PART One

Valuation

CHAPTER 1

Comparable Companies Analysis

Comparable companies analysis ("comparable companies" or "trading comps") is one of the primary methodologies used for valuing a given focus company, division, business, or collection of assets ("target"). It provides a market benchmark against which a banker can establish valuation for a private company or analyze the value of a public company at a given point in time. Comparable companies has a broad range of applications, most notably for various mergers & acquisitions (M&A) situations, initial public offerings (IPOs), restructurings, and investment decisions.

The foundation for trading comps is built upon the premise that similar companies provide a highly relevant reference point for valuing a given target due to the fact that they share key business and financial characteristics, performance drivers, and risks. Therefore, the banker can establish valuation parameters for the target by determining its relative positioning among peer companies. The core of this analysis involves selecting a universe of comparable companies for the target ("comparables universe"). These peer companies are benchmarked against one another and the target based on various financial statistics and ratios. Trading multiples are then calculated for the universe, which serve as the basis for extrapolating a valuation range for the target. This valuation range is calculated by applying the selected multiples to the target's relevant financial statistics.

While valuation metrics may vary by sector, this chapter focuses on the most widely used trading multiples. These multiples—such as enterprise value-to-earnings before interest, taxes, depreciation, and amortization (EV/EBITDA) and price-to-earnings (P/E)—utilize a measure of value in the numerator and a financial statistic in the denominator. While P/E is the most broadly recognized in circles outside Wall Street, multiples based on enterprise value are widely used by bankers because they are independent of capital structure and other factors unrelated to business operations (e.g., differences in tax regimes and certain accounting policies).

Comparable companies analysis is designed to reflect "current" valuation based on prevailing market conditions and sentiment. As such, in many cases it is more relevant than *intrinsic valuation* analysis, such as discounted cash flow analysis (see Chapter 3). At the same time, market trading levels may be subject to periods of irrational investor sentiment that skew valuation either too high or too low. Furthermore, no two companies are exactly the same, so assigning a valuation based on the trading characteristics of similar companies may fail to accurately capture a given company's true value.

As a result, trading comps should be used in conjunction with the other valuation methodologies discussed in this book. A material disconnect between the derived valuation ranges from the various methodologies might be an indication that key assumptions or calculations need to be revisited. Therefore, when performing trading comps (or any other valuation/financial analysis exercise), it is imperative to diligently footnote key sources and assumptions both for review and defense of conclusions.

This chapter provides a highly practical, step-by-step approach to performing trading comps consistent with how this valuation methodology is performed in real world applications (see Exhibit 1.1). Once this framework is established, we walk through an illustrative comparable companies analysis using our target company, ValueCo (see Introduction for reference).

EXHIBIT 1.1 Comparable Companies Analysis Steps

Step I. Select the Universe of Comparable Companies
Step II. Locate the Necessary Financial Information
Step III. Spread Key Statistics, Ratios, and Trading Multiples
Step IV. Benchmark the Comparable Companies
Step V. Determine Valuation

SUMMARY OF COMPARABLE COMPANIES ANALYSIS STEPS

- **Step I. Select the Universe of Comparable Companies.** The selection of a universe of comparable companies for the target is the foundation for performing trading comps. While this exercise can be fairly simple and intuitive for companies in certain sectors, it can prove challenging for others whose peers are not readily apparent. To identify companies with similar business and financial characteristics, it is first necessary to gain a sound understanding of the target.

  As a starting point, the banker typically consults with peers or senior colleagues to see if a relevant set of comparable companies already exists internally. If beginning from scratch, the banker casts a broad net to review as many potential comparable companies as possible. This broader group is eventually narrowed, and then typically further refined to a subset of "closest comparables." A survey of the target's public competitors is generally a good place to start identifying potential comparable companies.

- **Step II. Locate the Necessary Financial Information.** Once the initial comparables universe is determined, the banker locates the financial information necessary to analyze the selected comparable companies and calculate ("spread"[1]) key financial statistics, ratios, and trading multiples (see Step III). The primary data for calculating these metrics is compiled from various sources, including a

[1]The notion of "spreading" refers to performing calculations in a spreadsheet program such as Microsoft Excel.

company's SEC filings,[2] consensus research estimates, equity research reports, and press releases, all of which are available via Bloomberg.

- **Step III. Spread Key Statistics, Ratios, and Trading Multiples**. The banker is now prepared to spread key statistics, ratios, and trading multiples for the comparables universe. This involves calculating market valuation measures such as enterprise value and equity value, as well as key income statement items, such as EBITDA and net income. A variety of ratios and other metrics measuring profitability, growth, returns, and credit strength are also calculated at this stage. Selected financial statistics are then used to calculate trading multiples for the comparables.

  As part of this process, the banker needs to employ various financial concepts and techniques, including the calculation of *last twelve months* (LTM)[3] financial statistics, *calendarization* of company financials, and adjustments for *nonrecurring items*. These calculations are imperative for measuring the comparables accurately on both an absolute and relative basis (see Step IV).

- **Step IV. Benchmark the Comparable Companies.** The next level of analysis requires an in-depth examination of the comparable companies in order to determine the target's relative ranking and closest comparables. To assist in this task, the banker typically lays out the calculated financial statistics and ratios for the comparable companies (as calculated in Step III) alongside those of the target in spreadsheet form for easy comparison (see Exhibits 1.53 and 1.54). This exercise is known as "benchmarking."

  Benchmarking serves to determine the relative strength of the comparable companies versus one another and the target. The similarities and discrepancies in size, growth rates, margins, and leverage, for example, among the comparables and the target are closely examined. This analysis provides the basis for establishing the target's relative ranking as well as determining those companies most appropriate for framing its valuation. The trading multiples are also laid out in a spreadsheet form for benchmarking purposes (see Exhibits 1.2 and 1.55). At this point, it may become apparent that certain outliers need to be eliminated or that the comparables should be further tiered (e.g., on the basis of size, sub-sector, or ranging from closest to peripheral).

- **Step V. Determine Valuation.** The trading multiples of the comparable companies serve as the basis for deriving a valuation range for the target. The banker typically begins by using the means and medians for the relevant trading multiples (e.g., EV/EBITDA) as the basis for extrapolating an initial range. The high and low multiples for the comparables universe provide further guidance in terms of a potential ceiling or floor. The key to arriving at the tightest, most appropriate range, however, is to rely upon the multiples of the closest comparables as guideposts. Consequently, only a few carefully selected companies may serve as the ultimate basis for valuation, with the broader group serving as additional reference points. As this process involves as much "art" as "science," senior bankers are typically consulted for guidance on the final decision. The chosen range is then applied to the target's relevant financial statistics to produce an implied valuation range.

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[2]The Securities and Exchange Commission (SEC) is a federal agency created by the Securities Exchange Act of 1934 that regulates the U.S. securities industry. SEC filings can be located online at www.sec.gov.

[3]The sum of the prior four quarters of a company's financial performance, also known as trailing twelve months (TTM).

EXHIBIT 1.2 Comparable Companies Analysis—Trading Multiples Output Page

ValueCo Corporation
Comparable Companies Analysis
($ in millions, except per share data)

Company	Ticker	Current Share Price	% of 52-wk. High	Equity Value	Enterprise Value	Enterprise Value / LTM Sales	2012E Sales	2013E Sales	LTM EBITDA	2012E EBITDA	2013E EBITDA	LTM EBIT	2012E EBIT	2013E EBIT	LTM EBITDA Margin	Total Debt / EBITDA	Price / LTM EPS	2012E EPS	2013E EPS	LT EPS Growth
Tier I: Specialty Chemicals																				
BuyerCo	BUY	$70.00	91%	$9,800	$11,600	1.8x	1.7x	1.6x	8.0x	7.8x	7.3x	9.1x	8.8x	8.2x	22%	1.5x	13.9x	13.5x	12.5x	7%
Sherman Co.	SHR	40.00	76%	5,600	8,101	1.4x	1.4x	1.3x	7.7x	7.7x	7.2x	10.8x	10.7x	10.1x	18%	3.0x	13.4x	12.8x	11.8x	9%
Pearl Corp.	PRL	68.50	95%	5,172	5,856	1.4x	1.4x	1.3x	7.0x	7.0x	6.5x	9.4x	9.4x	8.7x	20%	1.8x	15.9x	14.7x	13.4x	11%
Gasparro Corp.	JDG	50.00	80%	5,000	6,750	1.4x	1.4x	1.3x	7.5x	7.1x	6.6x	9.3x	8.8x	8.2x	19%	2.1x	12.9x	11.2x	10.0x	12%
Kumra Inc.	KUM	52.50	88%	4,852	5,345	1.7x	1.7x	1.5x	8.0x	7.9x	7.4x	10.6x	10.4x	9.7x	21%	1.3x	19.5x	16.6x	14.4x	10%
Mean						**1.5x**	**1.5x**	**1.4x**	**7.7x**	**7.5x**	**7.0x**	**9.8x**	**9.6x**	**9.0x**	**20%**	**1.9x**	**15.1x**	**13.8x**	**12.4x**	**10%**
Median						**1.4x**	**1.4x**	**1.3x**	**7.7x**	**7.7x**	**7.2x**	**9.4x**	**9.4x**	**8.7x**	**20%**	**1.8x**	**13.9x**	**13.5x**	**12.5x**	**10%**
Tier II: Commodity / Diversified Chemicals																				
Falloon Group	FLN	$31.00	87%	$7,480	$11,254	1.0x	1.0x	0.9x	6.9x	7.0x	6.7x	10.8x	11.0x	10.5x	14%	2.5x	16.1x	15.0x	13.1x	5%
Goodson Corp.	GDS	64.00	83%	4,160	5,660	1.2x	1.2x	1.1x	7.4x	7.5x	7.2x	10.8x	11.0x	10.4x	16%	2.9x	19.5x	18.6x	16.3x	9%
Pryor Industries	PRI	79.00	88%	3,926	4,166	1.1x	1.2x	1.1x	7.3x	7.4x	7.1x	9.9x	10.1x	9.6x	15%	1.1x	17.3x	16.9x	15.4x	10%
Lanzarone Global	LNZ	32.25	95%	3,230	3,823	1.0x	1.0x	1.0x	6.6x	6.7x	6.4x	8.9x	9.0x	8.6x	16%	1.3x	13.9x	12.9x	11.7x	8%
McMenamin & Co.	MCM	33.50	80%	3,193	3,193	1.0x	0.9x	0.8x	9.0x	8.4x	7.5x	14.2x	13.1x	11.8x	11%	1.2x	26.8x	23.3x	20.3x	12%
Mean						**1.1x**	**1.1x**	**1.0x**	**7.4x**	**7.4x**	**7.0x**	**10.9x**	**10.8x**	**10.2x**	**14%**	**1.8x**	**18.7x**	**17.3x**	**15.3x**	**9%**
Median						**1.0x**	**1.0x**	**1.0x**	**7.3x**	**7.4x**	**7.1x**	**10.8x**	**11.0x**	**10.4x**	**15%**	**1.3x**	**17.3x**	**16.9x**	**15.4x**	**9%**
Tier III: Small-Cap Chemicals																				
S. Momper & Co.	MOMP	$28.00	95%	$2,240	$2,921	1.4x	1.4x	1.2x	7.7x	7.4x	6.7x	9.9x	9.5x	8.6x	18%	2.6x	17.2x	17.5x	16.2x	5%
Adler Worldwide	ADL	10.50	80%	1,217	1,463	0.9x	1.0x	0.9x	6.0x	6.1x	5.8x	8.0x	8.1x	7.7x	16%	1.6x	13.7x	14.8x	13.7x	7%
Schachter & Sons	STM	4.50	89%	1,125	1,674	1.0x	0.9x	0.8x	7.0x	6.5x	5.7x	9.8x	9.1x	7.9x	14%	2.5x	14.8x	13.6x	12.2x	11%
Girshin Holdings	MGP	50.00	67%	1,035	1,298	0.8x	0.8x	0.7x	7.3x	6.8x	6.1x	11.5x	10.7x	9.7x	11%	1.8x	20.0x	18.9x	17.2x	8%
Crespin International	MCR	27.00	80%	872	1,222	0.8x	0.8x	0.7x	6.4x	6.0x	5.4x	9.2x	8.6x	7.7x	13%	2.1x	14.2x	14.0x	12.7x	6%
Mean						**1.0x**	**1.0x**	**0.9x**	**6.9x**	**6.6x**	**5.9x**	**9.7x**	**9.2x**	**8.3x**	**14%**	**2.1x**	**16.0x**	**15.7x**	**14.4x**	**7%**
Median						**0.9x**	**0.9x**	**0.8x**	**7.0x**	**6.5x**	**5.8x**	**9.8x**	**9.1x**	**7.9x**	**14%**	**2.1x**	**14.8x**	**14.8x**	**13.7x**	**7%**
Overall																				
Mean						**1.1x**	**1.1x**	**1.0x**	**7.3x**	**7.2x**	**6.7x**	**10.3x**	**10.0x**	**9.3x**	**16%**	**1.9x**	**17.0x**	**16.0x**	**14.4x**	**9%**
Median						**1.0x**	**1.0x**	**1.0x**	**7.3x**	**7.4x**	**6.7x**	**9.9x**	**9.8x**	**9.2x**	**16%**	**1.8x**	**16.6x**	**15.8x**	**14.1x**	**9%**
High						**1.8x**	**1.7x**	**1.6x**	**9.0x**	**8.4x**	**7.5x**	**14.2x**	**13.1x**	**11.8x**	**22%**	**3.0x**	**26.8x**	**23.3x**	**20.3x**	**12%**
Low						**0.8x**	**0.8x**	**0.7x**	**6.0x**	**6.0x**	**5.4x**	**8.0x**	**8.1x**	**7.7x**	**11%**	**1.1x**	**12.9x**	**11.2x**	**10.0x**	**5%**

Source: Company filings, Bloomberg, Consensus Estimates
Note: Last twelve months data based on September 30, 2012. Estimated annual financial data based on a calendar year.

Bloomberg provides comparable companies analysis via the "Relative Valuation" function (see Appendix 1.1), which calculates key valuation multiples and other metrics for any public company and its peers. The analysis uses an algorithmic approach to identify comparable companies and calculate metrics, and can be customized to reflect a banker's judgment regarding specific calculations and company peers.

