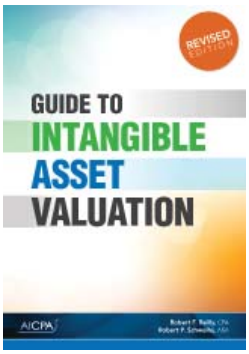

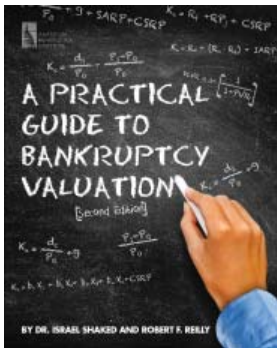

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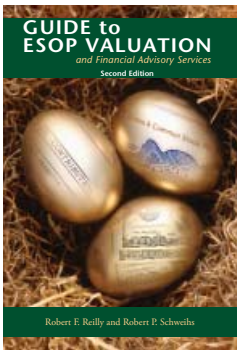

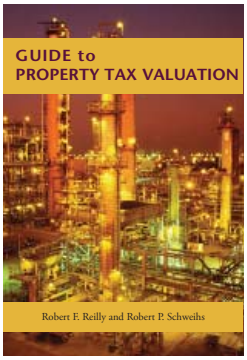

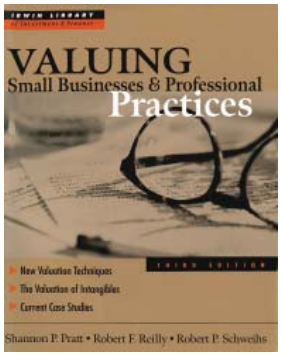

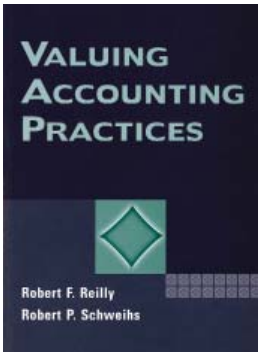

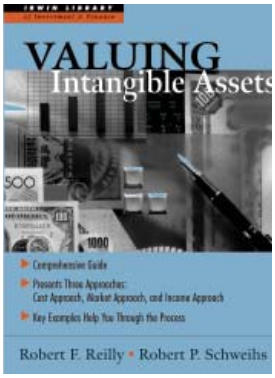

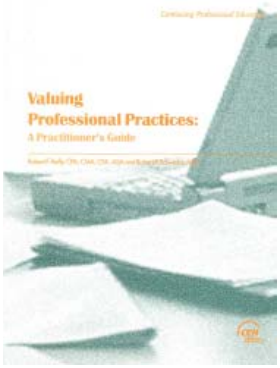

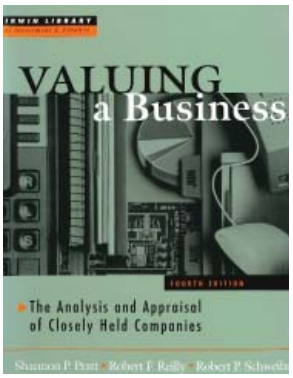

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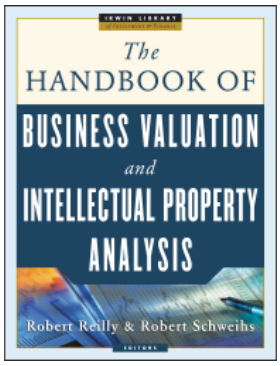

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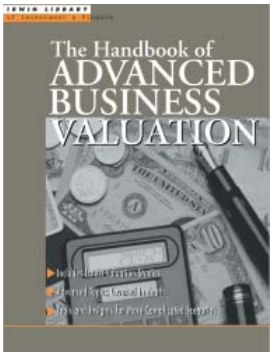

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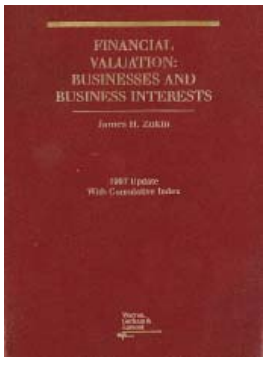

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Willamette Management Associates

Issues in Estimating the Cost of Equity Capital

John C. Kirkland and Nicholas J. Henriquez

In most forensic-related valuation analyses, one procedure that affects most valuations is the measurement of the present value discount rate. This discount rate analysis may affect the forensic-related valuation of private companies, business ownership interests, securities, and intangible assets. This discussion summarizes three models that analysts typically apply to estimate the cost of equity capital component of the present value discount rate: (1) the capital asset pricing model, (2) the modified capital asset pricing model, and (3) the build-up model. This discussion focuses on the cost of equity capital inputs that are often subject to a contrarian review in the forensic-related valuation.

Introduction

There are three generally accepted business valuation approaches: (1) the income approach, (2) the market approach, and (3) the asset-based approach. Each generally accepted business valuation approach encompasses several generally accepted business valuation methods.

An analyst should consider all generally accepted business valuation approaches and select the approaches and methods best suited for the particular analysis. This discussion focuses on the estimation of the present value discount rate ("discount rate") in the application of the income approach.

The general principle of the income approach is that the value of the subject interest is the present value of future economic benefits (typically, some measure of income) associated with the ownership or operation of the business interest. In order to calculate the present value of the expected future income, the analyst typically applies a discount rate.

By definition, the discount rate is a rate of return used to convert a future monetary sum into a present value.[1] The discount rate is often considered to be the opportunity cost of the investor.

In other words, the discount rate is the required rate of return to the investor for assuming the risk associated with a certain investment. The discount rate reflects prevailing market conditions as of the valuation date, as well as the specific risk characteristics of the subject business interest.

If the income available to the company's total invested capital is the selected financial metric, then the discount rate is typically measured as the weighted average cost of capital ("WACC"). Typically, the WACC is comprised of the after-tax cost of debt capital and after-tax cost of equity capital. This discussion focuses on the cost of equity capital component of the WACC.

The cost of debt capital component of the WACC is generally based on either of the following:

1. The effective interest rate that the subject company pays on its actual debt
2. An assumed interest rate commensurate with a benchmark corporate bond rate

The selection of the corporate bond rate should be informed by the risk profile of the subject company.

In other words, if a subject company has low growth prospects and low profit margins, its risk profile may be compared to a bond that is not at investment grade (rather than to an investment grade bond).

The cost of equity capital is typically estimated based on the application of several financial models. A description of all available models to estimate the cost of equity capital is beyond the scope of this discussion. This discussion focuses on three models that analysts often consider when developing a cost of equity capital:

1. The capital asset pricing model ("CAPM")
2. The modified capital asset pricing model ("MCAPM")
3. The build-up model ("BUM")

These models are described in the remaining discussion.

Cost of Equity Capital Estimation

Estimating a private company discount rate may be a challenging aspect of the business valuation.

To estimate the cost of equity capital for a private company, the analyst should be prepared to analyze the risk related to the subject company. This analysis includes the consideration of risk-based adjustments for size, industry, impact of economic factors, and company-specific (i.e., unsystematic) risk factors, such as markets served, management depth, product/service mix, succession planning, and projected risk.

Capital Asset Pricing Model

The CAPM is a frequently applied model to estimate the equity cost of capital for the publicly traded stock of a public company. The following discussion summarizes the basic components of the CAPM. This discussion also provides insight as to the underlying assumptions in the CAPM.

The CAPM is generally defined as follows:

> A model in which the cost of capital for any stock or portfolio of stocks equals a risk-free rate plus a risk premium that is proportionate to the systematic risk of the stock or portfolio.[2]

Simply stated, the CAPM reflects the relationship between (1) the risk of an asset and (2) its expected return. CAPM was originally developed for the analysis of publicly traded marketable securities. As described below, analysts have modified the CAPM to estimate the cost of equity capital applicable to securities that do not trade in a public market.

"[If] a subject company has low growth prospects and low profit margins, its risk profile may be compared to a bond that is not at investment grade. . . ."

The application of the CAPM provides for a direct correlation between the cost of equity capital and the risk associated with a particular investment. The CAPM considers two primary components of risk::

1. Systematic risk
2. Unsystematic risk

Systematic risk, also referred to as "market risk," is the risk associated with investing in the market as a whole and that cannot be eliminated through diversification.

Within the CAPM analysis, the systematic risk component is affected by the application of the "beta" component. The beta component of the CAPM measures the subject interest's sensitivity or correlation to the public equity market—typically measured by using a broad equity index. This variable measures the amount of systematic risk, or market risk, for the subject security.

The CAPM equation is typically expressed as follows:

$$E(Ri) = Rf + \beta \times (ERP)$$

where:

$E(Ri)$ = Expected return for an individual security (i)
Rf = Rate of return available on a risk-free security
β = Beta
ERP = Market-derived equity risk premium

The rate of return available on a risk-free security, or risk-free rate, reflects the minimum return that investors expect to receive from their investment, based on the expected rate of inflation and expectations of the real rate of interest. Analysts often use the yield on long-term U.S. Treasury bonds as a proxy for the risk-free rate.

The ERP is the rate of return an investor could expect over the risk-free rate by investing in a diversified market portfolio. This diversified market

portfolio is assumed to be perfectly liquid and the same for all investors.

These components of the CAPM, in part, compensate the investor for the level of risk assumed by investing in a particular security. Because the risk of the security, as measured by the CAPM, is based on its relationship to a diversified portfolio, CAPM assumes that the unsystematic risks (i.e., company-specific risks), are diversified away. Therefore, in the CAPM, the investor is only compensated for the systematic risk.

This CAPM assumption is probably reasonable with respect to the valuation of a publicly traded security within a well diversified portfolio of publicly traded securities.

Modified Capital Asset Pricing Model

The CAPM assumes that the only component of risk that investors care about is the risk of the market (i.e., systematic). One method of adjusting the CAPM to make it applicable to the valuation of private company securities is to add an alpha factor.

The CAPM formula is typically modified to reflect the additional risk associated with:

1. the size of the subject company and
2. company-specific risk factors.

These modifications result in the modified capital asset pricing model ("MCAPM"). The MCAPM incorporates these risk premiums in the quantification of a required rate of return.

The MCAPM formula is typically expressed as follows:

$$E(Ri) = Rf + \beta \times ERP + RPs \pm RPc$$

where:

$E(Ri)$ = Expected return for an individual security (i)
Rf = Rate of return available on a risk-free security
β = Beta
ERP = Market-derived equity risk premium
RPs = Risk premium for small size
RPc = Risk premium attributable to other company-specific risk factors[3]

The MCPAM is applicable to the valuation of private companies and private company securities.

Build-Up Model

A third model often applied to estimate a cost of equity capital in private company valuations is the BUM. In the BUM, a discount rate is estimated by adding the analyst's quantified assessments of the systematic and unsystematic risks associated with a particular business or interest. The BUM considers five basic elements in the estimation of the cost of equity capital.

The BUM formula is typically expressed as follows:

$$E(Ri) = Rf + ERP + RPs \pm RPi \pm RPc$$

where:

$E(Ri)$ = Expected (market required) rate of return on security (i)
Rf = Rate of return available on a risk-free security
ERP = Market-derived equity risk premium
RPs = Risk premium related to size
RPi = Risk premium attributable to the specific industry
RPc = Risk premium attributable to the specific company[4]

The fourth component of the BUM is an industry risk premium, which is somewhat analogous to the beta coefficient component used in the CAPM or the MCAPM. This risk premium is added to account for industry-specific risks that are diversified away in the market-derived equity risk premium.

In other words, the subject company's industry may have a greater, or lesser, risk than the risk of the market and the industry risk premium is an adjustment to reflect the difference in risk.

The company-specific risk premium is meant to encompass risk not attributable to the market, industry, or size of a company. This premium is often referred to as the "unsystematic risk premium" or the "idiosyncratic risk premium."

Factors that are often encompassed by this risk premium include the private company's product/service diversification, geographical diversification, age of company management, private company's history of success, as well as a myriad of other factors.

Issues in the Cost of Equity Capital

The cost of equity capital may be a controversial issue in valuation-related disputes. This is because professional judgment may be required to select the inputs to the cost of equity capital calculation. The following sections address several issues that affect both the MCAPM and the BUM.

Size Risk Premium

The selection of the appropriate size equity risk premium alpha component is sometimes an issue in valuation-related disputes. Analysts may have differing interpretations regarding the selection of the appropriate size-related equity risk premium.

In general, most analysts apply the size equity premium alpha factor component in the cost of equity calculation. If other market factors have incorporated the risk regarding size differences, then the size premium may not be appropriate. For example, one scenario in which it may be inappropriate to include a size risk premium is if the subject entity is of similar size to its guideline publicly traded companies.

The market capitalizations of companies that comprise the benchmark public company deciles for size risk premiums do not overlap in numerical order. That is, each decile does not start exactly at the end of previous decile.

For example, in the *2017 Valuation Handbook—Guide to Cost of Capital* ("*Valuation Handbook*"), the 7th decile starts at a market capitalization of $1,033.341 million, while the 8th decile ranges from a market capitalization of $569.279 million to $1,030.426 million, and the 9th decile ends at a market capitalization of $567.843 million.

Since the deciles are not continuous, one analyst may argue that a subject company with a market capitalization of $1,032.0 million should have a size risk premium associated with the 7th decile, while another analyst may argue that the size risk premium should be from the 8th decile.

Alternatively, some analysts rely on the decile groups, that is the "Mid-Cap 3-5," "Low-Cap 6-8," and "Micro-Cap 9-10."

The application of the 10th decile size risk premium may be controversial. The companies that comprise the company-specific risk premium ("CRSP") 10th decile size category have equity market capitalizations that range from $2.5 million to $262.9 million.[5]

As of December 31, 2016, the risk premium related to the companies comprising the 10th decile was 5.59 percent. The companies that comprise the CRSP 10th decile size category are broken down into subcategories 10a and 10b, as presented in the *Valuation Handbook*. The companies that comprise the 10a subdecile include companies with market capitalizations between $127.3 million and $262.9 million, and the reported size premium is 4.09 percent.[6]

Within the 10a subdecile and 10b subdecile categories of the 10th decile, the *Valuation Handbook* presents more subcategories. The 10a subdecile is broken into 10w and 10x subdeciles, while the subdecile 10b is disaggregated into 10y and 10z.

According to the *Valuation Handbook*, "The CRSP Deciles Size Premia include all companies with no exclusion of speculative (e.g., start-up) or distressed companies whose market capitalization may be small because they are speculative or distressed."[7]

"If the subject company is under financial distress or entering bankruptcy, then the application of the 10th decile, or its subcategories, may be the most appropriate measure of size premium risk."

If the subject private company is not financially distressed or entering bankruptcy but has the market capitalization fitting the 10th decile, the 10th decile size risk premium may not be appropriate. In situations in which that subject company fits into the 10th decile but is not operating under financial distress or entering bankruptcy, the application of the Micro-Cap 9-10 decile size risk premium may be a more supportable option.

If the subject company is under financial distress or entering bankruptcy, then the application of the 10th decile, or its subcategories, may be the most appropriate measure of size premium risk.

Company-Specific Risk Premium

A typical range for the application of the CSRP is 1 percent to 10 percent. However, it is not uncommon for an analyst to apply a CSRP of 0 percent or even a negative percentage. In a 0 percent or negative percent CSRP selection scenario, the implication is that the subject company provides less of an investment risk than an investment in a general equity stock market participant.