STEP I. SELECT THE UNIVERSE OF COMPARABLE COMPANIES

The selection of a universe of comparable companies for the target is the foundation for performing trading comps. In order to identify companies with similar business and financial characteristics, it is first necessary to gain a sound understanding of the target. At its base, the methodology for determining comparable companies is relatively intuitive. Companies in the same sector (or, preferably, "sub-sector") with similar size tend to serve as good comparables. While this can be a fairly simple exercise for companies in certain sectors, it may prove challenging for others whose peers are not readily apparent.

For a target with no clear, publicly traded comparables, the banker seeks companies outside the target's core sector that share business and financial characteristics on some fundamental level. For example, a medium-sized manufacturer of residential windows may have limited or no truly direct publicly traded peers in terms of products, namely companies that produce windows. If the universe is expanded to include companies that manufacture building products, serve homebuilders, or have exposure to the housing cycle, however, the probability of locating companies with similar business drivers is increased. In this case, the list of potential comparables could be expanded to include manufacturers of related building products such as decking, roofing, siding, doors, and cabinets.

Study the Target

The process of learning the in-depth "story" of the target should be exhaustive as this information is essential for making decisions regarding the selection of appropriate comparable companies. Toward this end, the banker is encouraged to read and study as much company- and sector-specific material as possible. *The actual selection of comparable companies should only begin once this research is completed.*

For targets that are public registrants,[4] annual (10-K) and quarterly (10-Q) SEC filings, consensus research estimates, equity and fixed income research reports, press releases, earnings call transcripts, investor presentations,[5] and corporate

[4]Public or publicly traded companies refer to those listed on a public stock exchange where their shares can be traded. Public filers ("public registrants"), however, may include privately held companies that are issuers of public debt securities and, therefore, subject to SEC disclosure requirements.

[5]Presentations at investment conferences or regular performance reports, typically posted on a company's corporate website. Investor presentations may also be released for significant M&A events or as part of Regulation FD requirements. They are typically posted on the company's corporate website under "Investor Relations" and filed in an 8-K (current report). Presentations are also available via Bloomberg using the Events function (EVTS<GO>).

websites provide key business and financial information. Private companies present a greater challenge as the banker is forced to rely upon sources such as corporate websites, sector research reports, news runs, and trade journals for basic company data. Public competitors' SEC filings, research reports, and investor presentations may also serve as helpful sources of information on private companies. In an organized M&A sale process[6] for a private company, however, the banker is provided with detailed business and financial information on the target (see Chapter 6).

Identify Key Characteristics of the Target for Comparison Purposes

A simple framework for studying the target and selecting comparable companies is shown in Exhibit 1.3. This framework, while by no means exhaustive, is designed to determine commonality with other companies by profiling and comparing key business and financial characteristics. Relevant Bloomberg functions for the business and financial framework below are found in Appendix 1.2.

EXHIBIT 1.3 Business and Financial Profile Framework

Business Profile	Financial Profile
▪ Sector	▪ Size
▪ Products and Services	▪ Profitability
▪ Customers and End Markets	▪ Growth Profile
▪ Distribution Channels	▪ Return on Investment
▪ Geography	▪ Credit Profile

Business Profile

Companies that share core business characteristics tend to serve as good comparables. These core traits include sector, products and services, customers and end markets, distribution channels, and geography.

Sector

Sector refers to the industry or markets in which a company operates (e.g., consumer products, financials, healthcare, industrials, and technology). A company's sector can be further divided into sub-sectors, which facilitates the identification of the target's closest comparables. Within the industrials sector, for example, there are numerous sub-sectors, such as aerospace and defense, automotive, building products, chemicals, and paper and packaging. Even these sub-sectors can be further segmented—for example, chemicals can be divided into specialty and commodity chemicals. For companies with distinct business divisions, the segmenting of comparable companies by sub-sector may be critical for valuation.

A company's sector conveys a great deal about its key drivers, risks, and opportunities. For example, a cyclical sector such as oil & gas will have dramatically different earnings volatility from consumer staples. On the other hand, cyclical or

[6]A process through which a target is marketed to prospective buyers, typically run by an investment banking firm. See Chapter 6: Sell-Side M&A for additional information.

highly fragmented sectors may present growth opportunities that are unavailable to companies in more stable or consolidated sectors. The proper identification and classification of the target's sector and sub-sector is an essential step toward locating comparable companies.

Products and Services

A company's products and services are at the core of its business model. Accordingly, companies that produce similar products or provide similar services typically serve as good comparables. Products are commodities or value-added goods that a company creates, produces, or refines. Examples of products include computers, lumber, oil, prescription drugs, and steel. Services are acts or functions performed by one entity for the benefit of another. Examples of common services include banking, consulting, installation, lodging, and transportation. Many companies provide both products and services to their customers, while others offer one or the other. Similarly, some companies offer a diversified product and/or service mix, while others are more focused.

Within a given sector or sub-sector, comparable companies may be tiered according to their products and services. For example, within the chemicals sector, specialty chemicals producers tend to consistently trade at a premium to commodity chemicals producers. Hence, they are often grouped together in a tighter comparables category within the broader chemicals universe. The same holds true for the commodity players.

Customers and End Markets

Customers A company's customers refer to the purchasers of its products and services. Companies with a similar customer base tend to share similar opportunities and risks. For example, companies supplying automobile manufacturers abide by certain manufacturing and distribution requirements, and are subject to the automobile purchasing cycles and trends.

The quantity and diversity of a company's customers are also important. Some companies serve a broad customer base while others may target a specialized or niche market. While it is generally positive to have low customer concentration from a risk management perspective, it is also beneficial to have a stable customer core to provide visibility and comfort regarding future revenues.

End Markets A company's end markets refer to the broad underlying markets into which it sells its products and services. For example, a plastics manufacturer may sell into several end markets, including automotive, construction, consumer products, medical devices, and packaging. End markets need to be distinguished from customers. For example, a company may sell into the housing end market, but to retailers or suppliers as opposed to homebuilders.

A company's performance is generally tied to economic and other factors that affect its end markets. A company that sells products into the housing end market is susceptible to macroeconomic factors that affect the overall housing cycle, such as interest rates and unemployment levels. Therefore, companies that sell products and services into the same end markets generally share a similar performance outlook, which is important for determining appropriate comparable companies.

Distribution Channels

Distribution channels are the avenues through which a company sells its products and services to the end user. As such, they are a key driver of operating strategy, performance, and, ultimately, value. Companies that sell primarily to the wholesale channel, for example, often have significantly different organizational and cost structures from those selling directly to retailers or end users. Selling to a superstore or value retailer requires a physical infrastructure, sales force, and logistics that may be unnecessary for serving the professional or wholesale channels.

Some companies sell at several levels of the distribution chain, such as wholesale, retail, and direct-to-customer. A flooring manufacturer, for example, may distribute its products through selected wholesale distributors and retailers, as well as directly to homebuilders and end users.

Geography

Companies that are based in (and sell to) different regions of the world often differ substantially in terms of fundamental business drivers and characteristics. These may include growth rates, macroeconomic environment, competitive dynamics, path(s)-to-market, organizational and cost structure, and potential opportunities and risks. Such differences—which result from local demographics, economic drivers, regulatory regimes, consumer buying patterns and preferences, and cultural norms—can vary greatly from country to country and, particularly, from continent to continent. Consequently, there are often valuation disparities for similar companies in different global regions or jurisdictions.[7] Therefore, in determining comparable companies, bankers tend to group U.S.-based (or focused) companies in a separate category from European- or Asian-based companies even if their basic business models are the same.

For example, a banker seeking comparable companies for a U.S. retailer would focus primarily on U.S. companies with relevant foreign companies providing peripheral guidance. This geographic grouping is slightly less applicable for truly global industries such as oil and aluminum, for example, where domicile is less indicative than global commodity prices and supply/demand dynamics. Even in these instances, however, valuation disparities by geography are often evident.

Financial Profile

Key financial characteristics must also be examined both as a means of understanding the target and identifying the best comparable companies.

Size

Size is typically measured in terms of market valuation (e.g., equity value and enterprise value), as well as key financial statistics (e.g., sales, gross profit, EBITDA, EBIT, and net income). Companies of similar size in a given sector are more likely to have similar multiples than companies with significant size discrepancies. This reflects the fact that companies of similar size are also likely to be analogous in other respects

[7]Other factors, such as the local capital markets conditions, including volume, liquidity, transparency, shareholder base, and investor perceptions, as well as political risk, also contribute to these disparities.

(e.g., economies of scale, purchasing power, pricing leverage, customers, growth prospects, and the trading liquidity of their shares in the stock market).

Consequently, differences in size often map to differences in valuation. Hence, the comparables are often tiered based on size categories. For example, companies with under $5 billion in equity value (or enterprise value, sales) may be placed in one group and those with greater than $5 billion in a separate group. This tiering, of course, assumes a sufficient number of comparables to justify organizing the universe into sub-groups.

Profitability

A company's profitability measures its ability to convert sales into profit. Profitability ratios ("margins") employ a measure of profit in the numerator, such as gross profit, EBITDA, EBIT, or net income, and sales in the denominator.[8] As a general rule, for companies in the same sector, higher profit margins translate into higher valuations, all else being equal. Consequently, determining a company's relative profitability versus its peers' is a core component of the benchmarking analysis (see Step IV).

Growth Profile

A company's growth profile, as determined by its historical and estimated future financial performance, is a critical driver of valuation. Equity investors reward high growth companies with higher trading multiples than slower growing peers. They also discern whether the growth is primarily organic or acquisition-driven, with the former generally viewed as preferable. In assessing a company's growth profile, historical and estimated future growth rates for various financial statistics (e.g., sales, EBITDA, and earnings per share (EPS)) are examined at selected intervals. For mature public companies, EPS growth rates are typically more meaningful. For early stage or emerging companies with little or no earnings, however, sales or EBITDA growth trends may be more relevant.

Return on Investment

Return on investment (ROI) measures a company's ability to provide earnings (or returns) to its capital providers. ROI ratios employ a measure of profitability (e.g., EBIT, NOPAT,[9] or net income) in the numerator and a measure of capital (e.g., invested capital, shareholders' equity, or total assets) in the denominator. The most commonly used ROI metrics are return on invested capital (ROIC), return on equity (ROE), and return on assets (ROA). Dividend yield, which measures the dividend payment that a company's shareholders receive for each share owned, is another type of return metric.

Credit Profile

A company's credit profile refers to its creditworthiness as a borrower. It is typically measured by metrics relating to a company's overall debt level ("leverage")

[8]Depending on the sector, profitability may be measured on a per unit basis (e.g., per ton or pound).
[9]Net operating profit after taxes, also known as tax-effected EBIT or earnings before interest after taxes (EBIAT).

as well as its ability to make interest payments ("coverage"), and reflects key company and sector-specific benefits and risks. Moody's Investors Service (Moody's), Standard & Poor's (S&P), and Fitch Ratings (Fitch) are the three primary independent credit rating agencies that provide formal assessments of a company's credit profile.

Screen for Comparable Companies

Once the target's basic business and financial characteristics are researched and understood, the banker uses various resources to screen for potential comparable companies. At the initial stage, the focus is on identifying companies with a similar business profile. While basic financial information (e.g., sales, enterprise value, or equity value) should be assessed early on, more detailed financial benchmarking is performed in Step IV.

Investment banks generally have established lists of comparable companies by sector containing relevant multiples and other financial data, which are updated on a quarterly basis and for appropriate company-specific actions. Often, however, the banker needs to start from scratch. In these cases, an examination of the target's public competitors is usually the best place to begin. Competitors generally share key business and financial characteristics and are susceptible to similar opportunities and risks. Public companies typically discuss their primary competitors in their 10-Ks, annual proxy statement (DEF14A),[10] and, potentially, in investor presentations. Furthermore, equity research reports, especially those known as *initiating coverage*,[11] often explicitly list the research analyst's views on the target's comparables and/or primary competitors. For private targets, public competitors' 10-Ks, proxy statements, investor presentations, research reports, and broader industry reports are often helpful sources.

An additional source for locating comparables is the proxy statement for a relatively recent M&A transaction in the sector ("merger proxy"),[12] as it contains excerpts from a *fairness opinion*. As the name connotes, a fairness opinion opines on the "fairness" of the purchase price and deal terms offered by the acquirer from a financial perspective (see Chapter 6). The fairness opinion is supported by a detailed overview of the methodologies used to perform a valuation of the target, typically including comparable companies, precedent transactions, DCF analysis, and LBO analysis, if applicable.[13] The trading comps excerpt from the fairness opinion generally provides a list of the comparable companies used to

[10]A company's annual proxy statement typically provides a suggested peer group of companies that is used for benchmarking purposes.

[11]An initiating coverage equity research report refers to the first report published by an equity research analyst beginning coverage on a particular company. This report often provides a comprehensive business description, sector analysis, and commentary.

[12]A solicitation of shareholder votes in a business combination is initially filed under SEC Form PREM14A (preliminary merger proxy statement) and then DEFM14A (definitive merger proxy statement).

[13]Not all companies are LBO candidates. See Chapter 4: Leveraged Buyouts for an overview of the characteristics of strong LBO candidates.

value the M&A target as well as the selected range of multiples used in the valuation analysis.

The banker may also screen for companies that operate in the target's sector using SIC, NAICS, or other industry codes.[14] Bloomberg provides comprehensive sector classification using such codes as well as proprietary Bloomberg Industry Classification Standard ("BICS") codes (see Appendix 1.3). This type of screen is typically used either to establish a broad initial universe of comparables or to ensure that no potential companies have been overlooked. Sector reports published by the credit rating agencies (e.g., Moody's, S&P, and Fitch) may also provide helpful lists of peer companies.

In addition to the aforementioned, senior bankers are perhaps the most valuable resources for determining the comparables universe. Given their sector knowledge and familiarity with the target, a brief conversation is usually sufficient for them to provide the junior banker with a strong starting point. Toward the end of the process—once the junior banker has done the legwork to craft and refine a robust list of comparables—a senior banker often provides the finishing touches in terms of more nuanced additions or deletions.

At this stage of the process, there may be sufficient information to eliminate certain companies from the group or tier the selected companies by size, business focus, or geography, for example.

STEP II. LOCATE THE NECESSARY FINANCIAL INFORMATION

This section provides an overview of the relevant sources for locating the necessary financial information to calculate key financial statistics, ratios, and multiples for the selected comparable companies (see Step III). The most common sources for public company financial data are SEC filings (such as 10-Ks, 10-Qs, and 8-Ks), as well as earnings announcements, investor presentations, equity research reports, consensus estimates, and press releases, each of which are available via Bloomberg. A summary list of where to locate key financial data is provided in Exhibit 1.4.