It is uncommon for an analyst to apply a CSRP of greater than 5 percent. However, in certain matters, if the subject entity is in financial distress, an early stage start-up company, subject to private equity or venture capital funding, or other extraneous circumstances, then it may be appropriate to select a CSRP greater than 5 percent.

There is no one generally accepted model, formula, equation, or method available for the analyst to quantitatively measure the CSRP. Typically, the CSRP is estimated based on the analyst's informed judgment, with consideration to various recognized factors. Analysts have suggested

certain sets of factors that should be considered regarding the CSRP selection process.

The textbook *Understanding Business Valuation* presents factors that analysts often consider in selecting the CSRP.[8]

Analysts may consider each of these quantitative and qualitative factors in selecting the appropriate CSRP. Certain categories of CSRP financial factors to consider include the following list:

1. Economy risk
2. Operating risk
3. Asset risk
4. Market risk
5. Regulatory risk
6. Business risk
7. Financial risk
8. Product risk
9. Technological risk
10. Legal risk

Also presented in *Understanding Business Valuation*, certain categories of nonfinancial CSRP factors include the following list:[9]

1. Economic conditions
2. Location of business
3. Depth of management
4. Barriers to entry into market
5. Industry conditions
6. Competition
7. Quality of management
8. The bottom line

Market-Derived Equity Risk Premium

Many analysts agree that risk premiums seem to vary over time. A variety of different methods exist for estimating an ERP. Three of the ERP measurements include the historical, the supply-side, and the Duff & Phelps recommended ERP.

Duff &Phelps estimates the historical ERP by calculating the difference between actual historical excess returns and the excess return predicted by beta. One issue with this method is that historical returns may not be indicative of future returns. Another issue is that historical average returns tend to be fairly unstable and can vary widely depending on the time period selected by the analyst.[10]

To address this issue with the historical ERP, analysts have developed other methods for estimating an ERP. One such method results in the supply-side ERP.

The supply-side ERP shares the same historical data information that is used to calculate the historical equity risk premium. However, the supply-side ERP incorporates an adjustment based on the observation of stock price-to-earnings ratio inflation that is not expected to continue in the future. The supply-side method typically provides a lower ERP than the historical method.

In *Global GT LP v. Golden Telecom, Inc.*,[11] the Delaware Court of Chancery concluded that the application of the supply-side ERP was more appropriate than the application of the historical ERP.

In its opinion, the court acknowledged that the historical equity risk premium was more typically applied. However, the court concluded that the academic community accepted the supply-side equity risk premium as the more appropriate ERP section.

Another ERP model in the Duff & Phelps reference literature includes the "recommended" ERP. This ERP is published annually by Duff & Phelps.

The Duff & Phelps "recommended" ERP is based on a variety of economic information and other ERP estimation methodologies. The Duff & Phelps recommended ERP is intended to account for economic changes that affect investor expectations of equity risk and returns on a normalized basis.

The Duff & Phelps "recommended" ERP was first published in 2008 as a response to the economic environment at that time. The Duff & Phelps recommended ERP and normalized risk-free rate are based on the belief that the historical ERP and supply-side ERP overstate equity investors return expectations.[12]

The application of the Duff & Phelps "recommended" ERP and the Duff & Phelps normalized risk-free rate generally result in a cost of equity calculation that is lower than the cost of equity calculation using the historical and supply-side ERPs with a market derived risk-free rate indication.

Build-Up Model Issues

Selecting an Industry Risk Premium

Since industry risk premiums are based on Standard Industrial Classification ("SIC") codes, it is important that the analyst has support for the selection of SIC codes for the subject company. Analysts may

disagree with the selection of the appropriate SIC code. In certain cases, the analyst may select a very general SIC code because a more specific SIC code could not be identified.

Multiple Industry Risk Premiums or Weighting Industry Risk Premiums

When a private company has operations across several industries, relying on more than one SIC code for the industry risk premium may be appropriate.

For example, some companies (e.g., conglomerates) have complex business operations. Berkshire Hathaway is an example of a company with a complex business structure.

Berkshire Hathaway owns business operations in several industries—such as, the paint and battery industries through their Benjamin Moore and Duracell brands, respectively.

Possible SIC codes for the paint and battery industries are as follows:

- SIC 2851: paints, varnishes, lacquers, enamels, and allied products
- SIC 3691: storage batteries

The long-term supply side industry risk premiums for the closest SIC codes according to *Valuation Handbook* are 0.39 percent for SIC code 28: chemicals and allied products and 2.8 percent for SIC code 369: miscellaneous electrical machinery.

Prior to deciding how to use this industry data, the analyst should also consider the number and type of companies that are used by Duff & Phelps to calculate the industry risk premium indications. In some cases, Duff & Phelps may rely on 5 companies, and in other cases 30 or 40 companies may be used. In certain cases, the data may be unduly influenced by one or two companies—this is more of an issue if there are only a handful of companies that comprise the industry risk premium calculation.

Since there can be substantial differences in the industry risk premiums, analysts may consider using a weighted average of the industry risk premiums. Generally, the analyst will use revenue or earnings before interest, taxes, depreciation, and amortization ("EBITDA") as the metric to determine the applicable weight for the industry risk premiums.

It is not uncommon for analysts to disagree on how the weighting system should be determined—or even if a weighted average should be applied as opposed to a simple average.

Modified Capital Asset Pricing Model Issues

Beta is an integral component of the application of the MCAPM. In order to properly address some of the more technical points with the MCAPM, it may be helpful to understand the process of calculating and selecting a beta. The following list provides an overview of the process:

1. Select the guideline publicly traded companies ("GPTCs") that are relatively similar to the subject company
2. Calculate the GPTC beta estimates based on different frequencies of observation and observation periods
3. Unlever the GPTC beta estimates based on their respective capital structures
4. Select an appropriate capital structure for the subject company
5. Relever the GPTC beta estimates based on the selected capital structure for the subject company

6. Review and analyze the relevered betas based on their frequency of observation and observation periods
7. Select an appropriate beta for the subject company

Some of the issues in this process include (1) the selection of the GPTCs, (2) the frequency of observation, (3) the observation periods, (4) relevering based on the capital structure, and (5) the appropriate beta estimate.

Selecting Guideline Publicly Traded Companies for Beta

One analyst may consider that the companies the opposing analyst selected to calculate beta are not truly comparable. In the *Estate of Victor P. Clarke*,[13] the Tax Court listed the following factors to determine the comparability of GPTCs to the subject company:

1. Products
2. Markets
3. Management
4. Earnings
5. Dividend-paying capacity
6. Book value
7. Position of company in industry

While this is a substantial list of factors, it is not an exhaustive list.

The American Society of Appraisers recommends consideration of the following qualitative and quantitative factors for selecting guideline companies:

1. Industry
2. Multiple lines of business
3. Nature of market
4. Geographic operations
5. Financial performance (including size)
6. Reputation and maturity of the company
7. Management depth and experience
8. Labor force availability, experience, turnover, and so forth

The analyst may select a conglomerate type business in the GPTC group because of a product/service offering that is comparable to the subject business. Or, the analyst may exclude the conglomerate-type business because its size or diversified operations do not compare to the subject business. The inclusion or exclusion of a conglomerate in determining beta may result in large differences in the concluded cost of equity capital.

Ultimately, the analyst is responsible for supporting the selection of GPTCs used to estimate the appropriate beta.

Frequency of Observation for Beta

Since betas are calculated based on observations, the appropriate frequency of the observation can be subject to disagreement. Three typically applied frequencies are daily, weekly, and monthly.

The benefit of employing higher frequency is that, due to the larger number of observations, outliers may have a lesser effect. Because of this, some analysts prefer to use daily or weekly frequencies.

The application of lesser frequency observations—monthly estimates or weekly estimates—may indicate that the GPTCS have a relatively low active trading volume. Higher frequency estimates with low active trading volume may be subject to illiquidity bias issues.[14]

Observation Period for Beta

One disagreement among analysts involves the observation look back period from which the beta is estimated. Two typical observation periods are two-year and five-year look back periods. One consideration for using a two-year period may be that some of the GPTCs underwent their initial public offering within the last five years and significant volatility may be incorporated in a five-year observation period. The impact of an outlying company return observation is lessened by the incorporation of a longer time period.

Capital Structure for Relevering Beta

Analysts typically unlever GPTC betas in order to remove the effects of debt in the company's capital structure. Unlevering is achieved using the respective capital structures. Relevering these betas is based on the analyst's selection of an appropriate capital structure for the subject company.

The analyst should be able to support the selection of the capital structure used the unlevering and relevering of beta estimates. The analyst typically estimates the subject company capital structure based on one of the following:

1. The optimal capital structure
2. The industry-based capital structure
3. The actual capital structure

An issue may arise in the analyst's estimation of the subject company's actual capital structure. Some analysts use an iterative method (based on market value of invested capital) to determine the subject company's actual capital structure. Other analysts use the subject company's accounting-book-value-based capital structure.

If the subject is a controlling ownership interest, then the holder of the subject interest is able to affect the capital structure of the company. In this case, the analyst typically selects an optimal capital structure base. To perform that procedure, the analyst may calculate and rely on GPTC capital structures, or other industry capital structure data. Additionally, the analyst may apply an optimal capital structure based on a target provided by company management.

It is up to the analyst to determine which capital structure is the most appropriate. The capital structure estimate used for calculating the WACC should be the same capital structure estimate used to relever the selected beta estimate.

Multiple Betas or Weighting Betas

If the subject interest has highly diversified business operations and/or product/service offerings, the analyst may select guideline companies from several different industries. This procedure may raise an issue between analysts, especially if some of the included guideline companies:

1. represent only a small portion of the subject company operations and
2. have different capital structures and betas from the other guideline companies.

Alternatively, the analyst may calculate several different industry beta estimates based on various guideline companies and apply a weighting system to determine an appropriate beta for the subject company. This procedure for calculating beta may raise an issue. This is because the opposing analyst may disagree with:

1. the calculation of multiple betas and
2. the weighting system applied.

Additionally, one analyst may apply a weighting system based on revenue, while the other may apply one based on EBITDA. The analyst should explain and support the application of any weighting system.

Calculating multiple betas to reflect the different operations of the subject interest may be appropriate. However, this procedure may raise an issue if the subject interest is well diversified. The opposing analyst may argue that there are GPTCs that incorporate this diversification.

Summary and Conclusion

While the BUM and the MCAPM are generally accepted cost of equity capital models, there may be disagreements over the inputs to each model. This is because a minor difference in the discount rate may lead to substantial differences in the overall business value conclusion.

It is important for the analyst to understand, support, and explain the rationale for selecting and applying each factor applied in the cost of equity capital analysis.

Notes:

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3. Ibid., 197.
4. Ibid., 180.
5. Duff & Phelps, *2017 Valuation Handbook: Guide to Cost of Capital*, Appendix 3.
6. Ibid.
7. Ibid., 4–12.
8. Gary R. Trugman, *Understanding Business Valuation*, 2nd ed. (New York: American Institute of Certified Public Accountants, 2002), 331–334.
9. Ibid.
10. https://faculty.mccombs.utexas.edu/keith.brown/AFPMaterial/TopicC10.1.pdf
11. Global GT LP v. Golden Telecom, Inc., 993 A.2d 497 (Del. Ch. 2010)
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Best Practices Discussion

Fair Market Value Valuations of Not-for-Profit Entity Property Transfers

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Valuation analysts ("analysts") are regularly engaged to provide fair market value opinions related to not-for-profit business entity transactions. Not-for-profit business entities are often involved in arm's-length transactions, sometimes with for-profit business entities. Some of the typical transactions include royalty payments for the use of intellectual property, royalty revenue earned by licensing intellectual property, sales of assets, and purchases of assets. If the subject transaction is between a not-for-profit entity and a related party, then the transaction is required to be a fair market value transaction. This discussion provides an example of the methods and procedures that analysts can apply to value the transferred tangible property and intangible property of the not-for-profit entity.

Introduction

According to the website www.upcounsel.com, there are over 1.6 million not-for-profit organizations in the U.S.[1] There are 27 different types of not-for-profit organizations with differing rules and requirements.

This discussion focuses on the typical type of not-for-profit entity, the Internal Revenue Code Section 501(c)(3) type of not-for-profit organization. The 501(c)(3) type organization is typically involved in religious work, educational pursuits, charity work, and scientific discovery. All 501(c)(3) type organizations are tax exempt.

According to the website www.irs.gov, for an organization to be tax exempt, the organization should be organized and operated exclusively for exempt purposes set forth in Section 501(c)(3). In addition, none of the organization's earnings may inure to any private shareholder or individual.

In addition, the entity may not be an "action organization." That is, the entity may not attempt to influence legislation as a substantial part of its activities, and it may not participate in any campaign activity for or against political candidates. If the organization engages in an excess benefit transaction with a person having substantial influence over the organization, an excise tax may be imposed on the person and any organization managers agreeing to the transaction.

It is more typical for a valuation analyst ("analyst") to be engaged to estimate an arm's-length royalty rate for a not-for-profit client than to estimate the value of the not-for-profit corporation—or its assets. However, the selection of an arm's-length royalty rate is often an important procedure in the valuation of a not-for-profit entity's asset—particularly of its intangible assets.

For example, if an analyst applies a relief from royalty method to value an intangible asset, the analyst will prepare a comparable uncontrolled transaction ("CUT") method analysis. The preparation of the CUT analysis provides support for, and informs the selection of, an arm's-length royalty rate.

A not-for-profit corporation can be valuable even if it does not earn a positive profit—perhaps the corporation provides public services free of charge. That entity may be valuable because not-for-profit corporations typically have identifiable intangible assets. A not-for-profit entity may have intangible assets that include customer lists, developed technology, trade name, trademark, and assembled workforce.

A non-income-producing asset may have value to the current business owner and/or to a hypothetical acquirer. If a valuation analysis is based on

a highest and best use premise, the analyst should consider the (1) income contribution of operating the subject asset and (2) cost savings of owning the subject asset. In other words, the value of a non-income-producing asset may represent its highest and best use value based on the avoided cost savings to recreate the asset.

To value a not-for-profit entity, or its assets, an analyst should consider the financial performance of the not-for-profit entity. Some not-for-profit corporations regularly lose money, some break even, and some regularly generate positive income.

From an accounting perspective, not-for-profit businesses report operating financial metrics in a slightly different format than for-profit businesses. For example, not-for-profit businesses recognize income on financial statements as the "change in net assets." The change in net assets may be inclusive of monetary contributions, grant income, and fee income related to services.

This discussion considers three primary topics. First, this discussion provides procedural guidance on how to value certain not-for-profit organization assets. Second, this discussion addresses the selection of arm's-length royalty rates for established technologies and other intangible assets. And, finally, this discussion presents valuation best practice concepts applied in the valuation of the total assets of a not-for-profit business.

As a best practice, it is recommended—but not always possible—that analysts use more than one method to arrive at—or support—a valuation conclusion. Additional method(s) can be used as a reasonableness check to compare to value conclusions. In certain situations, a supporting method may be used only as a tool to support an established value—and cannot be relied on to establish a value.

The following example provides a contextual framework for the three topics presented in this discussion.

Hypothetical Example: Net Nonprofit Corporation Background

Net Nonprofit Corporation ("NNC") was founded in 2010 by John Allen Doe. The NNC is a not-for-profit public benefit corporation organized under the Virginia Nonprofit Public Benefit Corporation Law for charitable purposes.

NNC is also organized and operated exclusively for charitable purposes within the meaning of Internal Revenue Code Sections 170(c)(2) and 501(c)(3).

NNC provides research related to medical diagnostic and scientific breakthrough discoveries. NNC has developed technology that is used in classrooms to instruct medical students on current developments and medical research best practices.

The primary sources of the NNC revenue are grants, contributions, and some fees for services. Revenue has increased significantly since the inception of NNC in 2010.

NNC management identifies its primary intangible assets as (1) its trademark, (2) its customer relationships, (3) its software delivery platform, (4) its education provided content, and (5) its media evaluation content.

Employees

According to management, NNC has enjoyed relatively low employee turnover since inception. NNC has a total of 200 employees. Its employees work in areas that include medical research science, copywriting, editing, web development, marketing, consumer research, communication, laboratory technology, and administration.

NNC Customer Relationships

Customers pay NNC for its scientific delivery platform analysis and review content. The fees that NNC receives from this service line represent the only service-related revenue NNC enjoys.

All other revenue-related income that is reported on the NNC statement of activity and changes in net assets are derived from contributions and donations. Some of the NNC customers include *Science Magazine*; *Journal of Biotechnology*; *Journal of Materials Science*; *Journal of Biology*; *Cell Magazine*; Youtube; Hulu, LLC; and Apple Inc.

Exhibit 1 illustrates NNC total revenue and NNC fee revenue that NNC has enjoyed over the past five years. Over this period, NNC total revenue increased by 18 percent on average. Also, over this five-year period, the NNC fee revenue has averaged 35 percent of total revenue (for use herein, total revenue includes contributions and grants).

Summary of Financial Position

NNC has approximately $15 million in recorded asset value comprised of cash, short-term investments, pledges and grants receivable, accounts receivable, prepaid expenses, and equipment leasehold improvements.

Pledges and grants receivable account for the largest amount of total assets since 2013. This increase is primarily due to the NNC success

Exhibit 1
Net Nonprofit Corporation
NNC Total Revenue and NNC Customer Revenue
For the Five-Year Period 2013 to 2017

	2017 $000	2016 $000	2015 $000	2014 $000	2013 $000
Total Revenue	32,000	20,000	22,000	17,000	14,000
Fees for Services	10,500	8,500	6,000	5,550	5,250
Percent of Total Revenue	*33%*	*43%*	*27%*	*33%*	*38%*
Average Percent of Total Revenue	*35%*				
Year-over-Year Growth Rate	*24%*	*42%*	*8%*	*6%*	*12%*
Average Growth Rate	*18%*				

in attracting contributions and donations. As of December 31, 2017, pledges and grants receivable represented approximately 59 percent of total assets.

Short-term investments are the second largest amount of total assets. The recorded value of short-term investments peaked in 2015. This recorded value has decreased since then, as NNC has increased its total revenue base.

The NNC liabilities are comprised of accounts payable and accrued expenses and deferred revenue, which are all current liabilities accounts. These accounts have remained relatively constant over the historical period and represent approximately 15 percent of total liabilities and net assets as of December 31, 2017.

In the early years of the historical period, from 2010 to 2013, unrestricted net assets represented the majority of the recorded balance ranging from 50 percent to 70 percent of total liabilities and net assets.

As of December 31, 2017, NNC reported book value of $13.0 million in net working capital and net tangible assets. NNC also had a recorded book value of $500,000 of short-term interest-bearing debt obligations.

Total NNC revenue increased throughout the period. The increase was primarily due to an increase in multiyear contributions.

Over the past few years since inception, total revenue increased by a compound annual growth rate ("CAGR") of 13 percent.

Over the same period, total expenses increased by a CAGR of 16 percent. The increase in expenses represent the NNC investment in employees as it builds its large database of education-related content.

NNC generally operates at an income loss in most years. Therefore, its change in net assets generally indicates a decrease in most years. For fiscal year 2017, NNC generated positive income as it recorded a significant increase in contributions and grant monies.

Hypothetical Valuation Assignment

In fiscal year 2018, NNC intends to start a for-profit business operation that will share certain assets and activities with NNC. The new business will be organized as a subchapter C corporation.

In addition to sharing the use of certain NCC intellectual property, NNC management is considering selling certain NNC intangible assets to the new for-profit business. Because NNC may share certain assets, NNC also needs to establish arm's-length royalty rates to be paid to NNC for the use of its intellectual property by the new for-profit business.

The objective of this analysis is to (1) estimate the fair market value of certain NNC intangible assets as of December 31, 2017 (the "valuation date"), and (2) estimate an arm's-length transfer price for certain of the NNC intangible assets.

These NNC intangible assets are summarized as follows and are defined as the "subject assets":

Group 1 – Brand Intangible Assets:

Trademark

Group 2 – Customers and Software Platform Intangible Assets:

Customer Relationships

NNC Software Delivery Platform

Group 3 – Content Intangible Assets:

Education Provided Content

Media Evaluation Content

The NNC subject assets analysis will be prepared based on the premise of value in continued use, as a going-concern business enterprise. For the purpose of this example, this premise of value represents the highest and best use of the subject assets.

As a *hypothetical condition*, the NNC subject assets value is based on the simplifying assumption that NNC is operated as a for-profit entity.[3]

Although NNC is organized and operated as a not-for-profit entity, in this case, the most likely buyer for the NNC assets would be a for-profit entity. A typical for-profit entity would use the subject assets in a profit-maximizing capacity. Therefore, the analysis is based on the explicit assumption that NNC is a for-profit entity.

In addition to estimating the value of the subject assets, this analysis provides an estimate of an arm's-length transfer price for some of the intangible assets in Group 1 and Group 3.

Intangible Asset Valuation Methods

For this example, the analyst considered eight intangible asset valuation methods to value the subject assets. The analyst considered four income approach valuation methods, including (1) the yield capitalization method, (2) the profit split method, (3) the multi-period excess earnings method ("MPEEM"), and (4) the distributor method.

The market approach valuation methods that the analyst considered include (1) the relief from royalty method and (2) the CUT method.

The cost approach methods that the analyst considered include (1) the reproduction cost new less depreciation method and (2) the replacement cost new less depreciation method.

The yield capitalization method was not applied. This is because this valuation method involves projected income or cost savings in perpetuity. The only intangible asset that enjoys projected income or cost savings in perpetuity has a highest and best use value estimated by using another valuation method.

The profit split method was not applied. This is because this valuation method is typically applied when two parties are working together in a joint venture where the economic income or cost savings attributable to the intangible asset are required to be split among the parties. Since NNC does not currently have this type of arrangement with another party, the profit split method is not applicable.

The distributor method was not applied. This is because NNC customers are primarily end users and not wholesalers or distributors.

The replacement cost new less depreciation method was not applied. This is because the NNC assets are specific to the NNC business and cannot be replaced. These assets can, however, be reproduced.

Exhibit 2 presents each of the subject assets and the valuation method that was applied to estimate each fair market value indication.

In order to estimate the fair market value of the NNC trademark, the relief from royalty method was applied. The CUT method was applied to identify arm's-length license transactions that supported the selection of an arm's-length royalty rate. The arm's-length royalty rate was applied in the relief from royalty method to estimate the fair market value of the NNC trademark.

The MPEEM was applied to estimate the fair market value of the customer relationships. Since the NNC customers are end users, and since the intangible asset relied upon to generate customer revenue is the ratings and reviews content, the MPEEM is the most appropriate valuation method to apply to the customer relationships.

The reproduction cost new less depreciation ("RPCNLD") method was applied to value the existing NNC software network delivery platform (the "delivery platform") and all content intangible assets. Since these assets do not directly generate income, the cost approach, and specifically the RPCNLD method, is the most appropriate valuation method to value these intangible assets.

Exhibit 2
Net Nonprofit Corporation
Valuation Methods Applied to the Subject Assets

Type of Intangible Asset	Valuation Method
Group 1– Brand:	
Trademark	Relief from Royalty
Group 2 – Customers and Delivery Platform:	
Customer Relationships	Multiperiod Excess Earnings
NNC Software Delivery Platform	Reproduction Cost New less Depreciation
Group 3 – Content:	
Education Provided Content	Reproduction Cost New less Depreciation
Media Evaluation Content	Reproduction Cost New less Depreciation

The Search for Guideline Publicly Traded Companies

In order to perform the MPEEM and RPCNLD methods, the analyst searched for guideline publicly traded companies. The purpose of the search was to identify guideline publicly traded companies to use as financial benchmarks.

Because NNC is a not-for-profit organization, its financial statements, its financial ratios, and its business structure do not resemble a for-profit business. For the purpose of this hypothetical example, it is assumed that the most likely market for the subject assets is a market comprised of for-profit business entities.

From the perspective of a for-profit business, the for-profit buyer (1) would prefer to pay a price less than fair market value, (2) is unwilling to pay a price greater than fair market value, but (3) is typically willing to pay a price equal to fair market value.

Similarly, the for-profit seller (1) would prefer to sell at a price higher than fair market value, (2) is unwilling to sell at a price less than fair market value, but (3) is typically willing to sell at a price equal to fair market value.

Guideline Publicly Traded Companies

The search for guideline publicly traded companies focused on companies that bear similarities to NNC in terms of market and industry competition, risk, and expected returns and that own and operate assets in the same or similar lines of business.

Typically, the first step in the search for guideline companies is the determination of the appropriate Standard Industrial Classification ("SIC") code.

The following SIC codes were considered in the search for NNC guideline publicly traded companies:

- SIC code 2700: Printing, publishing, and allied industries
- SIC code 2731: Book publishing
- SIC code 7370: Computer programming, data processing, and other computer-related services
- SIC code 7372: Prepackaged software
- SIC code 7375: Information retrieval services
- SIC code 8200: Educational services
- SIC code 8299: Schools and educational services

Although many of the NNC direct competitors are private, companies were identified that (1) provide products and services that require similar skills and expertise, (2) have similar end users, and (3) provide many similar products and services. In addition, the identified companies are subject to similar risk factors that affect NNC's business operations.

However, because NNC business operations are unique and because NNC is a nonprofit company, the identified companies provide only general guidance on market and industry investment risk, profitability, and expected return.

Based on descriptions provided by the Capital IQ database, the following six publicly traded companies were selected to be used as guideline publicly traded companies:

- Cambium Learning Group, Inc.
- Houghton Mifflin Harcourt Company
- Yelp Inc.
- Sasbadi Holdings Berhad
- K12 Inc.
- 3P Learning Limited

These guideline companies were used to establish for-profit business benchmarks. Benchmarks were used to estimate NNC asset values. These guideline companies were also used to prepare a reasonableness check to test the reasonable of the NNC intangible asset valuation analysis.

Group 1—Brand (Trademarks Analysis)

The NNC trademark analysis is based on the relief from royalty method and the CUT method.

This relief from royalty method is based on the principle that an intangible asset operator/licensee would be willing to pay the intangible asset owner/licensor for the right to use the intangible asset. Since NNC owns its trademark, it is relieved from having to pay a royalty to license its own trademark from a third-party licensor.

To estimate (1) the arm's-length royalty rate associated with the subject trademark and (2) the fair market value of a trademark, the analyst applied the following procedures:

- Discussed the use of the trademark with company management
- Researched guideline arm's-length licensed CUTs to use in the analysis
- Estimated the arm's-length, market-based royalty rate for the subject based on the CUTs
- Estimated the required rate of return for the subject trademark using the guideline publicly traded company financial benchmark analysis
- Applied the relief from royalty method to provide an indication of fair market value for the subject trademark
- Applied a tax amortization benefit adjustment related to the potential income tax savings from the tax amortization based on the value of the subject trademark that a for-profit buyer would enjoy

Nine arm's-length trademark license transactions were considered in order to select an arm's-length royalty rate. Based on these nine license transactions, certain statistics were calculated including the mean, median, low, and high indications.

The analyst prepared statistical calculations for two groups:

1. The low end of the royalty rate indications
2. The high end of the royalty rate indications

Exhibit 3 presents the nine CUT transactions and corresponding statistical calculations.

As presented in Exhibit 3, the mean and median of the low end of the royalty rate range were 3.5 percent and 2.0 percent, respectively. The mean and median of the high end of the royalty rate range were 6.3 percent and 5.0 percent, respectively.

The interquartile range statistical analysis of the nine CUTs was also calculated. The interquartile results were used to support selection of the arm's-length royalty rate.[4] The selected interquartile range on the low end of the royalty rate range was 2 percent and 5 percent, respectively. The selected interquartile range on the high range of the royalty rate range was 4 percent and 7 percent, respectively.

Using the various arm's-length license transactions, an indicated range of arm's-length royalty rates of 2 percent and 7 percent was identified. The low end of the indicated range, or 2 percent, is the median (or the second quartile) of the low end of the royalty rate range. The high end of the indicated range, or 7 percent, is the third quartile (or high end of the interquartile range) of the high end of the royalty rate range.

For this example, an arm's-length royalty rate of 5 percent was selected. This 5 percent royalty rate represents a premium to the midpoint of the indicated royalty rate range.[5]

This rate also represents the median of the high end of the royalty rate range. In selecting the arm's-length royalty rate of 5 percent, the analyst considered that, according to NNC management, the NNC brand is highly regarded in the scientific education market and considered a premium name.

The selection also considered that the NNC's prominent and growing web presence is due, based on discussions with NNC management, to its successful search engine optimization techniques that have generated a high level of internet traffic and, consequently, a high membership base.

Because the NNC scientific journal review product offerings are generally available to the public and to educators, and because of the high quality of its website and the user experience, the NNC trademark enjoys wide exposure and acceptance in the educational products space. The selected arm's-length royalty rate recognizes this valuable intangible quality of the NNC trademark.

According to management, the NNC trademark is expected to continue to exist and yield economic benefits indefinitely. The analyst concluded that the estimated useful economic life ("UEL") of the NNC trademark is indefinite as of the valuation date and, therefore, is valued in perpetuity.