In trading comps, valuation is driven on the basis of both historical performance (e.g., LTM financial data) and expected future performance (e.g., consensus estimates for future calendar years). Depending on the sector and point in the cycle, however, financial projections tend to be more meaningful. Estimates for forward-year financial performance are typically sourced from consensus estimates such as Bloomberg BEst estimates (see Appendix 1.4)[15] as well as individual company equity research reports. In the context of an M&A or debt capital raising transaction, by contrast, more emphasis

[14]Standard Industrial Classification (SIC) is a system established by the U.S. government for classifying the major business operations of a company with a numeric code. Some bankers use the newer North American Industry Classification System (NAICS) codes in lieu of SIC codes. The SEC, however, still uses SIC codes.

[15]Bloomberg BEst estimates provide consensus figures for leading equity analysts, as followed by the professional investment community.

is placed on LTM financial performance. LTM financial information is calculated on the basis of data obtained from a company's public filings (see Exhibits 1.24 and 1.25).

SEC Filings: 10-K, 10-Q, 8-K, and Proxy Statement

As a general rule, the banker uses SEC filings to source historical financial information for comparable companies. This financial information is used to determine historical sales, gross profit, EBITDA, EBIT, and net income (and EPS) on both an annual and LTM basis. SEC filings are also the primary source for other key financial items such as balance sheet data, capital expenditures ("capex"), basic shares outstanding, stock options/warrants data, and information on non-recurring items. SEC filings can be obtained through numerous mediums, including a company's corporate website (typically through an "Investor Relations" link) as well as EDGAR[16] and other financial information services, such as Bloomberg.

10-K (Annual Report) The 10-K is an annual report filed with the SEC by a public registrant that provides a comprehensive overview of the company and its prior year performance.[17] It is required to contain an exhaustive list of disclosure items including, but not limited to, a detailed business description, management's discussion & analysis (MD&A),[18] audited financial statements[19] and supplementary data, outstanding debt detail, basic shares outstanding, and stock options/warrants data. It also contains an abundance of other pertinent information about the company and its sector, such as business segment detail, customers, end markets, competition, insight into material opportunities (and challenges and risks), significant recent events, and acquisitions.

10-Q (Quarterly Report) The 10-Q is a quarterly report filed with the SEC by a public registrant that provides an overview of the most recent quarter and year-to-date (YTD) period.[20] It is less comprehensive than the 10-K, but provides financial statements as well as MD&A relating to the company's financial performance for the most recent quarter and YTD period versus the prior year periods.[21] The 10-Q also provides the most recent share count information and may also contain the most recent stock options/warrants data. For detailed financial information on a company's final quarter of the fiscal year, the banker refers to the 8-K containing the fourth quarter earnings press release that usually precedes the filing of the 10-K.

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[16]The Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system performs automated collection, validation, indexing, acceptance, and forwarding of submissions by companies and others who are required to file forms with the SEC.

[17]The deadline for the filing of the 10-K ranges from 60 to 90 days after the end of a company's fiscal year depending on the size of its public float.

[18]A section in a company's 10-K and 10-Q that provides a discussion and analysis of the prior reporting period's financial performance. It also contains forward-looking information about the possible future effects of known and unknown events, conditions, and trends.

[19]The financial statements in a 10-K are audited and certified by a Certified Public Accountant (CPA) to meet the requirements of the SEC.

[20]The deadline for the filing of the 10-Q ranges from 40 to 45 days after the end of a company's fiscal quarter depending on the size of its public float. The 10-K, instead of the 10-Q, is filed after the end of a company's fiscal fourth quarter.

[21]The financial statements in a company's 10-Q are reviewed by a CPA, but not audited.

8-K (Current Report) The 8-K, or current report, is filed by a public registrant to report the occurrence of *material* corporate events or changes ("triggering event") that are of importance to shareholders or security holders.[22] For the purposes of preparing trading comps, key triggering events include, but are not limited to, earnings announcements, entry into a definitive purchase/sale agreement,[23] completion of an acquisition or disposition of assets, capital markets transactions, and Regulation FD disclosure requirements.[24] The corresponding 8-Ks for these events often contain important information necessary to calculate a company's updated financial statistics, ratios, and trading multiples that may not be reflected in the most recent 10-K or 10-Q (see "Adjustments for Recent Events").

Proxy Statement A proxy statement is a document that a public company sends to its shareholders prior to a shareholder meeting containing material information regarding matters on which the shareholders are expected to vote. It is also filed with the SEC on Schedule 14A. For the purposes of spreading trading comps, the annual proxy statement provides a basic shares outstanding count that may be more recent than that contained in the latest 10-K or 10-Q. As previously discussed, the annual proxy statement also typically contains a suggested peer group for benchmarking purposes.

Equity Research

Research Reports Equity research reports provide individual analyst estimates of future company performance, which may be used to calculate forward-looking multiples. They generally include estimates of sales, EBITDA and/or EBIT, and EPS for future quarters and the future two- or three-year period (on an annual basis). More comprehensive reports provide additional estimated financial information from the research analyst's model, including key items from the income statement, balance sheet, and cash flow statement. These reports may also provide segmented financial projections, such as sales and EBIT at the business division level.

Equity research reports often provide commentary on non-recurring items and recent M&A and capital markets transactions, which are helpful for determining pro forma adjustments and normalizing financial data. They may also provide helpful sector and market information, as well as explicitly list the research analyst's view on the company's comparables universe. Initiating coverage research reports tend to be more comprehensive than normal interim reports. As a result, it is beneficial to mine these reports for financial, market, and competitive insights. Research reports can be located through various subscription financial information services such as Bloomberg, where reports are available via function: RES<GO>.

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[22]Depending on the particular triggering event, the 8-K is typically filed within four business days after occurrence.

[23]The legal contract between a buyer and seller detailing the terms and conditions of an M&A transaction. See Chapter 6: Sell-Side M&A for additional information.

[24]Regulation FD (Fair Disclosure) provides that when a public filer discloses material nonpublic information to certain persons, as defined by the SEC, it must make public disclosure of that information typically through the filing of an 8-K.

Consensus Estimates Consensus research estimates for selected financial statistics are widely used by bankers as the basis for calculating forward-looking trading multiples in trading comps. Bloomberg BEst consensus estimates are available via several Bloomberg functions, including Earnings Estimates (EEB<GO>), as well as programmatically via Excel.[25]

Press Releases and News Runs

A company issues a press release when it has something important to report to the public. Standard press releases include earnings announcements, declaration of dividends, and management changes, as well as M&A and capital markets transactions. Earnings announcements, which are accompanied by the filing of an 8-K, are typically issued prior to the filing of a 10-K or 10-Q. Therefore, the banker relies upon the financial data provided in the earnings announcement to update trading comps in a timely manner. A company may also release an investor presentation to accompany its quarterly earnings call, which may be helpful in readily identifying key financial data and obtaining additional color and commentary. In the event that certain financial information is not provided in the earnings press release, the banker must wait until the filing of the 10-K or 10-Q for complete information. A company's press releases and recent news articles are available on its corporate website as well as through Bloomberg.

Financial Information Services

As discussed throughout this section, Bloomberg is a key source for obtaining SEC filings, research reports, consensus estimates, and press releases, among other items. Bloomberg is also a primary source for current and historical company share price information, which is essential for calculating equity value and determining a company's current share price as a percentage of its 52-week high. Bloomberg Coverage Dashboard summarizes information for investment bankers to monitor and diligence public companies (see Appendix 1.5).

Financial information services, such as Bloomberg, may also be sourced to provide information on a company's credit ratings. If practical, however, we suggest sourcing credit ratings directly from the official Moody's, S&P, and Fitch websites and attributing such information to its original sources.[26]

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[25]Once a given consensus estimates source is selected, it is important to screen individual estimates for obsolescent data and outliers. For example, if a company has recently made a transformative acquisition, some analysts may have revised their estimates accordingly, while others may have not. Bloomberg and other sources allow the banker to view individual estimates (and the date when they were posted), which allows for the identification and removal of inconsistent estimates as appropriate.

[26]Access to these websites requires a subscription.

Summary of Financial Data Primary Sources

Exhibit 1.4 provides a summary of the primary sources used to obtain the necessary financial information to perform trading comps.

EXHIBIT 1.4 Summary of Financial Data Primary Sources

Information Item	Source	Bloomberg Function[a]
Income Statement Data		
Sales Gross Profit EBITDA[b] EBIT Net Income / EPS	Most recent 10-K, 10-Q, 8-K, Press Release	Financial Analysis (FA<GO>), Company Filings (CF<GO>)
Research Estimates	Bloomberg BEst estimates, individual equity research reports	Earnings & Estimates (EE<GO>), Research (BRC<GO>)
Balance Sheet Data		
Cash Balance Debt Balance Shareholders' Equity	Most recent 10-K, 10-Q, 8-K, Press Release	Financial Analysis (FA<GO>), Company Filings (CF<GO>)
Cash Flow Statement Data		
Depreciation & Amortization Capital Expenditures	Most recent 10-K, 10-Q, 8-K, Press Release	Financial Analysis (FA<GO>), Company Filings (CF<GO>)
Share Data		
Basic Shares Outstanding	10-K, 10-Q, or Proxy Statement, whichever is most recent	Financial Analysis (FA<GO>), Company Filings (CF<GO>)
Options and Warrants Data	10-K or 10-Q, whichever is more recent	Company Filings (CF<GO>)
Market Data		
Share Price Data	Bloomberg	Quote (BQ<GO>), Description (DES<GO>)
Credit Ratings	Rating agencies' websites	Credit Profile (CRPR<GO>)

[a] Key financial figures are also available via the Bloomberg Excel Add-In.

[b] As a non-GAAP (generally accepted accounting principles) financial measure, EBITDA is not reported on a public filer's income statement. It may, however, be disclosed as supplemental information in the company's public filings.

STEP III. SPREAD KEY STATISTICS, RATIOS, AND TRADING MULTIPLES

Once the necessary financial information for each of the comparables has been located, it is entered into an input page (see Exhibit 1.5).[27] This sample input page is designed to assist the banker in calculating the key financial statistics, ratios, and multiples for the comparables universe.[28] The input page data, in turn, feeds into output sheets that are used to benchmark the comparables (see Exhibits 1.53, 1.54, and 1.55).

In the pages that follow, we discuss the financial data displayed on the sample input sheet, as well as the calculations behind them. We also describe the mechanics for calculating LTM financial statistics, calendarizing company financials, and adjusting for non-recurring items and recent events.

Calculation of Key Financial Statistics and Ratios

In this section, we outline the calculation of key financial statistics, ratios, and other metrics in accordance with the financial profile framework introduced in Step I.

- Size (Market Valuation: equity value and enterprise value; and Key Financial Data: sales, gross profit, EBITDA, EBIT, and net income)
- Profitability (gross profit, EBITDA, EBIT, and net income margins)
- Growth Profile (historical and estimated growth rates)
- Return on Investment (ROIC, ROE, ROA, and dividend yield)
- Credit Profile (leverage ratios, coverage ratios, and credit ratings)

[27]For modeling/data entry purposes, manual inputs are typically formatted in blue font and yellow shading, while formula cells (calculations) are in black font.

[28]This template should be adjusted as appropriate in accordance with the specific company/sector (see Exhibit 1.33).

EXHIBIT 1.5 Sample Comparable Company Input Page

Company A (NYSE:AAA)

Input Page

($ in millions, except per share data)

Business Description

[to come]

General Information

Company Name	Company A
Ticker	AAA
Stock Exchange	NYSE
Fiscal Year Ending	Dec-31
Moody's Corporate Rating	NA
S&P Corporate Rating	NA
Predicted Beta	1.00
Marginal Tax Rate	*38.0%*

Selected Market Data

Current Price	1/1/2000	-
% of 52-week High		*NA*
52-week High Price	1/1/2000	-
52-week Low Price	1/1/2000	-
Dividend Per Share (MRQ)		-
Fully Diluted Shares Outstanding		-
Equity Value		**-**
Plus: Total Debt		-
Plus: Preferred Stock		-
Plus: Noncontrolling Interest		-
Less: Cash and Cash Equivalents		-
Enterprise Value		**-**

Trading Multiples

	LTM 9/30/2012	NFY 2012E	NFY+1 2013E	NFY+2 2014E
EV/Sales	NA	NA	NA	NA
Metric	-	-	-	-
EV/EBITDA	NA	NA	NA	NA
Metric	-	-	-	-
EV/EBIT	NA	NA	NA	NA
Metric	-	-	-	-
P/E	NA	NA	NA	NA
Metric	-	-	-	-
FCF Yield	*NA*	*NA*	*NA*	*NA*
Metric	-	-	-	-

LTM Return on Investment Ratios

Return on Invested Capital	-
Return on Equity	-
Return on Assets	-
Implied Annual Dividend Per Share	*NA*

LTM Credit Statistics

Debt/Total Capitalization	-
Total Debt/EBITDA	-
Net Debt/EBITDA	-
EBITDA/Interest Expense	-
(EBITDA-capex)/Interest Expense	-
EBIT/Interest Expense	-

Growth Rates

	Sales	EBITDA	FCF	EPS
Historical				
1-year	-	-	-	-
2-year CAGR	-	-	-	-
Estimated				
1-year	-	-	-	-
2-year CAGR	-	-	-	-
Long-term				*NA*

Reported Income Statement

	Fiscal Year Ending December 31, 2009A	2010A	2011A	Prior Stub 9/30/2011	Current Stub 9/30/2012	LTM 9/30/2012
Sales	-	-	-	-	-	-
COGS (incl. D&A)	-	-	-	-	-	-
Gross Profit	-	-	-	-	-	-
SG&A	-	-	-	-	-	-
Other Expense / (Income)	-	-	-	-	-	-
EBIT	-	-	-	-	-	-
Interest Expense	-	-	-	-	-	-
Pre-tax Income	-	-	-	-	-	-
Income Taxes	-	-	-	-	-	-
Noncontrolling Interest	-	-	-	-	-	-
Preferred Dividends	-	-	-	-	-	-
Net Income	-	-	-	-	-	-
Effective Tax Rate	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Weighted Avg. Diluted Shares	-	-	-	-	-	-
Diluted EPS	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Adjusted Income Statement