Exhibit 3
Net Nonprofit Corporation
Royalty Rate Analysis
Comparable Uncontrolled Transactions Method
As of December 31, 2017

#	Name [a]	Licensor	Licensee	Intellectual Property Product	Effective Date	Expiration Date	Term [b] (Years)	Exclusivity [c]	Royalty Rates [d] CUT Range Low	High
1	"Lamaze"	Lamaze International, Inc.	iVillage, Inc.	Publications in media bearing advertising	7/1/2000	7/1/2015	15	Exclusive	3.0%	3.0%
2	"Networld"	Networld Publishing, Inc.	Waldrop Enterprises, Inc.	Education learning aids	1/1/2005	12/31/2009	5	Exclusive	2.0%	2.0%
3	"Two Dog Net"	Two Dog Net, Inc.	D. W.C. Installations	Education, entertainment, children Internet	9/10/2002	9/10/2007	5	Exclusive	7.0%	7.0%
4	"Atari"	Atari, Inc. (United States)	Games, Inc.	Online games for children	1/2/2004	1/2/2009	5	Multi-exclusive	2.0%	18.0%
5	"Bravo Foods"	Marvel Enterprises, Inc.	Bravo Foods International Corp.	Comic book and other publications	12/1/2004	12/31/2006	2	Multi-exclusive	2.0%	4.0%
6	"Rich Dad"	Rich Dad Operating Company, LLC	Tigrent, Inc.	Educational materials	9/1/2013	9/1/2018	5	Exclusive	5.0%	5.0%
7	"Sony"	Sony Computer Entertainment America, Inc.	Ziff Davis Media Inc.	PlayStation Magazine publications	3/31/2005	3/31/2007	2	Multi-exclusive	1.0%	5.0%
8	"Sports Illustrated"	Time, Inc., Sports Illustrated For Kids	Bay Area Multimedia	Publications and content for kids	7/12/2000	7/12/2004	4	Multi-exclusive	2.0%	5.0%
9	"Marvel Characters"	Marvel Enterprises, Inc.	Famous Fixins, Inc.	Characters used in movies, TV, home video	6/30/2001	12/31/2003	3	Multi-exclusive	7.5%	7.5%

	Low	High
Mean Royalty Rate	3.5%	6.3%
Median Royalty Rate	2.0%	5.0%
Low Royalty Rate	1.0%	2.0%
High Royalty Rate	7.5%	18.0%
Quartile 1	2.0%	4.0%
Quartile 2	2.0%	5.0%
Quartile 3	5.0%	7.0%
Quartile 4	7.5%	18.0%
Count	9	9
Royalty Rate Range for all CUTs (rounded) [e]	2.0%	7.0%
Selected Royalty Rate (rounded) [f]		**5.0%**

[a] These license agreements were selected based on the following criteria: (1) the intellectual property is a trademark and/or trade name and (2) its business is related to delivering its products or services through the Internet and related to education, publications, or entertainment.

[b] These license agreements may include one or more renewal periods thereby extending its original term.

[c] Multi-exclusive refers to a license agreement with different exclusivity terms. For example, a license agreement with three royalty rates may have a 1 percent royalty rate for the U.S. on an exclusive basis, a 2 percent royalty rate for Canada on an exclusive basis, and a 3 percent royalty rate for Mexico on an exclusive basis. Additionally, multi-exclusive may refer to an exclusive agreement with one party and a nonexclusive agreement with another party. Finally, multi-exclusive may refer to an exclusive agreement for a certain term followed by a nonexclusive agreement for the remainder of the term.

[d] Based on our review of the CUTs, all the royalty rates are based on a percent of net sales or gross sales.

[e] The royalty rate range represents the second quartile (or median) for the low and the third quartile for the high of the indicated CUT license royalty rates. We included the third quartile because NNC, is a premium brand. We also considered the Company's prominent web presence that have generated high traffic and a high membership base.

[f] The selected royalty rate is a modest premium over the median of the royalty rate range and is effectively the median of the high end of the indicated CUT license royalty rate range.

Sources: ktMINE and analyst estimates.

Since the NNC trademark is used in all areas of the NNC business, the selected royalty rate of 5 percent was applied to the NNC projected total revenue. That application resulted in the pretax royalty relief attributable to the NNC trademark for each year of the projection period.

Next, in order to estimate the value to a hypothetical for-profit buyer, the analyst adjusted the annual pretax royalty relief for income taxes and then discounted the after-tax royalty relief to a present value using a present value discount rate. The present value discount rate reflects the risks inherent in the NNC business overall and in the trademark intangible asset.

Calculating the Present Value Discount Rate

For this example, a weighted average cost of capital was used as the NNC present value discount rate or required rate of return. This rate of return calculation provides an estimate of the required return a for-profit investor would expect to earn on an investment in the overall NNC business enterprise and in the NNC trademark intangible asset, as if NNC was treated as a for-profit entity.

Exhibit 4 presents the NNC cost of equity calculation. For this example, the NNC cost of equity capital was estimated using the build-up model.

In Exhibit 4, to estimate the cost of equity capital using the build-up model, the following components were added together: (1) the risk-free rate of return of 2.6 percent, (2) the general equity risk premium of 6.0 percent, (3) the industry-related equity risk premium of 0.3 percent, and (4) the size-related equity risk premium of 5.4 percent.

Based on the application of the build-up model, the cost of equity capital was 14.3 percent.

Rate of Return on Interest-Bearing Debt

For this example, a pretax cost of debt of 4.2 percent was applied. That debt rate was based on the Moody's Baa corporate bond index rate as of the valuation date. The next procedure was to calculate the after-tax cost of debt capital by tax affecting the pretax cost of debt (i.e., multiplying it by 1 minus the blended income tax rate of 30 percent), to account for the tax deductibility of interest payments.

Based on the analysis, the after-tax cost of debt capital for NNC is 2.9 percent.

Weightings of Capital Components

Next, an equity capital structure of 90 percent and a debt capital structure of 10 percent was applied. The selected capital structure was based on the average of (1) the guideline publicly traded companies capital structure and (2) the median industry capital structure presented in the Duff & Phelps, LLC, *2017 Valuation Handbook: U.S. Industry Cost of Capital*.

Weighted Average Cost of Capital

Using (1) an estimated required rate of return on equity capital of 14.3 percent, (2) an estimated after-tax cost of debt capital of 2.9 percent, and (3) a capital structure mix of 90 percent equity and 10 percent debt, a weighted average cost of capital ("WACC") of 13 percent (rounded) was calculated.

Group 1—NNC Trademark Conclusion

Exhibit 5 presents the NNC trademark analysis conclusion.

Exhibit 4
Net Nonprofit Corporation
Hypothetical Weighted Average Cost of Capital
Cost of Equity Capital
As of December 31, 2017

Model: Build-Up Model:		Source
Risk-Free Rate of Return	2.6%	20-year U.S. Treasury bond, *Federal Reserve Statistical Release* as of December 31, 2017 as of December 31, 2017
General Equity Risk Premium	6.0%	Duff & Phelps, LLC, *2017 Valuation Handbook: U.S. Guide to Cost of Capital*
Industry Equity Risk Premium	0.3%	Duff & Phelps, LLC, *2017 Valuation Handbook: U.S. Guide to Cost of Capital* SIC codes 2700, 7370, 7372, 7375, and 8200
Size Equity Risk Premium	5.4%	Duff & Phelps, LLC, *2017 Valuation Handbook: U.S. Guide to Cost of Capital*
Indicated Cost of Equity Capital	14.3%	
Selected Cost of Equity Capital	14.3%	

Exhibit 5
Net Nonprofit Corporation
Relief from Royalty Method
Trademark Valuation Summary
As of December 31, 2017

Valuation Variables		Projected Fiscal Year Ended December 31, 2018 $000	2019 $000	2020 $000	2021 $000	2022 $000
Revenue [a]		35,200	39,000	41,000	42,230	43,497
Growth Rate		*10.0%*	*10.8%*	*5.1%*	*3.0%*	*3.0%*
Arm's-Length Trademark Royalty Rate		5.0%	5.0%	5.0%	5.0%	5.0%
Pretax Trademark Royalty Relief		1,760	1,950	2,050	2,112	2,175
Income Taxes	30%	528	585	615	633	652
After-Tax Trademark Royalty Relief		1,232	1,365	1,435	1,478	1,522
Discount Period		0.5000	1.5000	2.5000	3.5000	4.5000
Present Value Factor @ 13% [b]	13%	0.9407	0.8325	0.7367	0.6520	0.5770
Present Value of Trademark Royalty Relief		1,159	1,136	1,057	964	878
Present Value of Discrete Trademark Royalty Relief		5,195				

Present Value of Terminal Period Cash Flow:

Fiscal 2023 Trademark Royalty Relief [c]	$	1,568
Direct Capitalization Rate [d]		10%
Terminal Value		15,681
Present Value Factor		0.5770
Present Value of Terminal Value	$	9,047

Valuation Summary:

Present Value of Discrete Trademark Royalty Relief	$	5,195
Present Value of Terminal Value Royalty Relief		9,047
Indicated Total Present Value of the Trademark		14,242
Tax Amortization Benefit [e]		2,268
Indicated Fair Market Value of the Trademark (rounded)	$	16,500

[a] Based on discussions with management, the NNC trademark relates to 100 percent of the NNC total revenue projection.
[b] The hypothetical NNC weighted average cost of capital.
[c] Equal to 2022 after-tax trademark income, multiplied by (1 + expected long-term growth rate of 3 percent).
[d] Calculated as the hypothetical NNC weighted average cost of capital of 13 percent - expected long-term growth rate of 3 percent.
[e] A hypothetical acquirer of the NNC business would expect income tax amortization benefits to be included.
Sources: Discussions with management and analyst calculations.

Based on this illustrative example, the indicated total present value of the NNC trademark is approximately $14.2 million prior to the application of the tax amortization benefit.

The $2.3 million tax amortization benefit is the present value of the income tax savings resulting from the amortization of the NNC trademark value over a 15-year period.

The tax amortization benefit was added to the indicated total present value of the NNC trademark to yield an indicated fair market value of the NNC trademark.

Based on the application of the relief from royalty method, the indicated fair market value of the NNC trademark is $16.5 million. Based on the

application of the CUT method, a 5 percent arm's-length royalty rate was estimated.

Customer Relationships—Consumer

Exhibit 6 presents the fair market value analysis of the NNC consumer customer relationships. For this example, the MPEEM was applied to estimate the fair market value of the consumer customer relationships.

By applying this method, the fair market value of the consumer customer relationships is estimated from the present value of the net cash flow attributed to the customers over their expected UEL, which is expected to decay over time.

Based on discussions with management, and the analysis of management-prepared financial projections, a 2.5 percent customer attrition rate was selected. The 2.5 percent customer attrition rate was applied to projected revenue on an annual basis. Starting at the total revenue in year 1, the prior year's revenue is decreased by the 2.5 percent attrition rate per year.

The next procedure is to estimate the servicing costs needed to generate the surviving customer revenue. Based on an analysis of publicly traded guideline companies, an operating income margin of 15 percent was applied to the total customer revenue after attrition in order to estimate the operating income from existing customers.

Since NNC is a not-for-profit company, its actual operating income margin is not at a market level of operating income margin based on its "revenue." However, the NNC consumer customer relationships was valued based on the hypothetical condition of treating NNC as a for-profit business, instead of as a not-for-profit business.

Therefore, the operating income margin was selected based on observed guideline publicly traded companies' operating income margins, which represent market level profit margins.

In the next procedure, a royalty expense was subtracted, which was based on a 5 percent royalty rate for the NNC trademark. This procedure accounts for the contributory asset charge or capital charge related to the NNC trademark.

Since some of Group 3 content is delivered to NNC customers, a capital charge was applied for these intangible assets. Therefore, a capital charge of 5 percent was subtracted for the educational reviews and media content. In Exhibit 7, the CUTs considered and used to support the 5 percent capital charge selection are presented.

The analysis of existing customers included an estimate of avoided marketing costs. These marketing costs relate to new customer development rather than the servicing of existing customers. NNC management estimated these expenses to be 5 percent of customer revenue after attrition.

After making the adjustments to operating income, an income tax rate of 30 percent was applied to the projected income to arrive at the after-tax income before contributory asset charges.

For the next procedure, the after-tax income was reduced for contributory asset charges. The after-tax income attributable to the consumer customer relationships was reduced by the estimated required return on (1) operating net working capital (not including cash and short-term investment assets) and (2) net tangible assets. These contributory assets are assumed to be in place and used throughout the projection period.

The contributory asset charge equates to the market-derived return on the tangible and intangible assets that are used or used up in the production of the income from the customer relationships.

To estimate the contributory asset charge, the required rate of return for each identified asset was estimated. The NNC trademark and the Group 3 content were not included in the contributory asset charge. The capital charge costs related to those assets were separately subtracted from operating income, as described above.

Net working capital is less liquid than cash, but more liquid and, therefore, less risky, than other long-term assets or fixed assets. The required rate of return for net working capital is estimated to be less than that of the other NNC asset classes.

The required rate of return for the net working capital is estimated to be 5.2 percent, which equates to a weighted average return using (1) 80 percent of the NNC cost of debt capital and (2) 20 percent of the NNC cost of equity capital.

Next, it was estimated that the NNC tangible assets would be financed with a combination of debt and equity capital. Since tangible assets are long-term assets and less liquid than working capital, the required return for tangible assets was estimated to be higher than the return on working capital.

Accordingly, the weighted average return on the tangible assets was estimated to be 6.3 percent, which equates to a weighted average return using (1) 70 percent of the NNC cost of debt capital and (2) 30 percent of the NNC cost of equity capital.

Exhibit 6
Net Nonprofit Corporation
Multiperiod Excess Earnings Method
Customer Relationships Valuation Summary
As of December 31, 2017

Valuation Variables	Year:	1 $000	2 $000	3 $000	4 $000	5 $000	6 $000	7 $000	8 $000	9 $000	10 $000	11 $000	12 $000	13 $000	14 $000	15 $000	16 $000	17 $000	18 $000	19 $000
Baseline Customer Revenue before Attrition		13,650	15,015	16,066	16,869	17,375	17,897	18,434	18,987	19,556	20,143	20,747	21,370	22,011	22,671	23,351	24,052	24,773	25,516	26,282
Growth Rate		*30.0%*	*10.0%*	*7.0%*	*5.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
Customer Attrition Rate	2.5%	98%	95%	93%	90%	88%	86%	84%	82%	80%	78%	76%	74%	72%	70%	68%	67%	65%	63%	62%
Customer Revenue after Attrition		13,309	14,274	14,891	15,245	15,309	15,374	15,440	15,505	15,571	15,638	15,704	15,771	15,838	15,905	15,973	16,041	16,109	16,177	16,246
Operating Income Margin		*15.0*	*15.0*	*15.0*	*15.0*	*15.0*	*15.0*	*15.0*	*15.0*	*15.0*	*15.0*	*15.0*	*15.0*	*15.0*	*15.0*	*15.0*	*15.0*	*15.0*	*15.0*	*15.0*
Estimated Operating Income from Remaining Customers		1,996	2,141	2,234	2,287	2,296	2,306	2,316	2,326	2,336	2,346	2,356	2,366	2,376	2,386	2,396	2,406	2,416	2,427	2,437
Growth Rate		*NA*	*7.3%*	*4.3%*	*2.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*
Less: Trademark Royalty Rate	5.00%	665	714	745	762	765	769	772	775	779	782	785	789	792	795	799	802	805	809	812
Less: Educational Content Royalty Rate	5.00%	665	714	745	762	765	769	772	775	779	782	785	789	792	795	799	802	805	809	812
Less: Total	10.00%	1,331	1,427	1,489	1,524	1,531	1,537	1,544	1,551	1,557	1,564	1,570	1,577	1,584	1,591	1,597	1,604	1,611	1,618	1,625
Plus: Avoided Marketing Costs	5.0%	665	714	745	762	765	769	772	775	779	782	785	789	792	795	799	802	805	809	812
Pretax Income		1,331	1,427	1,489	1,524	1,531	1,537	1,544	1,551	1,557	1,564	1,570	1,577	1,584	1,591	1,597	1,604	1,611	1,618	1,625
Income Taxes	30.0%	399	428	447	457	459	461	463	465	467	469	471	473	475	477	479	481	483	485	487
Income before Contributory Asset Charge		932	999	1,042	1,067	1,072	1,076	1,081	1,085	1,090	1,095	1,099	1,104	1,109	1,113	1,118	1,123	1,128	1,132	1,137
Contributory Asset Charge		75	80	84	86	86	87	87	87	88	88	88	89	89	90	90	90	91	91	92
Income after Contributory Asset Charge		857	919	958	981	985	990	994	998	1,002	1,007	1,011	1,015	1,019	1,024	1,028	1,032	1,037	1,041	1,046
Discount Period		0.500	1.500	2.500	3.500	4.500	5.500	6.500	7.500	8.500	9.500	10.500	11.500	12.500	13.500	14.500	15.500	16.500	17.500	18.500
Present Value Discount Factor	13.0%	0.9407	0.8325	0.7367	0.6520	0.5770	0.5106	0.4518	0.3999	0.3539	0.3132	0.2771	0.2452	0.2170	0.1921	0.1700	0.1504	0.1331	0.1178	0.1042
Indicated Present Value of Income		806	765	706	640	569	505	449	399	355	315	280	249	221	197	175	155	138	123	109
Indicated Total Present Value of Income		$ 7,155																		
Tax Amortization Benefit		1,140																		
Indicated Fair Market Value of Customer Relationships (rounded)		$ 8,300																		

Exhibit 7
Net Nonprofit Corporation
Royalty Rate Analysis
Comparable Uncontrolled Transactions Method
Selected Comparable Uncontrolled Transaction Royalty Rates
As of December 31, 2017

#	Name	Licensor	Licensee	Intellectual Property Product	Effective Date	Expiration Date	Term (Years)	Exclusivity	Royalty Rates CUT Range Low	Royalty Rates CUT Range High
1	"EP Global"	EP Global Communications, Inc., Exceptional Parent Magazine	EBSCO Publishing, Inc.	Publications of information products	10/1/2005	10/1/2008	3	Multi-exclusive	20.0%	20.0%
2	"Playboy"	Playboy Entertainment Group, Inc.	Playboy TV-Latin America, LLC	Publication of video content and trademark	4/1/2002	4/1/2012	10	Exclusive	17.5%	17.5%
3	"Televisa"	Televisa, S.A. de C.V.	Univision Communications Inc.	Braodccast video content and trademark	1/1/2011	12/31/2025	15	Multi-exclusive	11.9%	16.2%
4	"War is Boring"	War is Boring, Ltd., Co.	Bright Mountain, LLC	Website content and trademark	NA	NA	NA	NA	NA	NA
5	"Bracey"	John & Katherine Bracey	Geotheatre Productions Inc.	Copyright materials including trademark	7/11/2003	NA	NA	Exclusive	7.5%	7.5%
6	"Sylvan"	Sylvan Learning Systems, Inc.	eSylvan, Inc.	Educational materials and trademark	6/30/2000	Perpetual	NA	Multi-exclusive	4.0%	4.0%
7	"Busybox"	busybox.com, inc.	M2 Software Equity, LLC	Digital media content and trademark	2/11/2000	3/31/2001	1	Nonexclusive	20.0%	20.0%
8	"Freedom Leaf"	Freedom Leaf, Inc.	Freedom Leaf Iberia, B. V.	Publishing content and trademark	12/15/2016	Perpetual	NA	Exclusive	5.0%	10.0%
9	"Franchise Films"	Franchise Films, Inc.	Bay Multimedia, Inc.	Interactive entertainment video game software products and trademark	4/7/2000	4/7/2003	3	NA	10.0%	10.0%
10	"Spyglass"	Spyglass Entertainment Group, L.P.	Bay Area Multimedia, Inc.	Interactive entertainment video game software products and trademark	10/25/2000	10/25/2005	5	Exclusive	6.0%	8.0%

Mean Royalty Rate	11.3%	12.6%
Median Royalty Rate	10.0%	10.0%
Low Royalty Rate	4.0%	4.0%
High Royalty Rate	20.0%	20.0%
Royalty Rate Range for all CUTs (rounded)	10.0%	10.0%
Indicated Royalty Rate including the Trademark		10.0%
Less: Trademark Royalty Rate		5.0%
Selected Royalty Rate (rounded)		**5.0%**

For this example, it is necessary to multiply (1) the required rate of return for each asset class by (2) the fair market value of each asset class to arrive at the MPEEM contributory asset charge.

This calculation results in a contributory asset charge of $75,000 in year 1 of the projection period, or approximately 0.56 percent of the remaining customer base revenue. In years 2 through 19, the contributory asset charge would remain at approximately 0.56 percent of the projected revenue from the remaining customer base.

After adjusting the projected economic income to reflect the contributory assets charge, the projected cash flow was discounted to a present value using a present value discount rate of 13 percent.

The present value discount rate of 13 percent is equal to the WACC and considers (1) the consumer customer relationships intangible asset compared to the other intangible assets, (2) the required rate of return on each of the acquired categories of assets, and (3) the risk of the remaining consumer customer financial projections.

Group 2—Customer Relationships Conclusion

Based on the analysis, the indicated total present value of the income for the customer relationships is approximately $7.2 million prior to the application of the tax amortization benefit.

The $1.1 million tax amortization benefit represents the present value of the income tax savings from the amortization of the customer relationships value over a 15-year period.

The tax amortization benefit was added to the indicated total present value of the income for the customer relationships to yield an indicated fair market value of the customer relationships.

The indicated fair market value of the customer relationships, using the MPEEM, is $8.3 million, as presented in Exhibit 6.

Group 2—NNC Software Delivery Platform

The NNC network has been expanded by the NNC education team. Approximately 10,000 schools use the NNC education content. The success the NNC has enjoyed in building such a large network is due to the development of an effective delivery platform that delivers the education content to the network of schools and teachers.

The education content that NNC has developed is comprised of (1) scientific reviews and analysis and (2) the development of its own curriculum for scientific applications.

Since revenue is not directly generated from the delivery platform, the RPCNLD method was applied to estimate the value of the delivery platform.

The RPCNLD method involves estimating the cost to construct, at current prices, an exact duplicate of the subject intangible asset, using the same materials, production standards, design, layout, and quality of workmanship as the subject intangible asset. The reproduced intangible asset will include the same inadequacies, superadequacies, and obsolescence as the actual intangible asset.

The components of cost involved in the RPCNLD method are as follows:

1. Direct labor costs
2. Nonlabor, indirect materials, and overhead costs
3. Developer's profit
4. Entrepreneurial incentive
5. Depreciation and obsolescence

NNC management provided the cost information required to reproduce the software delivery platform. These costs were direct labor base salary costs of all the NNC employees required to reproduce the delivery platform, an allocation of benefits costs, an allocation of nonlabor and overhead costs, and the level of effort in number of weeks. The total of these costs were $7.1 million, as presented in Exhibit 8.

Developer's Profit

The developer of any intangible asset expects to be reimbursed for all the costs that were incurred in the technology development phase in addition to receiving a profit or return on these costs.

In other words, the developer expects (1) a return *of* all the material, labor, and overhead costs incurred and (2) a profit or return *on* all the material, labor, and overhead costs incurred.

Developer's Profit Based on Public Company Profit Margins

Estimating a reasonable return on costs can be accomplished by searching for companies in the same industry with personnel or departments housing the same requisite skills involved as NNC.

Examining the profit margins of the guideline publicly traded companies provides a reasonable

Exhibit 8
Net Nonprofit Corporation
Cost Approach
Reproduction Cost New less Depreciation Method
Software Delivery Platform
As of December 31, 2017

Net Nonprofit Corporation Employee Category [a]	Number of Employees	On a Per-Employee Basis: Average Weekly Base Salary Cost $000	Employee Benefits Cost Allocation %	Nonlabor Cost Allocation %	Number of Weeks	Reproduction Cost New less Depreciation $000
Chief Product Officer/Chief Technology Officer	1	4.086	25	20	88	521
Vice President Product Development	1	2.904	25	20	88	371
Senior Software Engineer	8	2.705	25	20	72	2,259
Software Engineer	1	1.777	25	20	72	186
Lead QA	1	2.428	25	20	64	225
QA	1	1.863	25	20	64	173
Graphic Design	4	1.138	25	20	20	132
Designer	1	2.020	25	20	20	59
Product Manager	2	1.471	25	20	20	85
Technical Product Manager	1	1.827	25	20	16	42
Contract Developers	NA	NA	NA	NA	NA	3,000
					Total Reproduction Cost New ($000)	7,053
					Plus: Combined Developer's Profit and Entrepreneurial Incentive at a Rate of Return of 15% ($000) [b]	1,058
					Indicated RPCN before Depreciation and Obsolescence ($000)	8,111
					Less: Depreciation and Obsolescence ($000) [c]	-
					Minus: Income Tax Expense [d]	-
					Indicated Reproduction Cost New less Depreciation and Obsolescence ($000)	8,111
					Tax Amortization Benefit ($000) [d]	-
					Indicated Fair Market Value of Delivery Platform ($000) (rounded)	**8,100**

[a] Based on information provided by management.
[b] Combined developer's profit and entrepreneurial incentive rate of return represented by the discount rate plus a premium of 200 basis points.
[c] The obsolescence rate is zero since (1) NNC regularly upgrades the delivery platform for the latest improvements in technology and know-how and (2) the reproduction cost new less depreciation method assumes that the delivery platform is developed using current techniques in technology and know-how.
[d] For fair value measurement purposes, the cost approach can be applied on either a pretax or an after-tax basis. Since this example relates to the fair market value standard of value, we assume this calculation is not affected by taxation issues. See Mark L. Zyla, *Fair Value Measurement: Practical Guidance and Implementation* , 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2013), 192-194.
Sources: Information provided by management and analyst calculations.

estimate of rates of returns on costs. The developer would expect to achieve returns that are competitive with the returns these companies earn. Otherwise, the developer would not consider entering into the development process.

Based on the examination of the cost of equity capital calculation using guideline publicly traded companies, the appropriate return on costs is estimated to be 13 percent.

Entrepreneurial Incentive

In addition to the developer's profit, the intangible asset owner expects to earn an additional economic benefit as motivation to enter into the development process. There are two components to the entrepreneurial incentive: (1) opportunity costs and (2) risk.

The opportunity costs relate to the time and resources the intangible asset owner would expect to invest in order to develop the intangible asset. These are costs because the time and resources could have been diverted to other investments or projects that already generate profits.

The span of time measured in the opportunity costs start from the inception of the original intellectual content of the intangible asset to the point after its commercialization when the returns would be comparable to those of other investments.

"Functional obsolescence is the reduction of intangible asset value due to its inability to perform the function, or yield the economic utility, for which it was originally designed."

The intangible asset owner would also expect an economic benefit commensurate with the risk characteristics of the project. If there is uncertainty that the project would be successful and generate profits, then the entrepreneurial incentive is in addition to the opportunity costs that provide motivation to the intangible asset owner to enter into the development process.

The entrepreneurial incentive is estimated to be a 200 basis point premium to the developer's profit.

The combined developer's profit and entrepreneurial incentive rate of return of 15 percent was applied to the total costs to reproduce the delivery platform. This resulted in an expected rate of return of $1.1 million as presented in Exhibit 8.

Depreciation and Obsolescence

The software delivery platform costs and expected rates of returns by themselves do not result in a value indication. In order to arrive at a value indication, the intangible asset must be adjusted for depreciation and obsolescence. Since the software delivery platform would be reproduced new, there would be no applicable depreciation.

There are three forms of obsolescence considered in a cost approach analysis: (1) physical deterioration, (2) functional and technological obsolescence, and (3) economic obsolescence.

Physical deterioration is the reduction of value due to physical wear and tear resulting from continued use. This type of obsolescence is not applicable to the software delivery platform.

Functional obsolescence is the reduction of intangible asset value due to its inability to perform the function, or yield the economic utility, for which it was originally designed. The delivery platform is regularly being upgraded for the latest improvement in technology and know-how. Therefore, its functionality is not obsolete. Technological obsolescence is a type of functional obsolescence.

Technological obsolescence decreases intangible asset value due to improvements in technology that make the actual asset less than the ideal replacement for itself. As in the case of functional obsolescence, since the delivery platform is regularly being upgraded for the latest improvement in technology and know-how, technological obsolescence is not applicable to the reproduced delivery platform.

Group 2—Software Delivery Platform Conclusion

Based on the analysis, based on the RPCNLD method, the indicated fair market value of the software delivery platform is approximately $8.1 million, as presented in Exhibit 8.

Group 3—Educational-Related Content

The education-related content consists of 1,000 titles of education curricula. NNC has built up this education-related content since 2012. Over this time, NNC developed an average 200 titles per year of scientific-education-related ratings content.

The RPCNLD method was applied to estimate the value of the scientific-education-related content. Exhibit 9 presents the RPCNLD method application to estimate the value of the scientific education related content.

The following valuation inputs related to the education content. These inputs are similar to the detailed discussion of the Group 2 inputs previously discussed:

- The total annual costs to reproduce the education content is $3.6 million.
- The number of titles reproduced annually is 200.
- The annual reproduction cost per title is approximately $18,139.
- The total number of titles in the NNC library is 1,000.
- The estimated total reproduction cost new is $18.1 million.
- In same manner as applied in the Group 2 analysis, a combined developer's profit and entrepreneurial incentive of 15 percent was applied.
- This resulted in an expected return based on the combined developer's profit and entrepreneurial incentive of $2.7 million and an estimated reproduction cost new before depreciation and obsolescence of $20.9 million.
- The first method of estimating functional obsolescence resulted in a functional obsolescence estimate of 20 percent.

Exhibit 9
Net Nonprofit Corporation
Cost Approach
Reproduction Cost New less Depreciation Method
Educational Content
As of December 31, 2017

Net Nonprofit Corporation Employee Category [a]	Number of Employees	On a Per-Employee Basis: Average Weekly Base Salary Cost $000	Employee Benefits Cost Allocation %	Nonlabor Cost Allocation %	Number of Weeks	Reproduction Cost New less Depreciation $000
VP & GM	1	6.000	30	20	26	234
VP Scientific Programs	1	3.000	30	20	52	234
Senior Director Learning	1	2.000	30	20	52	156
Program Managers	10	1.500	30	20	52	1,170
Editorial Staff	5	1.400	30	20	52	546
Freelance Editors	20	NA	NA	NA	NA	1,288
					Total Annual Reproduction Cost New ($000) [a, b]	3,628
					Number of Titles Produced Annually [a, b]	200
					Total Annual Reproduction Cost New per Title ($000)	18.139
					Total Number of Titles Reproduced [a]	1,000
					Total Reproduction Cost New ($000)	18,139
					Plus: Combined Developer's Profit and Entrepreneurial Incentive at a Rate of Return of 15% ($000) [c]	2,721
					Indicated RPCN before Depreciation and Obsolescence ($000)	20,860
					Less: Depreciation and Obsolescence of 20% ($000)	4,172
					Less: Income Tax Expense [d]	-
					Indicated Reproduction Cost New less Depreciation and Obsolescence ($000)	16,688
					Tax Amortization Benefit ($000) [d]	-
					Indicated Fair Market Value of Education Ratings and Reviews Content ($000) (rounded)	**16,700**

[a] Based on information provided by management.
[b] Based on information provided by management, the total annual reproduction costs required to produce 200 titles are $3.6 million.
[c] Combined developer's profit and entrepreneurial incentive rate of return represented by the discount rate plus a premium of 200 basis points.
[d] For fair value measurement purposes, the cost approach can be applied on either a pretax or an after-tax basis. Since this example relates to the fair market value standard of value, we assume this calculation is not affected by taxation issues. See Mark L. Zyla, *Fair Value Measurement: Practical Guidance and Implementation*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2013), 192-194.
Sources: Information provided by management and analyst calculations.