Reported Gross Profit	-	-	-	-	-	-
Non-recurring Items in COGS	-	-	-	-	-	-
Adj. Gross Profit	-	-	-	-	-	-
% margin	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Reported EBIT	-	-	-	-	-	-
Non-recurring Items in COGS	-	-	-	-	-	-
Other Non-recurring Items	-	-	-	-	-	-
Adjusted EBIT	-	-	-	-	-	-
% margin	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Depreciation & Amortization	-	-		-		-
Adjusted EBITDA	-	-	-	-	-	-
% margin	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Reported Net Income	-	-	-	-	-	-
Non-recurring Items in COGS	-	-	-	-	-	-
Other Non-recurring Items	-	-	-	-	-	-
Non-operating Non-rec. Items	-	-	-	-	-	-
Tax Adjustment	-	-	-	-	-	-
Adjusted Net Income	-	-	-	-	-	-
% margin	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Adjusted Diluted EPS	-	-	-	-	-	-

Cash Flow Statement Data

Cash From Operations	-	-	-	-	-	-
Capital Expenditures	-	-	-	-	-	-
% sales	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
Free Cash Flow	-	-	-	-	-	-
% margin	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
FCF / Share	-	-	-	-	-	-
Depreciation & Amortization	-	-	-	-	-	-
% sales	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*

Balance Sheet Data

	2011A	9/30/2012
Cash and Cash Equivalents	-	-
Accounts Receivable	-	-
Inventories	-	-
Prepaids and Other Current Assets	-	-
Total Current Assets	-	-
Property, Plant and Equipment, net	-	-
Goodwill and Intangible Assets	-	-
Other Assets	-	-
Total Assets	-	-
Accounts Payable	-	-
Accrued Liabilities	-	-
Other Current Liabilities	-	-
Total Current Liabilities	-	-
Total Debt	-	-
Other Long-Term Liabilities	-	-
Total Liabilities	-	-
Noncontrolling Interest	-	-
Preferred Stock	-	-
Shareholders' Equity	-	-
Total Liabilities and Equity	-	-
Balance Check	*0.000*	*0.000*

Calculation of Fully Diluted Shares Outstanding

Basic Shares Outstanding	-
Plus: Shares from In-the-Money Options	-
Less: Shares Repurchased	-
Net New Shares from Options	-
Plus: Shares from Convertible Securities	-
Fully Diluted Shares Outstanding	-

Options/Warrants

Tranche	Number of Shares	Exercise Price	In-the-Money Shares	Proceeds
Tranche 1	-	-	-	-
Tranche 2	-	-	-	-
Tranche 3	-	-	-	-
Tranche 4	-	-	-	-
Tranche 5	-	-	-	-
Total	-		-	-

Convertible Securities

	Amount	Conversion Price	Conversion Ratio	New Shares
Issue 1	-	-	-	-
Issue 2	-	-	-	-
Issue 3	-	-	-	-
Issue 4	-	-	-	-
Issue 5	-	-	-	-
Total				-

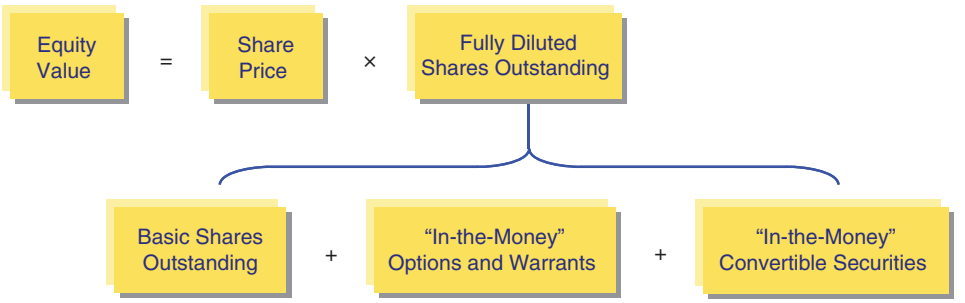
Notes

(1) [to come]
(2) [to come]
(3) [to come]
(4) [to come]

Size: Market Valuation

Equity Value Equity value ("market capitalization") is the value represented by a given company's basic shares outstanding plus "in-the-money" stock options,[29] warrants,[30] and convertible securities—collectively, "fully diluted shares outstanding." It is calculated by multiplying a company's current share price[31] by its fully diluted shares outstanding (see Exhibit 1.6).

EXHIBIT 1.6 Calculation of Equity Value



When compared to other companies, equity value only provides a measure of relative size. Therefore, for insight on absolute and relative market performance—which is informative for interpreting multiples and framing valuation—the banker looks at the company's current share price as a percentage of its 52-week high. This is a widely used metric that provides perspective on valuation and gauges current market sentiment and outlook for both the individual company and its broader sector. If a given company's percentage is significantly out of line with that of its peers, it is generally an indicator of company-specific (as opposed to sector-specific) issues. For example, a company may have missed its earnings guidance or underperformed versus its peers over the recent quarter(s). It may also be a sign of more entrenched issues involving management, operations, or specific markets.

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[29]Stock options are granted to employees as a form of non-cash compensation. They provide the right to buy (call) shares of the company's common stock at a set price ("exercise" or "strike" price) during a given time period. Employee stock options are subject to vesting periods that restrict the number of shares available for exercise according to a set schedule. They become eligible to be converted into shares of common stock once their vesting period expires ("exercisable"). An option is considered "in-the-money" when the underlying company's share price surpasses the option's exercise price.

[30]A warrant is a security typically issued in conjunction with a debt instrument that entitles the purchaser of that instrument to buy shares of the issuer's common stock at a set price during a given time period. In this context, warrants serve to entice investor interest (usually as a detachable equity "sweetener") in riskier classes of securities such as non-investment-grade bonds and mezzanine debt, by providing an increase to the security's overall return.

[31]For trading comps, the banker typically uses the company's share price as of the prior day's close as the basis for calculating equity value and trading multiples.

Calculation of Fully Diluted Shares Outstanding A company's fully diluted shares are calculated by adding the number of shares represented by its in-the-money options, warrants, and convertible securities to its basic shares outstanding.[32] A company's most recent basic shares outstanding count is typically sourced from the first page of its 10-K or 10-Q (whichever is most recent). In some cases, however, the latest proxy statement may contain more updated data and, therefore, should be used in lieu of the 10-K or 10-Q. The most recent stock options/warrants information is obtained from a company's latest 10-K or, in some cases, the 10-Q.

The incremental shares represented by a company's in-the-money options and warrants are calculated in accordance with the treasury stock method (TSM). Those shares implied by a company's in-the-money convertible and equity-linked securities are calculated in accordance with the if-converted method or net share settlement (NSS), as appropriate.

Options and Warrants—The Treasury Stock Method The TSM assumes that all tranches of in-the-money options and warrants are exercised at their weighted average strike price with the resulting option proceeds used to repurchase outstanding shares of stock at the company's current share price. In-the-money options and warrants are those that have an exercise price lower than the current market price of the underlying company's stock. As the strike price is lower than the current market price, the number of shares repurchased is less than the additional shares outstanding from exercised options. This results in a net issuance of shares, which is dilutive.

In Exhibit 1.7, we provide an example of how to calculate fully diluted shares outstanding using the TSM.

EXHIBIT 1.7 Calculation of Fully Diluted Shares Outstanding Using the Treasury Stock Method

($ in millions, except per share data; shares in millions)

Assumptions	
Current Share Price	$20.00
Basic Shares Outstanding	100.0
In-the-Money Options	5.0
Weighted Average Exercise Price	$18.00

Calculation of Fully Diluted Shares Using the TSM	
Option Proceeds	$90.0
/ Current Share Price	$20.00
Shares Repurchased from Option Proceeds	**4.5**
Shares from In-the-Money Options	5.0
Less: Shares Repurchased from Option Proceeds	(4.5)
Net New Shares from Options	**0.5**
Plus: Basic Shares Outstanding	100.0
Fully Diluted Shares Outstanding	**100.5**

= In-the-Money Options × Exercise Price
= 5.0 million × $18.00

= Option Proceeds / Current Share Price
= $90.0 million / $20.00

Current Share Price of $20.00 > $18.00 Exercise Price

= In-the-Money Options - Shares Repurchased
= 5.0 million - 4.5 million

= Net New Shares from Options + Basic Shares Outstanding
= 0.5 million + 100.0 million

[32]Investment banks and finance professionals may differ as to whether they use "outstanding" or "exercisable" in-the-money options and warrants in the calculation of fully diluted shares outstanding when performing trading comps. For conservatism (i.e., assuming the most dilutive scenario), many firms employ all outstanding in-the-money options and warrants as opposed to just exercisable as they represent future claims against the company.

As shown in Exhibit 1.7, the 5 million options are in-the-money as the exercise price of $18.00 is lower than the current share price of $20.00. This means that the holders of the options have the right to buy the company's shares at $18.00 and sell them at $20.00, thereby realizing the $2.00 differential. Under the TSM, it is assumed that the $18.00 of potential proceeds received by the company is used to repurchase shares that are currently trading at $20.00. Therefore, the number of shares repurchased is 90% ($18.00 / $20.00) of the options, or 4.5 million shares in total (90% × 5 million). To calculate net new shares, the 4.5 million shares repurchased are subtracted from the 5 million options, resulting in 0.5 million. These new shares are added to the company's basic shares outstanding to derive fully diluted shares of 100.5 million.

Convertible and Equity-Linked Securities Outstanding convertible and equity-linked securities also need to be factored into the calculation of fully diluted shares outstanding. Convertible and equity-linked securities bridge the gap between traditional debt and equity, featuring characteristics of both. They include a broad range of instruments, such as traditional cash-pay convertible bonds, convertible hybrids, perpetual convertible preferred, and mandatory convertibles.[33]

This section focuses on the traditional cash-pay convertible bond as it is the most "plain-vanilla" and commonly issued structure. A cash-pay convertible bond ("convert") represents a straight debt instrument and an embedded equity call option that provides for the convert to be exchanged into a defined number of shares of the issuer's common stock under certain circumstances. The value of the embedded call option allows the issuer to pay a lower coupon than a straight debt instrument of the same credit. The strike price of the call option ("conversion price"), which represents the share price at which equity would be issued to convertible holders if the bonds were converted, is typically set at a premium to the company's underlying share price at the time of issuance.

For the purposes of performing trading comps, to calculate fully diluted shares outstanding, it is standard practice to first determine whether the company's outstanding converts are in-the-money, meaning that the current share price is above the conversion price. Cash-pay converts are converted into additional shares in accordance with either the if-converted method (physical settlement) or net share settlement, as applicable. Out-of-the-money converts, by contrast, remain treated as debt. Proper treatment of converts requires a careful reading of the relevant footnotes in the company's 10-K or prospectus for the security.

If-Converted Method In accordance with the if-converted method, when performing trading comps, in-the-money converts are converted into additional shares by dividing the convert's amount outstanding by its conversion price.[34] Once converted,

[33]While the overall volume of issuance for convertible and equity-linked securities is much less than that for straight debt instruments, they are relatively common in certain sectors.

[34]For GAAP reporting purposes (e.g., for EPS and fully diluted shares outstanding), the if-converted method requires issuers to measure the dilutive impact of the security through a two-test process. First, the issuer needs to test the security as if it were debt on its balance sheet, with the stated interest expense reflected in net income and the underlying shares omitted from the share count. Second, the issuer needs to test the security as if it were converted into equity,

the convert is treated as equity and included in the calculation of the company's fully diluted shares outstanding and equity value. The equity value represented by the convert is calculated by multiplying the new shares outstanding from conversion by the company's current share price. Accordingly, the convert must be excluded from the calculation of the company's total debt.

As shown in Exhibit 1.8, as the company's current share price of $20.00 is greater than the conversion price of $15.00, we determine that the $150 million convert is in-the-money. Therefore the convert's amount outstanding is simply divided by the conversion price to calculate new shares of 10 million ($150 million / $15.00). The new shares from conversion are then added to the company's basic shares outstanding of 100 million and net new shares from in-the-money options of 0.5 million to calculate fully diluted shares outstanding of 110.5 million.

The conversion of in-the-money converts also requires an upward adjustment to the company's net income to account for the foregone interest expense payments associated with the coupon on the convert. This amount must be tax-effected before being added back to net income. Therefore, while conversion is typically EPS dilutive due to the additional share issuance, net income is actually higher on a *pro forma* basis.

EXHIBIT 1.8 Calculation of Fully Diluted Shares Outstanding Using the If-Converted Method

($ in millions, except per share data; shares in millions)

Assumptions	
Company	
Current Share Price	$20.00
Basic Shares Outstanding	100.0
Convertible	
Amount Outstanding	$150.0
Conversion Price	$15.00

If-Converted	
Amount Outstanding	$150.0
/ Conversion Price	$15.00
Incremental Shares	**10.0**
Plus: Net New Shares from Options	0.5
Plus: Basic Shares Outstanding	100.0
Fully Diluted Shares Outstanding	**110.5**

= Amount Outstanding / Conversion Price
= $150.0 million / $15.00

Calculated in Exhibit 1.7

= New Shares from Conversion
+ Net New Shares from Options
+ Basic Shares Outstanding
= 10.0 million + 0.5 million + 100.0 million

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which involves excluding the interest expense from the convert in net income and including the full underlying shares in the share count. Upon completion of the two tests, the issuer is required to use the more dilutive of the two methodologies.

Net Share Settlement Net share settlement is an increasingly common feature in convertible bonds. For converts issued with a net share settlement accounting feature,[35] the issuer is permitted to satisfy the face (or accreted) value of an in-the-money convert with at least a portion of cash upon conversion. Only the value represented by the excess of the current share price over the conversion price is assumed to be settled with the issuance of additional shares,[36] which results in less share issuance. This serves to limit the dilutive effects of conversion by affording the issuer TSM accounting treatment.

As shown in Exhibit 1.9, the if-converted method results in incremental shares of 10 million shares, while NSS results in incremental shares of only 2.5 million. The NSS calculation is conducted by first multiplying the number of underlying shares in the convert of 10 million by the company's current share price of $20.00 to determine the implied conversion value of $200 million. The $50 million spread between the conversion value and par ($200 million – $150 million) is then divided by the current share price to determine the number of incremental shares from conversion of 2.5 million ($50 million / $20.00).[37] The $150 million face value of the convert remains treated as debt due to the fact that the issuer typically has the right to settle this amount in cash.