- The second method of estimating functional obsolescence resulted in a functional obsolescence estimate of 25 percent.
- A functional obsolescence estimate of 20 percent was selected and applied to the education content.

Functional Obsolescence Analysis

In order to estimate the obsolescence for the scientific educational content, statistical information was provided from NNC management reflecting the aging or seasoning and the usage of scientific content. NNC management provided website page views by the year in which the content was created.

The total NNC website page views were 2.1 million and covered the content created from 2012 through 2017. It was observed that there were greater website page views for content created in 2017, or 650,000 page views, in contrast to website page views for content created in 2015, or 500,000 page views.

This indicates that the 2015 content is subject to some level of functional obsolescence because it does not yield the same utility, as measured by website page views, as the 2017 content.

Two methods were applied to estimate functional obsolescence. The first method is based on total website page views for content created in each year from 2012 to 2017. Since 2017 yielded the greatest website page views, comparisons of each of the other year's website page views as a percentage 2017s website page views were performed.

For example, based on the total website page views for content created in 2017, the 2015 content represented 77 percent (500,000 ÷ 650,000).

Applying this percentage to the total number of page views for 2015 resulted in an adjusted total website page view for 2015 content of 384,615 (500,000 × 77 percent). In other words, based on this method, 77 percent of the content created in 2015 is not considered functionally obsolete and 23 percent of the content is considered functionally obsolete.

Applying this process to the remaining years results in an adjusted total website page views of 1.7 million, or 20 percent of the total 2.1 million website page views that were not considered functionally obsolete. Consequently, 20 percent of the scientific educational content was considered obsolete.

The second method of estimating functional obsolescence includes consideration not only of the website page views for each year in which content was created, but also of the actual number of content created in each year.

For example, the total number of page views for 2017 of 650,000 was divided by the total number of content titles created in 2017 of 200 to arrive at 3,250 website page views per content title. In looking at 2015 again, making the same calculation results in 1,667 website page views per content title (500,000 total website page views divided by 300 total number of content titles created).

The 1,667 website page views per content title in 2013 is 51 percent of the 3,250 website page views per content title in 2017. Therefore, based on this method, 51 percent of the content titles in 2017 is not considered functionally obsolete and 49 percent is considered functionally obsolete.

Applying this same process to all analysis years results in an adjusted total website page views per developed content title of 8,184 not considered functionally obsolete compared to a total website page views per developed content title of 10,983, or 25 percent.

Therefore, based on this method of estimating functional obsolescence, 25 percent of the content titles are considered functionally obsolete.

Based on the two methods discussed above, a functional obsolescence estimate of 20 percent for education-related content was selected, as presented in Exhibit 10.

Group 3—Educational Related Content Conclusion

Applying the selected obsolescence estimate of 20 percent to the estimated indicated value before depreciation and obsolescence of $20.9 million results in an indicated fair market value of the scientific education ratings.

The indicated fair market value of the scientific education content, using the RPCNLD method, is $16.7 million, as presented in Exhibit 9.

Group 3—Media Evaluation Content

The media evaluation content consists of 300 titles of science-related media reviews. It is understood that the media evaluation content was initially developed by two individuals from the company

Exhibit 10
Net Nonprofit Corporation
Cost Approach
Reproduction Cost New less Depreciation Method
Analysis of Functional Obsolescence—Educational Content
As of December 31, 2017

	Methods of Estimating Functional Obsolescence						
	Method 1			Method 2			
Website Page Views Data [a]	Total Website Page Views #	Total Website Page Views as a % of 2017 Page Views	Adjusted Total Website Page Views #	Developed Content Titles #	Total Website Page Views per Developed Content Title #	Total Website Page Views per Developed Content Title as a % of 2017	Adjusted Total Website Page Views per Developed Content Title #
Content Create Year: 2017	650,000	100	650,000	200	3,250	100	3,250
Content Create Year: 2016	600,000	92	553,846	200	3,000	92	2,769
Content Create Year: 2015	500,000	77	384,615	300	1,667	51	855
Content Create Year: 2014	250,000	38	96,154	150	1,667	51	855
Content Create Year: 2013	120,000	18	22,154	100	1,200	37	443
Content Create Year: 2012	10,000	2	154	50	200	6	12
Total	2,130,000		1,706,923	1,000	10,983		8,184
Measure of Functional Obsolescence	Method 1		20%	Method 2			25%
Indicated Functional Obsolescence							20%
Selected Functional Obsolescence							**20%**

[a] Company management provided information on the development of scientific education ratings and review content titles by year from 2012 to 2017.
Sources: Information provided by management and analyst calculations.

Media Makers. NNC did not acquire this company, but simply hired the two individuals from it in 2013.

The RPCNLD method was applied to estimate the value of the media evaluation content. This analysis is presented in Exhibit 11.

The following are the inputs for the analysis of the media evaluation content:

- The total annual cost to reproduce the media evaluation content is $1.3 million.
- The number of titles reproduced annually is 100.
- The annual reproduction cost per title is $13,451.
- The total number of titles to be reproduced is 300.
- This resulted in an estimate of total reproduction cost new of $4.0 million.
- A combined developer's profit and entrepreneurial incentive of 15 percent was applied.
- This resulted in an expected return based on the combined developer's profit and entrepreneurial incentive of $605,000 and an estimated reproduction cost new before depreciation and obsolescence of $5.8 million.
- No information was provided regarding website page views for the media evaluation content. Based on discussions with NNC management, the website page view information from the education content was relied on.
- A functional obsolescence estimate of 20 percent for media evaluation content was selected and used in this analysis.

Group 3—Media Evaluation Content Conclusion

Applying the selected obsolescence estimate of 20 percent to the estimated indicated RPCN before

Exhibit 11
Net Nonprofit Corporation
Cost Approach
Reproduction Cost New less Depreciation Method
Media Evaluation Content
As of December 31, 2017

Net Nonprofit Corporation Employee Category [a]	Number of Employees	On a Per-Employee Basis: Average Weekly Base Salary Cost $000	Employee Benefits Cost Allocation %	Nonlabor Cost Allocation %	Number of Weeks	Reproduction Cost New less Depreciation $000
Chief Product Officer/Chief Technology Officer	1	4.086	25	20	26	154
Scientific Director	2	2.324	25	20	52	351
Analyst	5	1.765	25	20	52	666
Freelance Editors	8	NA	NA	NA	NA	175
Total Annual Reproduction Cost New ($000) [a, b]						1,345
Number of Titles Produced Annually [a, b]						100
Total Annual Reproduction Cost New per Title ($000)						13.451
Total Number of Titles Reproduced [a]						300
Total Reproduction Cost New ($000)						4,035
Plus: Combined Developer's Profit and Entrepreneurial Incentive at a Rate of Return of 15% ($000) [c]						605
Indicated RPCN before Depreciation and Obsolescence ($000)						4,641
Minus: Depreciation and Obsolescence of 20% ($000) [d]						928
Less: Income Tax Expense [e]						-
Indicated Reproduction Cost New less Depreciation and Obsolescence ($000)						3,713
Tax Amortization Benefit ($000) [e]						-
Indicated Fair Market Value of Media Evaluation Content ($000) (rounded)						**3,700**

[a] Based on information provided by management.
[b] Based on information provided by management, the total annual reproduction costs required to produce 100 titles are $1,345,000.
[c] Combined developer's profit and entrepreneurial incentive rate of return represented by the discount rate plus a premium of 200 basis points.
[d] The obsolescence rate is based on the obsolescense analysis for scientific education content .
[e] For fair value measurement purposes, the cost approach can be applied on either a pretax or an after-tax basis. Since this example relates to the fair market value standard of value, we assume this calculation is not affected by taxation issues. See Mark L. Zyla, *Fair Value Measurement: Practical Guidance and Implementation* , 2nd ed. (Hoboken, New Jersey: John Wley & Sons, Inc., 2013), 192-194.
Sources: Information provided by management and analyst calculations.

depreciation and obsolescence of $4.6 million results in an indicated fair market value of the media evaluation content.

The indicated fair market value of the media evaluation content, using the RPCNLD method, is $3.7 million, as presented in Exhibit 11.

Intangible Asset Valuation Summary and Conclusion—The NNC Subject Assets

As part of the analysis, the three generally accepted approaches to intangible asset valuation were considered: (1) the income approach, (2) the market approach, and (3) the cost approach.

This example relied on (1) the income approach, and specifically the MPEEM; (2) the market approach, and specifically the relief from royalty method; and (3) the cost approach, and specifically the RPCNLD method, to estimate the value of the subject assets.

As presented in Exhibit 12, based on the analysis, the fair market value of the NNC subject assets, as of the valuation date, is $53.3 million (rounded):

During the analysis of the NNC intangible assets, arm's-length royalty rates were estimated (1) for the NNC trademark and (2) for the use of NNC generated content.

Exhibit 12
Net Nonprofit Corporation
Valuation Summary of Certain Identifiable Intangible Assets
As of December 31, 2017

Net Nonprofit Corporation Assets	Exhibit Reference	Indicated Value of NNC Assets $000
Certain Identified Net Nonprofit Corporation, Intangible Assets:		
Group 1 - Brand Intangible Assets:		
Trademark	5	16,500
Group 2 - Customers and Delivery Platform Intangible Assets:		
Customer Relationships	6	8,300
Software Delivery Platform	8	8,100
Group 3 - Content Intangible Assets:		
Educational Content	9	16,700
Media Evaluation Content	11	3,700
Fair Market Value of Certain Identified Net Nonprofit Corporation, Intangible Assets (rounded)		53,300

Sources: As indicated above and analyst estimates and calculations.

Along the way, a 5.0 percent arm's-length royalty rate for both the trademark—Group 1 asset—and the NNC generated content—Group 3 assets—were concluded.

Reasonableness Check on the Value of the NNC Assets

In order to reconcile and check for reasonableness of the conclusion reached in Exhibit 12, it was necessary to estimate the total value of NNC, under the same hypothetical condition, related to (1) the implied NNC total equity value and (2) the implied NNC total invested capital value.

In order to estimate the NNC total equity value, the asset-based approach, and specifically the asset accumulation method, was applied.

Exhibit 13 presents the calculation of the implied NNC valuation estimate based on the asset accumulation method. In order to arrive at the fair market value of NNC total assets, it was necessary to add (1) net other assets (working capital, cash-related assets, and tangible assets) and (2) the estimated value of the NNC trained and assembled workforce.

These assets were not discretely valued as part of the subject analysis to estimate the value of the NNC subject assets of $53.3 million. Therefore, it was necessary to add $13.0 million of net other assets and $500,000 of trained and assembled workforce value to $53.3 million to arrive at $66.8 million.

Based on the analysis, it is concluded that the implied NNC equity value was $66.8 million, as of the valuation date.

To calculate the implied NNC invested capital value, $500,000 of NNC interest-bearing debt was added to the implied NNC equity value. Therefore, based on the analysis, it is concluded that the implied NNC invested capital value was $67.3 million as of the valuation date.

Application of Reasonable Check Based on Guideline Publicly Traded Company Pricing Multiples

In order to check the total value of the subject assets for reasonableness, the following two procedures were performed using the guideline publicly traded companies selected for benchmarking purposes.

Exhibit 13
Net Nonprofit Corporation
Asset Accumulation Method Valuation Summary
As of December 31, 2017

Net Nonprofit Corporation Assets	Exhibit Reference	Indicated Value of NNC Assets $000
Fair Market Value of Certain Identified Net Nonprofit Corporation, Intangible Assets (rounded)	12	53,300
Net Other Assets (including short-term assets and net fixed assets)		13,000
Trained and Assembled Workforce		500
Fair Market Value of Net Nonprofit Corporation Assets (total equity approximation)		66,800
Interest-Bearing Debt		500
Fair Market Value of Net Nonprofit Corporation Assets and Liabilities (invested capital approximation)		67,300

Sources: As indicated above and analyst estimates and calculations.

The first procedure is to check the implied NNC equity value and NNC invested capital value compared to total costs. Typically, profitability metrics are used, such as operating income; earnings before interest and taxes; or earnings before interest, taxes, depreciation, and amortization. Since NNC is a not-for-profit company, there is no direct comparison.

The analyst examined guideline publicly traded company multiples of market value of invested capital ("MVIC") compared to total costs. This analysis is presented in Exhibit 14.

For the next procedure, the total costs multiples implied by the total value of the subject assets were calculated. This analysis is presented in Exhibit 15.

Since the implied valuation pricing multiples in Exhibit 15 fall within the indicated range of multiples of the guideline publicly traded companies in Exhibit 14, this analysis indicates that the total value of the subject assets is reasonable.

The second procedure is to check the valuation results compared to revenue. In this case, guideline publicly traded company pricing multiples based on MVIC to revenue were used. The results of this

Exhibit 14
Net Nonprofit Corporation
Guideline Publicly Traded Company Multiples of Total Cost
As of December 31, 2017

	Guideline Publicly Traded Companies					
	MVIC as a Multiple of Total Costs				Interquartile Range	
	Low	High	Average	Median	Quartile 1	Quartile 2
Latest 12-Month Total Costs	0.87	5.82	2.96	2.83	1.74	2.83
5-Year Total Costs	0.92	6.77	3.78	3.76	1.74	3.76
Indicated Range of Multiples				1.74	to	3.29

analysis is presented in Exhibit 16.

Next, revenue multiples implied by the total value of the subject assets were calculated. This calculation is presented in Exhibit 17.

Since the implied valuation multiples in Exhibit 17 fall within the indicated range of multiples of the guideline publicly traded companies in Exhibit 16, this analysis indicates that the total value of the subject assets is reasonable.

Exhibit 15
Net Nonprofit Corporation
Implied Valuation Multiples Based on Total Costs
As of December 31, 2017

		NNC Values of:	
		Equity	Invested Capital
		66,800	67,300
Implied Valuation Multiples:			
Latest 12-Month Total Costs	28,800	2.32	2.34

Summary and Conclusion

Depending on the valuation assignment facts and circumstances, the analyst may encounter a unique valuation problem: a problem that is outside the ordinary scope of typical valuation issues.

Analysts are often engaged to estimate fair market value related to not-for-profit business transactions. Not-for-profit businesses are often involved in arm's-length transactions. However, it is more typical for an analyst to estimate an arm's-length royalty rate for a not-for-profit client than to estimate the value of the not-for-profit entity—or its assets.

To illustrate certain concepts and provide context, an example was presented. That example was based on the hypothetical Net Nonprofit Corporation. Because NNC is a not-for-profit business, the analysis of the subject assets and a reasonableness check of the concluded value were based on the hypothetical condition that NNC was a for-profit business.

In this example, treating the not-for-profit business as a for-profit business was an essential procedure. It stands to reason that the most likely acquirer of a nonprofit business—or its assets—will be a for-profit business. That reason is due, in-part, to the fact that there are many more for-profit businesses than nonprofit businesses. And, for-profit businesses are more likely than nonprofit businesses to buy existing business assets.

Treating NNC as a for-profit business is a hypothetical condition that serves as the basis to apply public market-based evidence in the example analysis. Relevant market-based evidence was applied to (1) value certain not-for-profit intangible assets and (2) check for reasonableness based on the implied total not-for-profit business value.

As a best practice, more than one method should be used to estimate a value—or to at least corroborate a value estimate. The example illustrates how guideline publicly traded companies can be used to corroborate a value conclusion.

In the example, an application of the guideline publicly traded company method was used. This application is unique. This is because it involved the use of cost-based pricing multiples and not earnings-based pricing multiples. The application of cost based pricing multiples was necessary because NNC did not earn revenue on the majority of its intellectual property.

Notes:

1. https://www.upcounsel.com/types-of-nonprofits, accessed January 28, 2019.
2. https://www.irs.gov/charities-non-profits/charitable-organizations/exemption-requirements-section-501c3-organizations, accessed January 28, 2019.
3. The *Uniform Standards of Professional Appraisal Practice* ("USPAP") 2018-2019 edition, on page 4, defines a hypothetical condition as follows: "a condition, directly related to a specific assignment, which is contrary to what is known by the appraiser to exist on the effective date of the assignment results, but is used for the purpose of analysis."
4. The interquartile range is between the 25th percentile, or the first quartile, and the 75th percentile, or the third quartile.
5. The midpoint of 2.0 percent and 7.0 percent interquartile range, the selected indicated royalty rate range, is 4.5 percent.

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Exhibit 16
Net Nonprofit Corporation
Guideline Publicly Traded Company Multiples of Revenue
As of December 31, 2017

	Guideline Publicly Traded Companies					
	MVIC as a Multiple of Revenue				Interquartile Range	
	Low	High	Average	Median	Quartile 1	Quartile 2
Latest 12-Month Revenue	0.84	4.36	2.57	2.64	1.75	2.64
5-Year Revenue	0.88	6.01	3.38	3.26	1.80	3.26
Indicated Range of Multiples				1.77	to	2.95

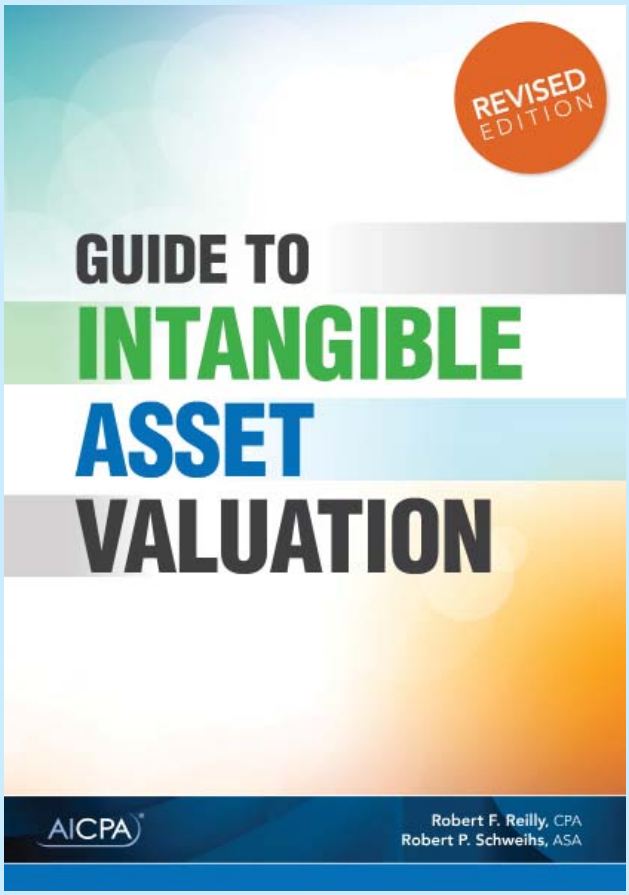
Exhibit 17
Net Nonprofit Corporation
Implied Valuation Multiples Based on Revenue
As of December 31, 2017

		NNC Values of:	
		Equity	Invested Capital
		66,800	67,300
Implied Valuation Multiples:			
Latest 12-Month Revenue	32,000	2.09	2.10

We are pleased to announce the Revised Edition of . . .

Guide to Intangible Asset Valuation

by Robert F. Reilly and Robert P. Schweihs



This 745-page book, originally published in 2013 by the American Institute of Certified Public Accountants, has been improved! The book, now in hardback, explores the disciplines of intangible asset valuation, economic damages, and transfer price analysis. *Guide to Intangible Asset Valuation* examines the economic attributes and the economic influences that create, monetize, and transfer the value of intangible assets.

Robert Reilly and Bob Schweihs, Willamette Management Associates managing directors, discuss such topics as:

- Identifying intangible assets and intellectual property
- Structuring the intangible asset valuation, damages, or transfer price assignment
- Generally accepted valuation approaches, methods, and procedures
- Economic damages due diligence procedures and measurement methods
- Allowable intercompany transfer price analysis methods
- Intangible asset fair value accounting valuation issues
- Valuation of specific types of intangible assets (e.g., intellectual property, contract-related intangible assets, and goodwill)

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Confronting Behavioral Bias in Financial Projections

Kyle J. Wishing and Ben R. Duffy

This discussion 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.

Introduction

This discussion considers the review and assessment of financial projections that are prepared as part of a corporate transaction. This discussion may inform any party involved in compiling or assessing financial projections. This discussion may be particularly relevant to (1) fiduciaries who may be involved in the corporate transaction or other investment decision making process and (2) financial advisers to a fiduciary who assist in reviewing the financial aspects of the subject transaction.

For purposes of this discussion, the term "fiduciary" refers to parties that are not directly involved in the management and operations of the subject company that have duties of loyalty and care to subject company shareholders. This definition of fiduciary includes trustees of trusts and executors of estates that hold interests in private companies. Trustees may be appointed to oversee and administrate assets of retirement plans, charities, trust funds, and entities in bankruptcy. Independent board members are also included in our definition of fiduciary.

It is generally understood that corporate merger and acquisition transactions are risky. There are various biases that come into play with respect to merger and acquisition transactions. For better or worse, these biases generally tend to increase merger and acquisition activity. Bias does not discriminate—all parties to the transaction may be subject to the influence of bias.

When a fiduciary is involved in a corporate transaction, the fiduciary may be disadvantaged relative to other parties to the proposed transaction. This is because the fiduciary may have less information than other parties to a transaction. For example, shareholders that are also members of management will likely understand the company and the industry better than the fiduciary.

Often, the terms of the proposed transaction are brought to the fiduciary after the initial rounds of developing and structuring the proposed transaction (after feasibility, etc.). Other parties to the proposed transaction may be involved with the transaction from an early stage. Nevertheless, the fiduciary is expected to act in a prudent manner with respect to the proposed corporate transaction.

The fiduciary who may have to approve a transactional investment decision may retain a financial adviser to opine on the financial aspects of the proposed corporate transaction.

Financial projections are often prepared in corporate merger and acquisition transactions. The financial projections may be prepared by any party to the transaction. The financial projections are one of the primary inputs to the transactional valuation model, and they are generally used to support the proposed transaction price.

One of the roles of a fiduciary's financial adviser (the "financial adviser") is to review (and, in some cases, amend or even produce) financial projections. The financial projections review process is an element of the transactional valuation process.

This discussion draws from various aspects of behavioral finance that may improve the financial projections review process. This discussion provides a road map for the fiduciary and the financial adviser to discover potential forms of bias present in financial projections. This discussion provides general guidance for assessing financial projections.

Forms of Behavioral Bias

This discussion on behavioral bias is based primarily on the work of Daniel Kahneman, PhD, which was published in *Thinking, Fast and Slow* ("*TFAS*").[1] Kahneman received the 2002 Nobel Prize in economic sciences for his pioneering work on decision making.

This discussion focuses on the biases in *TFAS* that could influence the assessment of financial projections, in particular, and the decision of a fiduciary to accept a transaction, in general.

Kahneman identifies common forms of bias, and he defines bias as systematic errors in judgment. In order to simplify two traits of thought, *TFAS* characterizes thought processes as either "fast" or "slow."

The fast processes are the result of the automatic processes of so-called "System 1," and the slow processes are the result of the controlled operations of so-called "System 2."

The two systems often work together to form a coherent interpretation of what is going on in the world at any instant.[2]

The unsolicited human "need" to form a coherent story often results in bias in decision making. Human minds are built to find links between events and reach conclusions even when there is no link. People are prone to apply causal thinking when statistical reasoning is more appropriate. These issues are especially present in the production and analysis of financial projections.

The following discussion explains the various forms of bias that may be considered when assessing financial projections.

Confirmation Bias

Confirmation bias refers to the natural tendency to seek data that support current beliefs and opinions, as opposed to the general rule of science that a hypothesis is meant to be disproven. Confirmation bias results in (1) overweighting recent occurrences and (2) extreme and improbable events.

The Halo Effect

The halo effect is the tendency to like, or dislike, everything about a subject. The halo effect occurs because our mind has difficulty balancing the complexity of the world. For instance, it is difficult to comprehend that Hitler loved dogs and children. Humans tend to rely on our first impression and slant or omit future observations that do not comport with the initial impression.

One way that the halo effect can be overcome is by decorrelating error. In the context of a corporate transaction, this effect could be overcome by receiving independent judgments from parties involved (for instance, separately interviewing members of company management and soliciting individual input from all members prior to a meeting).

WYSIATI

What you see is all there is ("WYSIATI") refers to the tendency to develop conclusions based only on the information that is at hand. It is often easier for human minds to construct a coherent story when there is less information. The quality and quantity of data is often irrelevant for constructing the story.

The example from TFAS asks, "Will Mindik be a good leader? she is intelligent and strong. . ." The automatic response to this question is "yes." This would be a problem if the next two adjectives to describe Mindik were corrupt and cruel.[3] One of the best ways to confront WYSIATI is to prepare a list of the characteristics needed to make the decision at hand.

In the corporate transaction context, the question could be, "What information do we need to indicate that this company is worthy of a long-term investment?"

The Law of Small Numbers

The law of small numbers refers to the failure to "think like a statistician." Statisticians understand that small samples have greater risks of error. With smaller samples, there is greater difficulty to discern if there is a pattern in the data or whether the smaller sample is random. The illusion of patterns in small samples will often cause people to classify a random event as systematic.

As with the other biases, content of messages tends to be more important than reliability. It is often difficult to accept the randomness of events with respect to reviewing projected financial statements.

For instance, this bias is reflected in determining the growth trajectory of a company based on 3 years of historical financial statements, which have shown consistent revenue growth of approximately 5 percent, versus observing 10 years of historical financial statements with a greater standard deviation.

The Anchoring Effect

The anchoring effect describes the common human tendency to rely on the first piece of information offered (i.e., the anchor) when making decisions. Various studies have demonstrated that people rely on an anchor, even when the anchor has no bearing on the decision at hand.

In negotiations, the first price offered serves as an anchor price, which tends to affect the rest of the negotiations. A high anchor will result in a higher final transaction price, and a low anchor will result in a lower final transaction price. The primary advice offered to negate the anchoring effect is to reject the initial offering price if it is determined to be unreasonable.

In the context of financial projections, it is best practice to reject financial projections that are unreasonable and create a new set of financial projections rather than adjusting the original financial projections.

Representativeness

Representativeness refers to instances when we rely on intuitive impressions and neglect base-rate information. The example of representativeness in *TFAS* is: consider that a woman is reading the *New York Times* on a subway in New York City—is it more likely that she (1) has a PhD or (2) does not have a college degree.

Representativeness would say that she has a PhD; however, the base rate comparison of PhDs to nongraduates on New York subways is very unfavorable to this selection.

According to Kahneman, intuitive predictions should be adjusted by estimating the correlation between the intuitive prediction and the base rate. If the intuitive prediction is unsupported, the base rate should be relied on. "A characteristic of unbiased predictions is that they permit the prediction of rare or extreme events only when the information is very good."[4]

To counter representativeness in financial projections, the expected growth rate in the projection should consider base rates that are observed in the industry and in the economy.

Hindsight Bias

Hindsight bias refers to our tendency to produce simplified narratives of the past. Hindsight bias can simply be called the "I-knew-it-all-along" effect. It can lead an observer to assess the quality of a decision not by whether the process was sound, but by whether its outcome was good or bad.[5]

The hindsight bias often leads to overconfidence in forecasting. This is because "the idea that the future is unpredictable is undermined every day by the ease with which the past is explained."[6]

The Planning Fallacy

The planning fallacy occurs when forecasts (1) are unrealistically close to best-case scenarios and (2) neglect the base rate of similar cases.

The planning fallacy can be partially mitigated by (1) considering outside statistics and (2) including some estimate for "unknown unknowns" in the forecast.

Overconfidence

Overconfidence is often determined by the coherence of the story one has constructed, not by the quality and the amount of the information that supports the story.

Overconfidence and optimism can result in failure to consider outside forces such as competition and chance. Emotional, cognitive, and social factors can support exaggerated optimism, which may lead people to take high risks that they would avoid if they knew the probability of failure. High subjective confidence is not a trusted indicator of forecast accuracy (surprisingly, low confidence may be more informative).

One tool used to partially counter overconfidence is the premortem. A premortem asks the decision maker to develop a story based on the notion that the decision is a failure in one year. This practice gives voice to doubts. The alternate stories developed can be considered as part of the projected financial statement review process.

Understanding the Financial Projections

Financial projections are one of the primary inputs in many business valuation models. Financial projections directly influence the discounted cash flow ("DCF") method of the income approach and often influence the market approach (either through the use of forward-looking pricing multiples or by

"A thorough review of financial projections involves understanding the story that the financial projections tell from qualitative and quantitative perspectives."

adjusting historical pricing multiples based on the subject company's growth expectations).

Financial projections are one of two primary inputs for the income approach DCF method. Typically, the two primary income approach inputs are projected cash flow and the present value discount rate. In the DCF method, the financial adviser assesses the financial projections and selects a present value discount rate to apply to the projected cash flow.

Financial projections are a tool that is often used to assess business investments. The financial projections typically forecast the income statement, the balance sheet, and the cash flow statement for a set period.

Often, the financial projections reflect company management's best thinking and do not incorporate alternative scenarios.

As discussed below, there are various ways to develop financial projections. Financial projections are developed using assumptions that reflect the developer's expectations for the company's performance. Regardless of how the financial projections are developed, every projection tells a story.

The Financial Projection Story

The statement, "every projection tells a story," may appear obvious to some. The numbers in the financial projection are intended to demonstrate the initiatives undertaken by company management. The numbers do not inherently "tell a story," but (if they are prepared correctly) they are based on a story that is being presented by the party that is proposing the transaction (i.e., not the fiduciary or the fiduciary's financial adviser).

According to conventional wisdom, people tend to exercise right-brained or left-brained dominance in their personality, thinking style, and general approach to life. Analysts are subject to the same biases.

Right-brained analysts tend to favor anecdotes, experience, and behavioral evidence in assessing an investment, whereas left-brained analysts tend to favor spreadsheets, pricing data, and statistical measures in assessing an investment.