EXHIBIT 1.9 Incremental Shares from If-Converted Versus Net Share Settlement

($ in millions, except per share data; shares in millions)

If-Converted	
Amount Outstanding	$150.0
/ Conversion Price	$15.00
Incremental Shares	**10.0**
Incremental Shares – If-Converted	**10.0**

Net Share Settlement	
Amount Outstanding	$150.0
/ Conversion Price	$15.00
Incremental Shares	**10.0**
× Current Share Price	$20.00
Total Conversion Value	**$200.0**
Less: Par Value of Amount Outstanding	(150.0)
Excess Over Par Value	**$50.0**
/ Current Share Price	$20.00
Incremental Shares – NSS	**2.5**

= Excess Over Par Value / Current Share Price
= $50.0 million / $20.00

= Total Conversion Value - Par Value of Amt. Out.
= $200.0 million - $150.0 million

= Incremental Shares × Current Share Price
= 10.0 million × $20.00

= Amount Outstanding / Conversion Price
= $150.0 million / $15.00

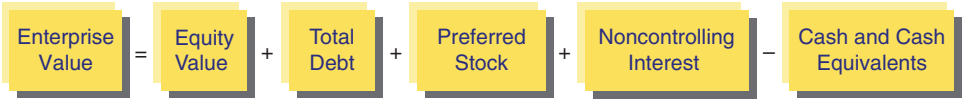
[35]Effective for fiscal years beginning after December 15, 2008, the Financial Accounting Standards Board (FASB) put into effect new guidelines for NSS accounting. These changes effectively bifurcate an NSS convert into its debt and equity components, resulting in higher reported GAAP interest expense due to the higher imputed cost of debt. However, the new guidelines do not change the calculation of shares outstanding in accordance with the TSM. Therefore, one should consult with a capital markets specialist for accounting guidance on in-the-money converts with NSS features.

[36]The NSS feature may also be structured so that the issuer can elect to settle the excess conversion value in cash.

[37]As the company's share price increases, the amount of incremental shares issued also increases as the spread between conversion and par value widens.

Enterprise Value Enterprise value ("total enterprise value" or "firm value") is the sum of all ownership interests in a company and claims on its assets from both debt and equity holders. As the graphic in Exhibit 1.10 depicts, it is defined as equity value + total debt + preferred stock + noncontrolling interest[38] – cash and cash equivalents. The equity value component is calculated on a fully diluted basis.

EXHIBIT 1.10 Calculation of Enterprise Value



Theoretically, enterprise value is considered independent of capital structure, meaning that changes in a company's capital structure do not affect its enterprise value. For example, if a company raises additional debt that is held on the balance sheet as cash, its enterprise value remains constant as the new debt is offset by the increase in cash (i.e., net debt remains the same, see Scenario I in Exhibit 1.11). Similarly, if a company issues equity and uses the proceeds to repay debt, the incremental equity value is offset by the decrease in debt on a dollar-for-dollar basis (see Scenario II in Exhibit 1.11).[39] Therefore, these transactions are enterprise value neutral.

In both Scenario I and II, enterprise value remains constant despite a change in the company's capital structure. Hence, similar companies would be expected to have consistent enterprise value multiples despite differences in capital structure. One notable exception concerns highly leveraged companies, which may trade at a discount relative to their peers due to the perceived higher risk of financial distress[40] and potential constraints to growth.

[38]Formerly known as "minority interest," noncontrolling interest is a significant, but non-majority, interest (less than 50%) in a company's voting stock by another company or an investor. Effective for fiscal years beginning after December 15, 2008, FAS 160 changed the accounting and reporting for minority interest, which is now called noncontrolling interest and can be found in the shareholders' equity section of a company's balance sheet. On the income statement, the noncontrolling interest holder's share of income is subtracted from net income.

[39]These illustrative scenarios ignore financing fees associated with the debt and equity issuance as well as potential breakage costs associated with the repayment of debt. See Chapter 4: Leveraged Buyouts for additional information.

[40]Circumstances whereby a company is unable or struggles to meet its credit obligations, typically resulting in business disruption, insolvency, or bankruptcy. As the perceived risk of financial distress increases, equity value generally decreases accordingly.

EXHIBIT 1.11 Effects of Capital Structure Changes on Enterprise Value

($ in millions)

Scenario I: Issuance of Debt	Actual 2011	Adjustments +	Adjustments -	Pro forma 2011
Equity Value	$750.0			$750.0
Plus: Total Debt	250.0	100.0		350.0
Plus: Preferred Stock	35.0			35.0
Plus: Noncontrolling Interest	15.0			15.0
Less: Cash and Cash Equivalents	(50.0)		(100.0)	(150.0)
Enterprise Value	**$1,000.0**			**$1,000.0**

Scenario II: Issuance of Equity to Repay Debt	Actual 2011	Adjustments +	Adjustments -	Pro forma 2011
Equity Value	$750.0	100.0		$850.0
Plus: Total Debt	250.0		(100.0)	150.0
Plus: Preferred Stock	35.0			35.0
Plus: Noncontrolling Interest	15.0			15.0
Less: Cash and Cash Equivalents	(50.0)			(50.0)
Enterprise Value	**$1,000.0**			**$1,000.0**

Size: Key Financial Data

- **Sales** (or revenue) is the first line item, or "top line," on an income statement. Sales represents the total dollar amount realized by a company through the sale of its products and services during a given time period. Sales levels and trends are a key factor in determining a company's relative positioning among its peers. All else being equal, companies with greater sales volumes tend to benefit from scale, market share, purchasing power, and lower risk profile, and are often rewarded by the market with a premium valuation relative to smaller peers.
- **Gross Profit**, defined as sales less cost of goods sold (COGS),[41] is the profit earned by a company after subtracting costs directly related to the production of its products and services. As such, it is a key indicator of operational efficiency and pricing power, and is usually expressed as a percentage of sales for analytical purposes (gross profit margin, see Exhibit 1.12). For example, if a company sells a product for $100, and that product costs $60 in materials, manufacturing, and direct labor to produce, then the gross profit on that product is $40 and the gross profit margin is 40%.
- **EBITDA** (earnings before interest, taxes, depreciation and amortization) is an important measure of profitability. As EBITDA is a non-GAAP financial measure and typically not reported by public filers, it is generally calculated by taking EBIT (or operating income/profit as often reported on the income statement) and adding back the depreciation and amortization (D&A) as sourced from the cash

[41]COGS, as reported on the income statement, may include or exclude D&A depending on the filing company. If D&A is excluded, it is reported as a separate line item on the income statement.

flow statement.[42] EBITDA is a widely used proxy for operating cash flow as it reflects the company's total cash operating costs for producing its products and services. In addition, EBITDA serves as a fair "apples-to-apples" means of comparison among companies in the same sector because it is free from differences resulting from capital structure (i.e., interest expense) and tax regime (i.e., tax expense).

- **EBIT** (earnings before interest and taxes) is often the same as reported operating income, operating profit, or income from operations[43] on the income statement found in a company's SEC filings. Like EBITDA, EBIT is independent of tax regime and serves as a useful metric for comparing companies with different capital structures. It is, however, less indicative as a measure of operating cash flow than EBITDA because it includes non-cash D&A expense. Furthermore, D&A reflects discrepancies among different companies in capital spending and/or depreciation policy as well as acquisition histories (amortization).
- **Net income** ("earnings" or the "bottom line") is the residual profit after all of a company's expenses have been netted out. Net income can also be viewed as the earnings available to equity holders once all of the company's obligations have been satisfied (e.g., to suppliers, vendors, service providers, employees, utilities, lessors, lenders, state and local treasuries). Wall Street tends to view net income on a per share basis (i.e., earnings per share or EPS).

Profitability

- **Gross profit margin** ("gross margin") measures the percentage of sales remaining after subtracting COGS (see Exhibit 1.12). It is driven by a company's direct cost per unit, such as materials, manufacturing, and direct labor involved in production. These costs are typically largely variable, as opposed to corporate overhead, which is more fixed in nature.[44] Companies ideally seek to increase their gross margin through a combination of improved sourcing/procurement of raw materials and enhanced pricing power, as well as by improving the efficiency of manufacturing facilities and processes.

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[42] In the event a company reports D&A as a separate line item on the income statement (i.e., broken out separately from COGS and SG&A), EBITDA can be calculated as sales less COGS less SG&A.

[43] EBIT may differ from operating income/profit due to the inclusion of income generated outside the scope of a company's ordinary course business operations ("other income").

[44] *Variable* costs change depending on the volume of goods produced and include items such as materials, direct labor, transportation, and utilities. *Fixed* costs remain more or less constant regardless of volume and include items such as lease expense, advertising and marketing, insurance, corporate overhead, and administrative salaries. These costs are usually captured in the SG&A (or equivalent) line item on the income statement.

EXHIBIT 1.12 Gross Profit Margin

$$\text{Gross Profit Margin} = \frac{\text{Gross Profit (Sales – COGS)}}{\text{Sales}}$$

- **EBITDA** and **EBIT margin** are accepted standards for measuring a company's operating profitability (see Exhibit 1.13). Accordingly, they are used to frame relative performance both among peer companies and across sectors.

EXHIBIT 1.13 EBITDA and EBIT Margin

$$\text{EBITDA Margin} = \frac{\text{EBITDA}}{\text{Sales}} \qquad \text{EBIT Margin} = \frac{\text{EBIT}}{\text{Sales}}$$

- **Net income margin** measures a company's overall profitability as opposed to its operating profitability (see Exhibit 1.14). It is net of interest expense and, therefore, affected by capital structure. As a result, companies with similar operating margins may have substantially different net income margins due to differences in leverage. Furthermore, as net income is impacted by taxes, companies with similar operating margins may have varying net income margins due to different tax rates.

EXHIBIT 1.14 Net Income Margin

$$\text{Net Income Margin} = \frac{\text{Net Income}}{\text{Sales}}$$

Growth Profile

A company's growth profile is a critical value driver. In assessing a company's growth profile, the banker typically looks at historical and estimated future growth rates as well as compound annual growth rates (CAGRs) for selected financial statistics (see Exhibit 1.15).

EXHIBIT 1.15 Historical and Estimated Diluted EPS Growth Rates

	Fiscal Year Ending December 31,						
	2009A	2010A	2011A	CAGR ('09 - '11)	2012E	2013E	CAGR ('11 - '13)
Diluted Earnings Per Share	$1.00	$1.15	$1.30	*14.0%*	$1.50	$1.65	*12.7%*
% growth		*15.0%*	*13.0%*		*15.4%*	*10.0%*	
Long-term growth rate							*12.0%*

= (Ending Value / Beginning Value) ^ (1 / Ending Year - Beginning Year) - 1
= ($1.30 / $1.00) ^ (1 / (2011 - 2009)) - 1

Source: Consensus Estimates

Historical annual EPS data is typically sourced directly from a company's 10-K or a financial information service that sources SEC filings, such as Bloomberg. As with the calculation of any financial statistic, historical EPS must be adjusted for non-recurring items to be meaningful. The data that serves as the basis for a company's projected 1-year, 2-year, and long-term[45] EPS growth rates is generally obtained from consensus estimates.

Return on Investment

- **Return on invested capital (ROIC)** measures the return generated by all capital provided to a company. As such, ROIC utilizes a pre-interest earnings statistic in the numerator, such as EBIT or tax-effected EBIT (also known as NOPAT or EBIAT) and a metric that captures both debt and equity in the denominator (see Exhibit 1.16). The denominator is typically calculated on an average basis (e.g., average of the balances as of the prior annual and most recent periods).

EXHIBIT 1.16 Return on Invested Capital

$$\text{ROIC} = \frac{\text{EBIT}}{\text{Average Net Debt + Equity}}$$

- **Return on equity (ROE)** measures the return generated on the equity provided to a company by its shareholders. As a result, ROE incorporates an earnings metric net of interest expense, such as net income, in the numerator and average shareholders' equity in the denominator (see Exhibit 1.17). ROE is an important indicator of performance as companies are intently focused on shareholder returns.

EXHIBIT 1.17 Return on Equity

$$\text{ROE} = \frac{\text{Net Income}}{\text{Average Shareholders' Equity}}$$

- **Return on assets (ROA)** measures the return generated by a company's asset base, thereby providing a barometer of the asset efficiency of a business. ROA typically utilizes net income in the numerator and average total assets in the denominator (see Exhibit 1.18).

EXHIBIT 1.18 Return on Assets

$$\text{ROA} = \frac{\text{Net Income}}{\text{Average Total Assets}}$$

[45]Represents a three-to-five-year estimate of annual EPS growth, as reported by equity research analysts.

- **Dividend yield** is a measure of returns to shareholders, but from a different perspective than earnings-based ratios. Dividend yield measures the annual dividends per share paid by a company to its shareholders (which can be distributed either in cash or additional shares), expressed as a percentage of its share price. Dividends are typically paid on a quarterly basis and, therefore, must be annualized to calculate the implied dividend yield (see Exhibit 1.19).[46] For example, if a company pays a quarterly dividend of $0.05 per share ($0.20 per share on an annualized basis) and its shares are currently trading at $10.00, the dividend yield is 2% (($0.05 × 4 payments) / $10.00).

EXHIBIT 1.19 Implied Dividend Yield

$$\text{Implied Dividend Yield} = \frac{\text{Most Recent Quarterly Dividend Per Share} \times 4}{\text{Current Share Price}}$$

Credit Profile

Leverage Leverage refers to a company's debt level. It is typically measured as a multiple of EBITDA (e.g., debt-to-EBITDA) or as a percentage of total capitalization (e.g., debt-to-total capitalization). Both debt and equity investors closely track a company's leverage as it reveals a great deal about financial policy, risk profile, and capacity for growth. As a general rule, the higher a company's leverage, the higher its risk of financial distress due to the burden associated with greater interest expense and principal repayments.

- **Debt-to-EBITDA** depicts the ratio of a company's debt to its EBITDA, with a higher multiple connoting higher leverage (see Exhibit 1.20). It is generally calculated on the basis of LTM financial statistics. There are several variations of this ratio, including total debt-to-EBITDA, senior secured debt-to-EBITDA, net debt-to-EBITDA, and total debt-to-(EBITDA less capex). As EBITDA is typically used as a rough proxy for operating cash flow, this ratio can be viewed as a measure of how many years of a company's cash flows are needed to repay its debt.