The right-brained analysts make decisions based on the story (loosely, the qualitative analysis), whereas left-brained analysts make investment decisions based on quantitative analysis.

A thorough review of financial projections involves understanding the story that the financial projections tell from qualitative and quantitative perspectives.

The first hurdle in reviewing financial projections is the understanding of how the projections were developed.

After understanding the development of the financial projections, the fiduciary and the financial adviser may ask the following questions:

- What is the story that the financial projections are telling?
- Is the financial story congruent with the vision of the company?
- Are there any alternative stories for the company that should be considered?

Development of the Financial Projections

An initial procedure that may be taken when assessing financial projections, is understanding the projection development process. Interviewing the party who prepared financial projections can assist the fiduciary or the financial adviser in discovering projection bias.

The financial adviser may consider the following guideline questions when analyzing management-prepared financial projections.

- Who prepared the financial projections?
  - Understanding who prepared the financial projections can assist in determining the reliability of the projections. The financial adviser may want to consider any potential biases or conflicts of interest associated with the party that developed the financial projections.

    Financial projections prepared by a party with financial ties to the transaction may be subject to various forms of bias.
  - It may be important to consider who had input on the financial projections, and how they may have influenced the projections. For example, a salesperson's input for projected revenue figures may differ from an accountant's input.

- For what reason were the financial projections produced?
  - A financial adviser may consider the purpose of the projections. Financial projections may be prepared for transaction purposes, budgeting, sales goals, obtaining credit, and so on. The purpose of the financial projections may affect the detail and the characteristics of the projections.

    For example, financial projections developed for the purpose of marketing a company for an acquisition may be more detailed and aggressive than projections provided to a bank for obtaining a credit facility.
- How often are financial projections prepared?
  - If company financial projections are prepared regularly, then the company has the benefit of experience in producing financial projections and, therefore, they may be more reliable than financial projections prepared by a company for the first time.

    In addition, historically prepared financial projections may be compared to actual results in order to indicate how a company's expectations typically compare to actual outcomes. However, if there are material changes in projections prepared for a deal compared to historically prepared projections, then the benefit of frequency is lost.
- How were the financial projections prepared?
  - There are various methods for preparing projections, each with the potential of incorporating different bias or levels of conservatism.

    One example is the top-down versus bottom-up approach. A top-down approach evaluates the market as a whole and identifies a company's target market, including the potential market share and growth. A bottom-up approach is typically more detailed and starts by determining spending levels and sales forecasts of each department.

    Compared to looking at the overall market, a bottom-up approach may be more reliant on existing customers and leads. Since a bottom-up approach is more reliant on existing customers, it may not consider the potential market opportunities that would produce a more aggressive forecast.
  - What were the considerations for the economic, industry, and other value drivers? How do value drivers connect to the story of the projections?
- How does management characterize the financial projections?
  - It is often helpful to understand the company management's characterization of the financial projections.

Variables in the Story

The financial projection story should be consistent for economic, industry, and company-specific factors. This discussion provides examples of these factors that may be considered in assessing the projections.

Economic Considerations

A financial adviser may want to research historical, current, and forecasted economic conditions and indicators, depending on how significantly the economy may influence the earning ability of a firm.

Through research, a financial adviser may identify specific economic trends that are indicative of

the demand for products or services offered by a subject company. For example, an increase in housing starts may indicate an increase in demand for a residential construction company.

After determining which economic indicators may influence the earning ability of the company, the financial adviser may compare historical company data with historical economic performance.

Figure 1 is an illustrative example of a correlation analysis that compares the annual change in U.S. housing starts with the annual change of historical revenue of a hypothetical residential construction company.[7]

As can be seen in Figure 1, there appears to be a correlation between the annual change in housing starts and the annual change in revenue of the hypothetical construction company.

After determining there is a correlation between an economic indicator and historical company performance, the financial adviser can research the outlook of that economic indicator. A comparison of the outlook of an economic indicator and projected financial statements could assist the financial adviser in determining the reasonableness of the financial projections.

It may also be helpful to ask the party that prepared the projections if the outlook of any specific economic indicators was considered during the projection development process.

It may also be useful to perform additional research on a local economy. If a company's clients are predominately located in the southern U.S., then it may be helpful to research the outlook of the southern U.S. economy.

The growth rate of the economy may serve as a base rate for the subject company.

Industry Considerations

The industry in which a company operates may significantly influence future cash flow and growth potential. A general knowledge of the industry in which the subject interest operates can be helpful when assessing financial projections. It may even be necessary to consider researching industries in which major customers or suppliers of the subject company operate, as they may also influence the earning potential of the company.

The degree of detail and analysis concerning the company's industry may vary depending on the following factors:

1. The industry's level of influence on the subject company
2. The amount of available industry data.

A few questions that the financial adviser may consider[8] include the following:

- Who makes up the industry? Are there a few companies that influence the industry?

An industry that is fragmented is unlikely to be as competitive as a highly concentrated industry. In a concentrated industry, financial results and analyst estimates may be strong indicators to consider when assessing financial projections.

- Is the industry cyclical?

A cyclical industry is more dependent on the general economy than a less cyclical industry. If an industry is determined to be cyclical, then additional attention to economic indicators and forecasts may need to be considered when assessing financial projections.

Figure 1
Correlation of Housing Starts with Hypothetical Construction Company Revenue

- Is it a new industry with several new entrants, or is it a mature industry that has reached its saturation point?

  A company operating in a mature industry will typically anticipate lower levels of growth than a company in an emerging industry. If a company in a highly saturated industry anticipates growth that is inconsistent with the industry, then additional questions may need to be asked.

- What are the barriers to entry, if any, into the industry?

  Existing firms benefit from barriers of entry into an industry, limiting competitive risks, while a newer company may be disadvantaged in an industry with high barriers of entry.

- Is the industry self-contained or is it dependent on another industry?

  The amount of dependence an industry has on another industry can be a signal that the outlook of more than one industry may be considered when assessing projections.

- What is a normal level of capital expenditures in the industry?

  Different industries require various levels of capital expenditures in order to operate effectively. Determining what is an appropriate level of capital expending in order to operate efficiently and obtain projected cash flow may be considered in a projection analysis.

- Is the industry dependent on new technology?

  Companies that operate within an industry that is highly dependent on new technology are likely to require more research and development related expenditures.

- Is the industry anticipated to change?

  If a company is not aligned for anticipated change, then it may not be able to meet its forecast goals. The ability of a company to adapt and anticipate change may significantly impact its ability to produce future cash flow.

- What is the forecast of growth for the industry?

  The growth of a company can often be tied to the growth of the industry in which it operates. Therefore, considering the growth of an industry is often a component of assessing financial projections.

It is noteworthy that these questions are not all inclusive and may be considered as basic guidelines or ideas.

A simple way in which the financial adviser can compare the performance of the company with the performance of the industry is by observing changes in stock price of comparable public companies (or an industry exchange traded fund) with the historical performance of the subject company. This comparison may assist the financial adviser in determining if there is a strong correlation between:

1. industry performance and
2. the performance of the subject company.

Depending on how strong of a correlation there is between the industry and the subject company, the financial adviser may want to compare the industry outlook with the projections of the subject company. If a financial adviser observes that an industry is anticipated to experience an annual revenue decline of 5 percent, then it may raise questions when the company within that industry projects revenue growth of 10 percent.

However, there may be company-specific factors that justify why a company may perform better than the industry in which it operates.

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 questions[9] 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 more clear 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?

  In order 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.

"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."

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 to experience any significant changes during the near-term
- Financial projections are considered to be 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.

Notes:

1. Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2013).
2. Ibid., 13.
3. Ibid., 85.
4. Ibid., 192.
5. Ibid., 203.
6. Ibid., 218.
7. U.S. Bureau of the Census and U.S. Department of Housing and Urban Development, Housing Starts: Total: New Privately Owned Housing Units Started, retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/HOUST, January 22, 2019.
8. Some of these questions are taken from Gary R. Trugman, *Understanding Business Valuation: A Practical Guide to Valuing Small to Medium Sized Businesses*, 5th ed.(New York: American Institute of Certified Public Accountants, 2017), 162.
9. Some questions taken from Trugman, *Understanding Business Valuation*, 176.

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On Our Web Site

Recent Articles and Presentations

Robert Reilly, a managing director of our firm, authored an article that was published in the February/March 2019 issue of *Financial Valuation and Litigation Expert*. The title of Robert's article is "Goodwill Valuation Considerations Involving Private Companies and Professional Practices."

The valuation of either business (also called institutional) goodwill or personal (also called professional) goodwill is a common issue in the family law context. The goodwill issue arises when the marital estate owns a private company or a professional practice or when one of the marital parties holds a professional license. The goodwill valuation may affect the value of the private company or professional practice ownership interest. The goodwill valuation may be relevant if the practitioner's personal goodwill either is— or is not— a marital estate asset. And, the goodwill valuation may be relevant if the marital estate includes only the appreciation (or the excess over a normal amount of appreciation) in the goodwill during the term of the marriage. Robert's article summarizes many of the analyst's considerations in the valuation of goodwill in a family law context.

Robert Reilly also authored a two-part article that was published in the October and December 2018 issues of *The Practical Lawyer*. The title of Robert's article is "What Lawyers Need to Know about the Asset-Based Approach to Business Valuation."

The valuation of businesses or business ownership interests is an issue that arises in many types of legal disputes. Business valuation is an issue in many types of tort disputes, including dissenting shareholder appraisal rights, shareholder oppression, lender liability, and breach of fiduciary duty matters. Business valuation may also be an issue in breach of contract claims such as breach of buy/sell agreements, noncompetition agreements, confidentiality agreements, franchise agreements, and so forth. Business valuation may also be a controversial issue in certain income tax, gift tax, and estate tax disputes. And, business valuation may often be a controversial issue in bankruptcy, condemnation and eminent domain, and family law matters. Analysts typically apply several generally accepted business valuation approaches and methods to value a business or business interest. One of these approaches is the asset-based approach. This approach is the least understood and applied by many analysts. Robert explores situations where the asset-based approach may be appropriate. He discusses the issues of goodwill and economic obsolescence within this approach. Robert examines the use of this approach for valuations that apply in both a going-concern premise of value and a liquidation premise of value. An illustrative example of this approach is included in the article.

Connor Thurman, an associate with our firm, authored an article that was published in the September 2018 issues of *Journal of Multistate Taxation and Incentives*, a Thomson Reuters publication. The title of Connor's article is "Using the Cost Approach to Value Internally Developed Computer Software for Property Tax Purposes."

Taxpayers in jurisdictions that tax only tangible property should ensure the value of internally developed computer software is excluded from the value of assets subject to property taxation. Connor's article focuses on generally accepted methods that valuation analysts may use to value internally developed computer software for property tax purposes. In particular, Connor examines the cost approach, replacement cost new less depreciation (RCNLD) method. He explores two models commonly used to value software: the COCOMO model and the SLIM model. Finally, he presents an illustrative example of the application of the cost approach, RCNLD method to valuing software.

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Communiqué

In Print

Robert Reilly, firm managing director, authored an article that appeared in the Winter 2019 issue of *American Journal of Family Law*. The title of that article was "Valuation of Intangible Assets in Family Law Cases: Part III of III." Part I of that article appeared in the Summer 2018 issue, and Part II of that article appeared in the Fall 2018 issue.

Robert Reilly had an article reprinted in the February/March 2019 issue of *Financial Valuation and Litigation Expert*. The article was originally published in the Winter 2019 issue of *Insights*. The title of that article is "Goodwill Valuation Considerations Involving Private Companies and Professional Practices."

Robert Reilly authored an article that appeared in the December 2018 issue of *The Practical Lawyer*. The title of that article was "What Layers Need to Know About the Asset-Based Approach to Business Valuation (part 2)." Part 1 of that article appeared in the October 2018 issue.

Robert Reilly authored an article that was published in the March/April 2019 issue of *Construction Accounting and Taxation*. The title of Robert's article was "Due Diligence Procedures in Forensic Analysis."

Robert Reilly is proud to continue to serve on the editorial board of *Construction Accounting and Taxation* for another year.

Tim Meinhart, Chicago office director, authored an article that appeared in the February 2019 issue of *Trusts & Estates*. The title of Tim's article was "Valuation of Preferred Equity Interests in Estate Planning."

In Person

Several Willamette Management Associates professionals will present at the 49th annual Appraisal for Ad Valorem Taxation Conference at Wichita State University, held this year from July 28th through August 1st, 2019.

Robert Reilly and John Ramirez, director of property tax valuation services, will deliver a presentation at the Wichita conference on the topic "Standards of Value and Premises of Value—What Is Appropriate for the Unit Principle Valuation?"

Robert Reilly and Connor Thurman, Portland office associate, will deliver a presentation at the Wichita conference on the topic "Finding Alpha—Measuring Size Risk Premium and Company-Specific Risk Premium in the Unit Principle Valuation Cost of Capital."

Robert Reilly is proud to continue to serve on the conference planning committee for the Appraisal for Ad Valorem Taxation Conference for another year.

Vicky Platt, Chicago office director of research, will address the annual conference of the Special Library Association to be held this June 14–18 in Cleveland, Ohio. The topic of Vicky's presentation will be "Current Developments in Legal Research."

Encomium

SSRN, formerly known as the Social Science Research Network, is an online repository and e-library of social-services-related publications. Essentially, it is a specialized research tool like Google—but for accounting, economics, and about 30 other specific disciplines. Recently, firm managing director Robert Reilly was notified that he was in the top 10 percent of all authors downloaded on SSRN during 2018.

Willamette Management Associates is proud of our firm's dedication to thought leadership. And, we are particularly proud of the contributions of Robert Reilly and of the other firm analysts who contribute to the thought leadership of the valuation, damages, and transfer price disciplines.

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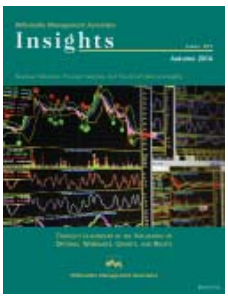

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Willamette Management Associates provides thought leadership in business valuation, forensic analysis, and financial opinion services. Our professional services include: business and intangible asset valuation, intellectual property valuation and royalty rate analysis, intercompany transfer price analysis, forensic analysis and expert testimony, transaction fairness opinions and solvency opinions, reasonableness of compensation analysis, lost profits and economic damages analysis, economic event analysis, M&A financial adviser and due diligence services, and ESOP financial adviser and adequate consideration opinions.

We provide thought leadership in valuation, forensic analysis, and financial opinion services for purposes of merger/acquisition transaction pricing and structuring, taxation planning and compliance, transaction financing, forensic analysis and expert testimony, bankruptcy and reorganization, management information and strategic planning, corporate governance and regulatory compliance, and ESOP transactions and ERISA compliance.

Our industrial and commercial clients range from substantial family-owned companies to Fortune 500 multinational corporations. We also serve financial institutions and financial intermediaries, governmental and regulatory agencies, fiduciaries and financial advisers, accountants and auditors, and the legal profession.

For 50 years, Willamette Management Associates analysts have applied their experience, creativity, and responsiveness to each client engagement. And, our analysts are continue to provide thought leadership—by delivering the highest level of professional service in every client engagement.

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