EXHIBIT 1.20 Leverage Ratio

$$\text{Leverage} = \frac{\text{Debt}}{\text{EBITDA}}$$

- **Debt-to-total capitalization** measures a company's debt as a percentage of its total capitalization (debt + preferred stock + noncontrolling interest + equity) (see Exhibit 1.21). This ratio can be calculated on the basis of book or market

[46]Not all companies choose to pay dividends to their shareholders.

values depending on the situation. As with debt-to-EBITDA, a higher debt-to-total capitalization ratio connotes higher debt levels and risk of financial distress.

EXHIBIT 1.21 Capitalization Ratio

$$\text{Debt-to-Total Capitalization} = \frac{\text{Debt}}{\text{Debt + Preferred Stock + Noncontrolling Interest + Equity}}$$

Coverage Coverage is a broad term that refers to a company's ability to meet ("cover") its interest expense obligations. Coverage ratios are generally comprised of a financial statistic representing operating cash flow (e.g., LTM EBITDA) in the numerator and LTM interest expense in the denominator. There are several variations of the coverage ratio, including EBITDA-to-interest expense, (EBITDA less capex)-to-interest expense, and EBIT-to-interest expense (see Exhibit 1.22). Intuitively, the higher the coverage ratio, the better positioned the company is to meet its debt obligations and, therefore, the stronger its credit profile.

EXHIBIT 1.22 Interest Coverage Ratio

$$\text{Interest Coverage Ratio} = \frac{\text{EBITDA, (EBITDA – Capex), or EBIT}}{\text{Interest Expense}}$$

Credit Ratings A credit rating is an assessment[47] by an independent rating agency of a company's ability and willingness to make full and timely payments of amounts due on its debt obligations. Credit ratings are typically required for companies seeking to raise debt financing in the capital markets as only a limited class of investors will participate in a corporate debt offering without an assigned credit rating on the new issue.[48]

The three primary credit rating agencies are Moody's, S&P, and Fitch. Nearly every public debt issuer receives a rating from Moody's, S&P, and/or Fitch. Moody's uses an alphanumeric scale, while S&P and Fitch both use an alphabetic system combined with pluses (+) and minuses (–) to rate the creditworthiness of an issuer. The ratings scales of the primary rating agencies are shown in Exhibit 1.23.

[47]Ratings agencies provide opinions, but do not conduct audits.

[48]Ratings are assessed on the issuer (corporate credit ratings) as well as on the individual debt instruments (facility ratings).

EXHIBIT 1.23 Ratings Scales of the Primary Rating Agencies

	Moody's	S&P	Fitch	Definition
Investment Grade	Aaa	AAA	AAA	Highest Quality
	Aa1	AA+	AA+	Very High Quality
	Aa2	AA	AA	
	Aa3	AA-	AA–	
	A1	A+	A+	High Quality
	A2	A	A	
	A3	A–	A–	
	Baa1	BBB+	BBB+	Medium Grade
	Baa2	BBB	BBB	
	Baa3	BBB-	BBB–	
Non-Investment Grade	Ba1	BB+	BB+	Speculative
	Ba2	BB	BB	
	Ba3	BB–	BB–	
	B1	B+	B+	Highly Speculative
	B2	B	B	
	B3	B–	B–	
	Caa1	CCC+	CCC+	Substantial Risk
	Caa2	CCC	CCC	
	Caa3	CCC-	CCC–	
	Ca	CC	CC	Extremely Speculative / Default
	C	C	C	
	–	D	D	

Supplemental Financial Concepts and Calculations

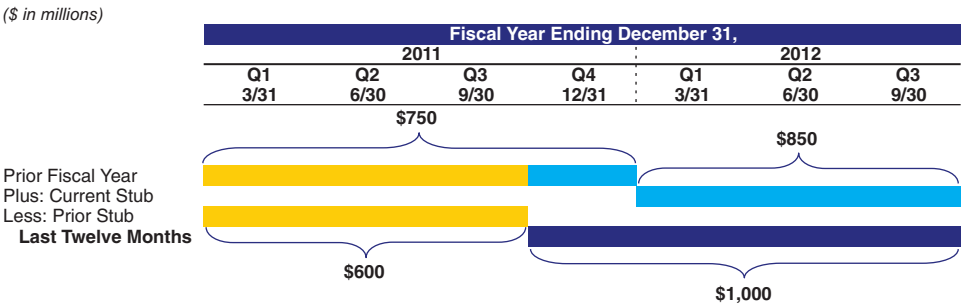
Calculation of LTM Financial Data U.S. public filers are required to report their financial performance on a quarterly basis, including a full year report filed at the end of the fiscal year. Therefore, in order to measure financial performance for the most recent annual or LTM period, the company's financial results for the previous four quarters are summed. This financial information is sourced from the company's most recent 10-K and 10-Q, as appropriate. As previously discussed, however, prior to the filing of the 10-Q or 10-K, companies typically issue a detailed earnings press release in an 8-K with the necessary financial data to help calculate LTM performance. Therefore, it may be appropriate to use a company's earnings announcement to update trading comps on a timely basis.

As the formula in Exhibit 1.24 illustrates, LTM financials are typically calculated by taking the full prior fiscal year's financial data, adding the YTD financial data for the current year period ("current stub"), and then subtracting the YTD financial data from the prior year ("prior stub").

EXHIBIT 1.24 Calculation of LTM Financial Data

In the event that the most recent quarter is the fourth quarter of a company's fiscal year, then no LTM calculations are necessary as the full prior fiscal year (as reported) serves as the LTM period. Exhibit 1.25 shows an illustrative calculation for a given company's LTM sales for the period ending 9/30/2012.

EXHIBIT 1.25 Calculation of LTM 9/30/2012 Sales



Calendarization of Financial Data The majority of U.S. public filers report their financial performance in accordance with a fiscal year (FY) ending December 31, which corresponds to the calendar year (CY) end. Some companies, however, report on a different schedule (e.g., a fiscal year ending April 30). Any variation in fiscal year ends among comparable companies must be addressed for benchmarking purposes. Otherwise, the trading multiples will be based on financial data for different periods and, therefore, not truly "comparable."

To account for variations in fiscal year ends among comparable companies, each company's financials are adjusted to conform to a calendar year end in order to produce a "clean" basis for comparison, a process known as "calendarization." This is a relatively straightforward algebraic exercise, as illustrated by the formula in Exhibit 1.26, used to calendarize a company's fiscal year sales projection to produce a calendar year sales projection.[49]

EXHIBIT 1.26 Calendarization of Financial Data

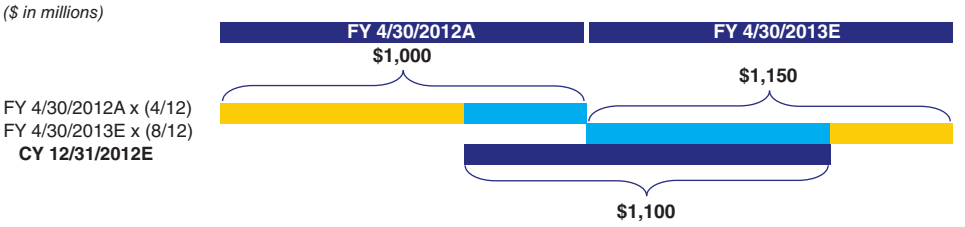
$$\text{Next Calendar (CY) Sales} = \frac{(\text{Month \#}) \times (\text{FYA Sales})}{12} + \frac{(12 - \text{Month \#}) \times (\text{NFY Sales})}{12}$$

Note: "Month #" refers to the month in which the company's fiscal year ends (e.g., the Month # for a company with a fiscal year ending April 30 would be 4). FYA = fiscal year actual, and NFY = next fiscal year.

Exhibit 1.27 provides an illustrative calculation for the calendarization of a company's calendar year 2012 estimated (E) sales, assuming a fiscal year ending April 30.

[49]If available, quarterly estimates should be used as the basis for calendarizing financial projections.

EXHIBIT 1.27 Calendarization of Sales



Adjustments for Non-Recurring Items To assess a company's financial performance on a "normalized" basis, it is standard practice to adjust reported financial data for non-recurring items, a process known as "scrubbing" or "sanitizing" the financials. Failure to do so may lead to the calculation of misleading ratios and multiples, which, in turn, may produce a distorted view of valuation. These adjustments involve the add-back or elimination of one-time charges and gains, respectively, to create a more indicative view of ongoing company performance. Typical charges include those incurred for restructuring events (e.g., store/plant closings and headcount reduction), losses on asset sales, changes in accounting principles, inventory write-offs, goodwill impairment, extinguishment of debt, and losses from litigation settlements, among others. Typical benefits include gains from asset sales, favorable litigation settlements, and tax adjustments, among others.

Non-recurring items are often described in the MD&A section and financial footnotes in a company's public filings (e.g., 10-K and 10-Q) and earnings announcements. These items are often explicitly depicted as "non-recurring," "extraordinary," "unusual," or "one-time." Therefore, the banker is encouraged to comb electronic versions of the company's public filings and earnings announcements using word searches for these adjectives. Often, non-recurring charges or benefits are explicitly broken out as separate line items on a company's reported income statement and/or cash flow statement. Research reports can be helpful in identifying these items, while also providing color commentary on the reason they occurred.

In many cases, however, the banker must exercise discretion as to whether a given charge or benefit is non-recurring or part of normal business operations. This determination is sometimes relatively subjective, further compounded by the fact that certain events may be considered non-recurring for one company, but customary for another. For example, a generic pharmaceutical company may find itself in court frequently due to lawsuits filed by major drug manufacturers related to patent challenges. In this case, expenses associated with a lawsuit should not necessarily be treated as non-recurring because these legal expenses are a normal part of ongoing operations. While financial information services such as Bloomberg provide a breakdown of recommended adjustments that can be helpful in identifying potential non-recurring items, ultimately the banker should exercise professional judgment.

When adjusting for non-recurring items, it is important to distinguish between pre-tax and after-tax amounts. For a pre-tax restructuring charge, for example, the full amount is simply added back to calculate adjusted EBIT and EBITDA. To calculate adjusted net income, however, the pre-tax restructuring charge needs to be

tax-effected[50] before being added back. Conversely, for after-tax amounts, the disclosed amount is simply added back to net income, but must be "grossed up" at the company's tax rate (t) (i.e., divided by (1 – t)) before being added back to EBIT and EBITDA.

Exhibit 1.28 provides an illustrative income statement for the fiscal year 2011 as it might appear in a 10-K. Let's assume the corresponding notes to these financials mention that the company recorded one-time charges related to an inventory write-down ($5 million pre-tax) and restructuring expenses from downsizing the sales force ($10 million pre-tax). Provided we gain comfort that these charges are truly non-recurring, we would need to normalize the company's earnings statistics accordingly for these items in order to arrive at adjusted EBIT, EBITDA, and diluted EPS.

EXHIBIT 1.28 Reported Income Statement

($ in millions, except per share data)

Income Statement	
	Reported 2011
Sales	**$1,000.0**
Cost of Goods Sold	625.0
Gross Profit	**$375.0**
Selling, General & Administrative	230.0
Restructuring Charges	10.0
Operating Income (EBIT)	**$135.0**
Interest Expense	35.0
Pre-tax Income	**$100.0**
Income Taxes	40.0
Net Income	**$60.0**
Weighted Average Diluted Shares	30.0
Diluted Earnings Per Share	$2.00

As shown in Exhibit 1.29, to calculate adjusted EBIT and EBITDA, we add back the full pre-tax charges of $5 million and $10 million ($15 million in total). This provides adjusted EBIT of $150 million and adjusted EBITDA of $200 million. To calculate adjusted net income and diluted EPS, however, the tax expense on the incremental $15 million pre-tax earnings must be subtracted. Assuming a 40% marginal tax rate, we calculate tax expense of $6 million and additional net income of $9 million ($15 million – $6 million). The $9 million is added to reported net income, resulting in adjusted net income of $69 million. We then divide the $69 million by weighted average fully diluted shares outstanding of 30 million to calculate adjusted diluted EPS of $2.30.

[50]In the event the SEC filing's footnotes do not provide detail on the after-tax amounts of such adjustments, the banker typically uses the marginal tax rate. The marginal tax rate for U.S. corporations is the rate at which a company is required to pay federal, state, and local taxes. The highest federal corporate income tax rate for U.S. corporations is 35%, with state and local taxes typically adding another 2% to 5% or more (depending on the state). Most public companies disclose their federal, state, and local tax rates in their 10-Ks in the notes to their financial statements.

EXHIBIT 1.29 Adjusted Income Statement

($ in millions, except per share data)

Income Statement	Reported 2011	Adjustments +	Adjustments -	Adjusted 2011
Sales	**$1,000.0**			**$1,000.0**
Cost of Goods Sold	625.0		(5.0)	620.0
Gross Profit	**$375.0**			**$380.0**
Selling, General & Administrative	230.0			230.0
Restructuring Charges	10.0		(10.0)	-
Operating Income (EBIT)	**$135.0**			**$150.0**
Interest Expense	35.0			35.0
Pre-tax Income	**$100.0**			**$115.0**
Income Taxes	40.0	6.0		46.0
Net Income	**$60.0**			**$69.0**
Operating Income (EBIT)	$135.0	15.0		$150.0
Depreciation & Amortization	50.0			50.0
EBITDA	**$185.0**			**$200.0**
Weighted Avg. Diluted Shares	30.0			30.0
Diluted EPS	$2.00			$2.30

Inventory write-down

Restructuring charge related to severance from downsizing the sales force

= (Inventory write-down + Restructuring charge) × Marginal Tax Rate
= ($5 million + $10 million) × 40%

D&A is sourced from the company's cash flow statement although it is sometimes broken out on the income statement

$15 million add-back of total non-recurring items

Adjustments for Recent Events In normalizing a company's financials, the banker must also make adjustments for recent events, such as M&A transactions, financing activities, conversion of convertible securities, stock splits, or share repurchases in between reporting periods. Therefore, prior to performing trading comps, the banker checks company SEC filings (e.g., 8-Ks, registration statements/prospectuses[51]) and press releases since the most recent reporting period to determine whether the company has announced such activities.

For a recently announced M&A transaction, for example, the company's financial statements must be adjusted accordingly. The balance sheet is adjusted for the effects of the transaction by adding the purchase price financing (including any refinanced or assumed debt), while the LTM income statement is adjusted for the target's incremental sales and earnings. Equity research analysts typically update their estimates for a company's future financial performance promptly following the announcement of an M&A transaction. Therefore, the banker can use updated consensus estimates in combination with the *pro forma* balance sheet to calculate forward-looking multiples.[52]

[51]A registration statement/prospectus is a filing prepared by an issuer upon the registration/issuance of public securities, including debt and equity. The primary SEC forms for registration statements are S-1, S-3, and S-4; prospectuses are filed pursuant to Rule 424. When a company seeks to register securities with the SEC, it must file a registration statement. Within the registration statement is a preliminary prospectus. Once the registration statement is deemed effective, the company files the final prospectus as a 424 (includes final pricing and other key terms).

[52]As previously discussed, however, the banker needs to confirm beforehand that the estimates have been updated for the announced deal prior to usage. Furthermore, certain analysts may only update NFY estimates on an "as contributed" basis for the incremental earnings from the transaction for the remainder of the fiscal year (as opposed to adding a pro forma full year of earnings).

Calculation of Key Trading Multiples

Once the key financial statistics are spread, the banker proceeds to calculate the relevant trading multiples for the comparables universe. While various sectors may employ specialized or sector-specific valuation multiples (see Exhibit 1.33), the most generic and widely used multiples employ a measure of market valuation in the numerator (e.g., enterprise value, equity value) and a universal measure of financial performance in the denominator (e.g., EBITDA, net income). For enterprise value multiples, the denominator employs a financial statistic that flows to both debt and equity holders, such as sales, EBITDA, and EBIT. For equity value (or share price) multiples, the denominator must be a financial statistic that flows only to equity holders, such as net income (or diluted EPS). Among these multiples, EV/EBITDA and P/E are the most common.

The following sections provide an overview of the more commonly used equity value and enterprise value multiples.

Equity Value Multiples

Price-to-Earnings Ratio / Equity Value-to-Net Income Multiple The P/E ratio, calculated as current share price divided by diluted EPS (or equity value divided by net income), is the most widely recognized trading multiple. Assuming a constant share count, the P/E ratio is equivalent to equity value-to-net income. These ratios can also be viewed as a measure of how much investors are willing to pay for a dollar of a company's current or future earnings. P/E ratios are typically based on forward-year EPS[53] (and, to a lesser extent, LTM EPS) as investors are focused on future growth. Companies with higher P/Es than their peers tend to have higher earnings growth expectations.

The P/E ratio is particularly relevant for mature companies that have a demonstrated ability to consistently grow earnings. However, while the P/E ratio is broadly used and accepted, it has certain limitations. For example, it is not relevant for companies with little or no earnings as the denominator in these instances is *de minimis*, zero, or even negative. In addition, as previously discussed, net income (and EPS) is net of interest expense and, therefore, dependent on capital structure. As a result, two otherwise similar companies in terms of size and operating margins can have substantially different net income margins (and consequently P/E ratios) due to differences in leverage. Similarly, accounting discrepancies, such as for depreciation or taxes, can also produce meaningful disparities in P/E ratios among comparable companies.

The two formulas for calculating the P/E ratio (both equivalent, assuming a constant share count) are shown in Exhibit 1.30.

EXHIBIT 1.30 Equity Value Multiples

$$\frac{\text{Share Price}}{\text{Diluted EPS}} \qquad \frac{\text{Equity Value}}{\text{Net Income}}$$

[53]Generally, the earnings for the next two calendar years.

Enterprise Value Multiples

Given that enterprise value represents the interests of both debt and equity holders, it is used as a multiple of unlevered financial statistics such as sales, EBITDA, and EBIT. The most generic and widely used enterprise value multiples are EV/EBITDA, EV/EBIT, and EV/sales (see Exhibits 1.31 and 1.32). As with P/E ratios, enterprise value multiples tend to focus on forward estimates in addition to LTM statistics for framing valuation.

Enterprise Value-to-EBITDA and Enterprise Value-to-EBIT Multiples EV/EBITDA serves as a valuation standard for most sectors. It is independent of capital structure and taxes, as well as any distortions that may arise from differences in D&A among different companies. For example, one company may have spent heavily on new machinery and equipment in recent years, resulting in increased D&A for the current and future years, while another company may have deferred its capital spending until a future period. In the interim, this situation would produce disparities in EBIT margins between the two companies that would not be reflected in EBITDA margins.

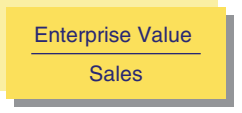
For the reasons outlined above, as well as potential discrepancies due to acquisition-related amortization, EV/EBIT is less commonly used than EV/EBITDA. However, EV/EBIT may be helpful in situations where D&A is unavailable (e.g., when valuing divisions of public companies) or for companies with high capex.

EXHIBIT 1.31 Enterprise Value-to-EBITDA and Enterprise Value-to-EBIT

Enterprise Value-to-Sales Multiple EV/sales is also used as a valuation metric, although it is typically less relevant than the other multiples discussed. Sales may provide an indication of size, but it does not necessarily translate into profitability or cash flow generation, both of which are key value drivers. Consequently, EV/sales is used largely as a sanity check on the earnings-based multiples discussed above.

In certain sectors, however, as well as for companies with little or no earnings, EV/sales may be relied upon as a meaningful reference point for valuation. For example, EV/sales may be used to value an early stage technology company that is aggressively growing sales, but has yet to achieve profitability.

EXHIBIT 1.32 Enterprise Value-to-Sales



Sector-Specific Multiples Many sectors employ specific valuation multiples in addition to, or instead of, the traditional metrics previously discussed. These multiples use an indicator of market valuation in the numerator and a key sector-specific financial, operating, or production/capacity statistic in the denominator. Selected examples are shown in Exhibit 1.33. Bloomberg provides many data sets and analyses specific to individual industries via Bloomberg Industries (BI<GO>). Appendix 1.6 displays an example of comparable companies for Basic & Diversified Chemicals, in which P/E, EV/EBITDA, and P/FCF are displayed.

EXHIBIT 1.33 Selected Sector-Specific Valuation Multiples

Valuation Multiple	Sector
Enterprise Value /	
Access Lines/Fiber Miles/Route Miles	▪ Telecommunications
Broadcast Cash Flow (BCF)	▪ Media ▪ Telecommunications
Earnings Before Interest Taxes, Depreciation, Amortization, and Rent Expense (EBITDAR)	▪ Casinos ▪ Restaurants ▪ Retail
Earnings Before Interest Taxes, Depreciation, Depletion, Amortization, and Exploration Expense (EBITDAX)	▪ Natural Resources ▪ Oil & Gas
Population (POP)	▪ Metals & Mining ▪ Natural Resources ▪ Oil & Gas ▪ Paper and Forest Products
Reserves	▪ Metals & Mining ▪ Natural Resources ▪ Oil & Gas
Square Footage	▪ Real Estate ▪ Retail
Subscriber	▪ Media ▪ Telecommunications
Equity Value (Price) /	
Book Value (per share)	▪ Financial Institutions ▪ Homebuilders
Cash Available for Distribution (per share)	▪ Real Estate
Discretionary Cash Flow (per share)	▪ Natural Resources
Funds from Operations (FFO) (per share)	▪ Real Estate
Net Asset Value (NAV) (per share)	▪ Financial Institutions ▪ Mining ▪ Real Estate

STEP IV. BENCHMARK THE COMPARABLE COMPANIES

Once the initial universe of comparable companies is selected and key financial statistics, ratios, and trading multiples are spread, the banker is set to perform benchmarking analysis. Benchmarking centers on analyzing and comparing each of the comparable companies with one another and the target. The ultimate objective is to determine the target's relative ranking so as to frame valuation accordingly. While the entire universe provides a useful perspective, the banker typically hones in on a selected group of closest comparables as the basis for establishing the target's implied valuation range. The closest comparables are generally those most similar to the target in terms of business and financial profile.

We have broken down the benchmarking exercise into a two-stage process. First, we benchmark the key financial statistics and ratios for the target and its comparables in order to establish relative positioning, with a focus on identifying the closest or "best" comparables and noting potential outliers. Second, we analyze and compare the trading multiples for the peer group, placing particular emphasis on the best comparables.

Benchmark the Financial Statistics and Ratios

The first stage of the benchmarking analysis involves a comparison of the target and comparables universe on the basis of key financial performance metrics. These metrics, as captured in the financial profile framework outlined in Steps I and III, include measures of size, profitability, growth, returns, and credit strength. They are core value drivers and typically translate directly into relative valuation. The results of the benchmarking exercise are displayed on spreadsheet output pages that present the data for each company in an easy-to-compare format (see Exhibits 1.53 and 1.54). These pages also display the mean, median, maximum (high), and minimum (low) for the universe's selected financial statistics and ratios.

A thoughtful benchmarking analysis goes beyond a quantitative comparison of the comparables' financial metrics. In order to truly assess the target's relative strength, the banker needs to have a strong understanding of each comparable company's story. For example, what are the reasons for the company's high or low growth rates and profit margins? Is the company a market leader or laggard, gaining or losing market share? Has the company been successful in delivering upon announced strategic initiatives or meeting earnings guidance? Has the company announced any recent M&A transactions or significant ownership/management changes? The ability to interpret these issues, in combination with the above-mentioned financial analysis, is critical to assessing the performance of the comparable companies and determining the target's relative position.

Benchmark the Trading Multiples

The trading multiples for the comparables universe are also displayed on a spreadsheet output page for easy comparison and analysis (see Exhibit 1.55). This enables the banker to view the full range of multiples and assess relative valuation for each of the comparable companies. As with the financial statistics

and ratios, the means, medians, highs, and lows for the range of multiples are calculated and displayed, providing a preliminary reference point for establishing the target's valuation range.

Once the trading multiples have been analyzed, the banker conducts a further refining of the comparables universe. Depending on the resulting output, it may become apparent that certain outliers need to be excluded from the analysis or that the comparables should be further tiered (e.g., on the basis of size, sub-sector, or ranging from closest to peripheral). The trading multiples for the best comparables are also noted as they are typically assigned greater emphasis for framing valuation.

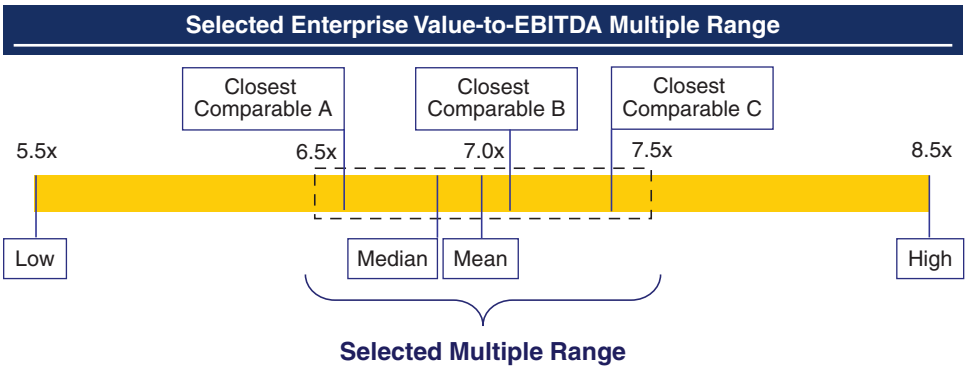
STEP V. DETERMINE VALUATION

The trading multiples for the comparable companies serve as the basis for deriving an appropriate valuation range for the target. The banker typically begins by using the means and medians of the most relevant multiple for the sector (e.g., EV/EBITDA or P/E) to extrapolate a defensible range of multiples. The high and low multiples of the comparables universe provide further guidance. The multiples of the best comparables, however, are typically relied upon as guideposts for selecting the tightest, most appropriate range.

Consequently, as few as two or three carefully selected comparables often serve as the ultimate basis for valuation, with the broader group providing reference points. Hence, the selected multiple range is typically tighter than that implied by simply taking the high and low multiples for the universe. As part of this exercise, the banker must also determine which period financial data is most relevant for calculating the trading multiples. Depending on the sector, point in the business cycle, and comfort with consensus estimates, the comparable companies may be trading on the basis of LTM, one-year forward, or even two-year forward financials.

As shown in the illustrative example in Exhibit 1.34, the target has three closest comparables that trade in the range of approximately 6.5x to 7.5x 2012E EBITDA, versus a high/low range of 5.5x to 8.5x, a mean of 7.0x and a median of 6.8x.

EXHIBIT 1.34 Selected Enterprise Value-to-EBITDA Multiple Range



The selected multiple range is then applied to the target's appropriate financial statistics to derive an implied valuation range.

Valuation Implied by EV/EBITDA

Exhibit 1.35 demonstrates how a given EV/EBITDA multiple range translates into an implied range for enterprise value, equity value, and share price. For these calculations, we assume net debt[54] of $500 million and fully diluted shares outstanding of 100 million.[55]

EXHIBIT 1.35 Valuation Implied by EV/EBITDA

($ in millions, except per share data)

EBITDA	Financial Metric	Multiple Range	Implied Enterprise Value	Less: Net Debt	Implied Equity Value	Fully Diluted Shares	Implied Share Price
LTM	$200	7.0x – 8.0x	$1,400 – $1,600	(500)	$900 – $1,100	100	$9.00 – $11.00
2012E	215	6.5x – 7.5x	1,398 – 1,613	(500)	898 – 1,113	100	$8.98 – $11.13
2013E	230	6.0x – 7.0x	1,380 – 1,610	(500)	880 – 1,110	100	$8.80 – $11.10

At a 6.5x to 7.5x multiple range for 2012E EBITDA, the endpoints are multiplied by the target's 2012E EBITDA of $215 million to produce an implied enterprise value range of $1,398 million to $1,613 million.

To calculate implied equity value, we subtract net debt of $500 million from enterprise value, which results in a range of $898 million to $1,113 million. For public companies, the implied equity value is then divided by fully diluted shares outstanding to yield implied share price. Dividing the endpoints of the equity value range by fully diluted shares outstanding of 100 million provides an implied share price range of $8.98 to $11.13. The same methodology can then be performed using the selected multiple range for EV/LTM EBITDA and EV/2013E EBITDA.

Valuation Implied by P/E

Exhibits 1.36 and 1.37 demonstrate how the P/E ratio translates into implied share price and enterprise value ranges. As with the example in Exhibit 1.35, we assume net debt of $500 million and a static fully diluted shares outstanding count of 100 million.

Implied Share Price For a public company, the banker typically begins with net income and builds up to implied equity value. The implied equity value is then divided by fully diluted shares outstanding to calculate implied share price. A P/E multiple range of 12.0x to 15.0x 2012E net income, for example, yields an implied equity value of $900 million to $1,125 million when multiplied by the target's 2012E net income of $75 million. Dividing this range by fully diluted shares outstanding of 100 million produces an implied share price range of $9.00 to $11.25.

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[54] "Net debt" is often defined to include all obligations senior to common equity.

[55] For illustrative purposes, we assume that the number of fully diluted shares outstanding remains constant for each of the equity values presented. As discussed in Chapter 3: Discounted Cash Flow Analysis, however, assuming the existence of stock options, the number of fully diluted shares outstanding as determined by the TSM is dependent on share price, which in turn is dependent on equity value and shares outstanding (see Exhibit 3.31). Therefore, the target's fully diluted shares outstanding and implied share price vary in accordance with its amount of stock options and their weighted average exercise price.

EXHIBIT 1.36 Valuation Implied by P/E – Share Price

($ in millions, except per share data)

Net Income	Financial Metric	Multiple Range	Implied Equity Value	Fully Diluted Shares	Implied Share Price
LTM	$70	13.0x – 16.0x	$910 – $1,120	100	$9.10 – $11.20
2012E	75	12.0x – 15.0x	900 – 1,125	100	$9.00 – $11.25
2013E	80	11.0x – 14.0x	880 – 1,120	100	$8.80 – $11.20

Implied Enterprise Value To calculate an implied enterprise value range using the assumptions above, the same P/E multiple range of 12.0x to 15.0x is multiplied by 2012E net income of $75 million to produce an implied equity value range of $900 million to $1,125 million. Net debt of $500 million is added to the low and high endpoints of the implied equity value range to calculate an implied enterprise value range of $1,400 million to $1,625 million.

EXHIBIT 1.37 Valuation Implied by P/E – Enterprise Value

($ in millions)

Net Income	Financial Metric	Multiple Range	Implied Equity Value	Plus: Net Debt	Implied Enterprise Value
LTM	$70	13.0x – 16.0x	$910 – $1,120	500	$1,410 – $1,620
2012E	75	12.0x – 15.0x	900 – 1,125	500	1,400 – 1,625
2013E	80	11.0x – 14.0x	880 – 1,120	500	1,380 – 1,620

As a final consideration, it is necessary to analyze the extrapolated valuation range for the target and test the key assumptions and conclusions. The banker should also compare the valuation derived from comparable companies to other methodologies, such as precedent transactions, DCF analysis, and LBO analysis (if applicable). Significant discrepancies may signal incorrect assumptions, misjudgment, or even mathematical error, thereby prompting the banker to re-examine the inputs and assumptions used in each technique. Common errors in trading comps typically involve the inclusion or over-emphasis of inappropriate comparable companies, incorrect calculations (e.g., fully diluted equity value, enterprise value, LTM financial data, or calendarization), as well as the failure to accurately scrub the financials for non-recurring items and recent events.

KEY PROS AND CONS

Pros

- *Market-based* – information used to derive valuation for the target is based on actual public market data, thereby reflecting the market's growth and risk expectations, as well as overall sentiment
- *Relativity* – easily measurable and comparable versus other companies
- *Quick and convenient* – valuation can be determined on the basis of a few easy-to-calculate inputs
- *Current* – valuation is based on prevailing market data, which can be updated on a daily (or intraday) basis

Cons

- *Market-based* – valuation that is completely market-based can be skewed during periods of irrational exuberance or bearishness
- *Absence of relevant comparables* – "pure play" comparables may be difficult to identify or even non-existent, especially if the target operates in a niche sector, in which case the valuation implied by trading comps may be less meaningful
- *Potential disconnect from cash flow* – valuation based on prevailing market conditions or expectations may have significant disconnect from the valuation implied by a company's projected cash flow generation (e.g., DCF analysis)
- *Company-specific issues* – valuation of the target is based on the valuation of other companies, which may fail to capture target-specific strengths, weaknesses, opportunities, and risks

ILLUSTRATIVE COMPARABLE COMPANIES ANALYSIS FOR VALUECO

The following section provides a detailed, step-by-step example of how comparable companies analysis is used to establish a valuation range for our illustrative target company, ValueCo. For the purposes of Chapters 1 through 6, we assume that ValueCo is a private company and that the financial statistics and valuation multiples throughout the book represent normalized economic and market conditions.

Step I. Select the Universe of Comparable Companies

Study the Target Our first task was to learn ValueCo's "story" in as much detail as possible so as to provide a frame of reference for locating comparable companies. As ValueCo is a private company, for the purposes of this exercise we assumed that it is being sold through an organized M&A sale process (see Chapter 6). Therefore, we were provided with substantive information on the company, its sector, products, customers, competitors, distribution channels, and end markets, as well as historical financial performance and projections. We sourced this information from the confidential information memorandum (CIM, see Exhibit 6.5), management presentation (see Exhibit 6.6), and data room, such as those provided by Intralinks (see Exhibit 6.7).[56]

Identify Key Characteristics of the Target for Comparison Purposes This exercise involved examining ValueCo's key business and financial characteristics in accordance with the framework outlined in Exhibit 1.3, which provided us with a systematic approach for identifying companies that shared key similarities with ValueCo.

Screen for Comparable Companies Our search for comparable companies began by examining ValueCo's public competitors, which we initially identified by perusing the CIM as well as selected industry reports. We then searched through equity research reports on these public competitors for the analysts' views on comparable companies, which provided us with additional companies to evaluate. We also reviewed the proxy statements for recent M&A transactions involving companies in ValueCo's sector, and found ideas for additional comparable companies from the enclosed fairness opinion excerpts. To ensure that no potential comparables were missed, we screened companies using SIC/NAICS codes corresponding to ValueCo's sector.

These sources provided us with enough information to create a solid initial list of comparable companies (see Exhibit 1.38). We also compiled summary financial information using Bloomberg in order to provide a basic understanding of their financial profiles.

[56]See Chapter 6: Sell-Side M&A for an overview of the key documents and sources of information in an organized sale process.

EXHIBIT 1.38 List of Comparable Companies

($ in millions)

List of Comparable Companies						
Company	**Ticker**	**Business Description**	**Equity Value**	**Enterprise Value**	**LTM Sales**	**LTM EBITDA**
BuyerCo	BUY	Produces chemicals and advanced materials including acetyl, acetate, vinyl emulsion, and engineered polymers	$9,800	$11,600	$6,560	$1,443
Falloon Group	FLN	Manufactures differentiated and commodity chemical products including those in adhesives, aerospace, automotive, and consumer products	7,480	11,254	11,835	1,636
Sherman Co.	SHR	Produces chemicals and plastics including coatings, adhesives, specialty polymers, inks, intermediates, and performance polymers	5,600	8,101	5,895	1,047
Pearl Corp.	PRL	Supplies specialty chemical, construction, and container products for the food, consumer products, petroleum refinery, and construction industries	5,172	5,856	4,284	839
Gasparro Corp.	JDG	Develops various chemical products for use in crop protection, pharmaceuticals, and electronics applications	5,000	6,750	4,725	900
Kumra Inc.	KUM	Manufactures brominated flame retardants, refinery catalysts, and fine chemistry products	4,852	5,345	3,187	665
Goodson Corp.	GDS	Manufactures and markets basic chemicals, vinyls, polymers, and fabricated products	4,160	5,660	4,769	763
Pryor Industries	PRI	Develops and manufactures specialty chemicals for various end users including aerospace, plastics, coatings, and mining industries	3,926	4,166	3,682	569
Lanzarone Global	LNZ	Manufactures plastics and other chemicals including urethane polymers, flame retardants, seed treatment, and petroleum additives	3,230	3,823	3,712	578
McMenamin & Co.	MCM	Manufactures thermoplastic compounds, specialty resins, specialty polymer formulations, engineered films, and additive systems	3,193	3,193	3,223	355
S. Momper & Co.	MOMP	Manufactures chlorine, caustic soda, sodium hydrosulfite, hydrochloric acid, bleach products, and potassium hydroxide	2,240	2,921	2,077	378
Adler Worldwide	ADL	Produces titanium dioxide pigments for paints, plastics, inks, and cosmetics	1,217	1,463	1,550	245
Schachter & Sons	STM	Manufactures and markets chemical and plastic products including electrochemicals, methanol, and aromatic chemicals	1,125	1,674	1,703	238
Girshin Holdings	MGP	Manufactures carbon compounds and wood treatments	1,035	1,298	1,606	177
Crespin International	MCR	Produces engineered polymers and styrenic block copolymers used in adhesives, coatings, consumer, and personal care products	872	1,222	1,443	190

Step II. Locate the Necessary Financial Information

In Step II, we set out to locate the financial information necessary to spread the key financial statistics and ratios for each of the companies that we identified as being comparable to ValueCo. For Gasparro Corp. ("Gasparro"), one of ValueCo's closest comparables, for example, this information was obtained from its most recent SEC filings, consensus estimates, and equity research. Additional financial information was sourced from Bloomberg.

10-K and 10-Q We used Gasparro's most recent 10-K and 10-Q for the periods ending December 31, 2011, and September 30, 2012, respectively, as the primary sources for historical financial information. Specifically, these filings provided us with the prior year annual as well as current and prior year YTD financial statistics necessary to calculate LTM data. They also served as sources for the most recent basic shares outstanding count, options/warrants data, and balance sheet and cash flow statement

information. The MD&A and notes to the financials were key for identifying non-recurring items (see Exhibit 1.47).

Earnings Announcement and Earnings Call Transcript We read through the most recent earnings announcement and earnings call transcript to gain further insight on Gasparro's financial performance and outlook.

8-K/Press Releases We confirmed via a search of Gasparro's corporate website that there were no intra-quarter press releases, 8-Ks, or other SEC filings disclosing new M&A, capital markets, or other activities since the filing of its most recent 10-Q that would affect the relevant financial statistics.

Consensus Estimates and Equity Research Consensus estimates formed the basis for the 2012E and 2013E income statement inputs, namely sales, EBITDA, EBIT, and EPS. We also read individual equity research reports for further color on factors driving Gasparro's growth expectations as well as insights on non-recurring items.

Financial Information Service We used Bloomberg to source Gasparro's closing share price on December 20, 2012 (the day we performed the analysis), as well as its 52-week high and low share price data.

Moody's and S&P Websites We obtained the Moody's and S&P credit ratings for Gasparro from the respective credit rating agencies' websites.

Step III. Spread Key Statistics, Ratios, and Trading Multiples

After locating the necessary financial information for the selected comparable companies, we created input sheets for each company, as shown in Exhibit 1.39 for Gasparro. These input sheets link to the output pages used for benchmarking the comparables universe (see Exhibits 1.53, 1.54, and 1.55).

Below, we walk through each section of the input sheet in Exhibit 1.39.

EXHIBIT 1.39 Comparable Companies Analysis—Trading Multiples Output Page

Gasparro Corp. (NYSE:JDG)

Input Page

($ in millions, except per share data)

Business Description

Develops various chemical products for use in crop protection, pharmaceuticals, and electronics applications

General Information

Company Name	Gasparro Corp.
Ticker	JDG
Stock Exchange	NYSE
Fiscal Year Ending	Dec-31
Moody's Corporate Rating	Baa3
S&P Corporate Rating	BBB-
Predicted Beta	1.25
Marginal Tax Rate	*38.0%*

Selected Market Data

Current Price	12/20/2012	$50.00
% of 52-week High		*80.0%*
52-week High Price	7/20/2012	62.50
52-week Low Price	4/5/2012	40.00
Dividend Per Share (MRQ)		0.25
Fully Diluted Shares Outstanding		100.000
Equity Value		**$5,000.0**
Plus: Total Debt		1,850.0
Plus: Preferred Stock		-
Plus: Noncontrolling Interest		-
Less: Cash and Cash Equivalents		(100.0)
Enterprise Value		**$6,750.0**

Trading Multiples

	LTM 9/30/2012	NFY 2012E	NFY+1 2013E	NFY+2 2014E
EV/Sales	1.4x	1.4x	1.3x	1.2x
Metric	$4,725.0	$5,000.0	$5,350.0	$5,625.0
EV/EBITDA	7.5x	7.1x	6.6x	6.3x
Metric	$900.0	$950.0	$1,025.0	$1,075.0
EV/EBIT	9.3x	8.8x	8.2x	7.8x
Metric	$725.0	$765.0	$825.0	$865.0
P/E	12.9x	11.2x	10.0x	9.1x
Metric	$3.88	$4.45	$5.00	$5.50
FCF Yield	*6.3%*	*7.0%*	*7.5%*	*8.3%*
Metric	$315.0	$350.0	$375.0	$415.0

LTM Return on Investment Ratios

Return on Invested Capital	*21.1%*
Return on Equity	*23.3%*
Return on Assets	*7.9%*
Implied Annual Dividend Per Share	*2.0%*

LTM Credit Statistics

Debt/Total Capitalization	*51.7%*
Total Debt/EBITDA	2.1x
Net Debt/EBITDA	1.9x
EBITDA/Interest Expense	9.0x
(EBITDA-capex)/Interest Expense	7.0x
EBIT/Interest Expense	7.3x

Growth Rates

	Sales	EBITDA	FCF	EPS
Historical				
1-year	*8.4%*	*5.1%*	*13.2%*	*6.4%*
2-year CAGR	*9.5%*	*8.2%*	*14.2%*	*11.6%*
Estimated				
1-year	*11.1%*	*15.2%*	*16.7%*	*31.0%*
2-year CAGR	*9.0%*	*11.5%*	*11.8%*	*21.3%*
Long-term				*12.0%*

Reported Income Statement

	Fiscal Year Ending December 31, 2009A	2010A	2011A	Prior Stub 9/30/2011	Current Stub 9/30/2012	LTM 9/30/2012
Sales	**$3,750.0**	**$4,150.0**	**$4,500.0**	**$3,375.0**	**$3,600.0**	**$4,725.0**
COGS (incl. D&A)	2,450.0	2,700.0	2,925.0	2,200.0	2,350.0	3,075.0
Gross Profit	**$1,300.0**	**$1,450.0**	**$1,575.0**	**$1,175.0**	**$1,250.0**	**$1,650.0**
SG&A	750.0	830.0	900.0	675.0	720.0	945.0
Other Expense / (Income)	-	-	-	-	-	-
EBIT	**$550.0**	**$620.0**	**$675.0**	**$500.0**	**$530.0**	**$705.0**
Interest Expense	110.0	105.0	102.0	75.0	73.0	100.0
Pre-tax Income	**$440.0**	**$515.0**	**$573.0**	**$425.0**	**$457.0**	**$605.0**
Income Taxes	167.2	195.7	217.7	161.5	173.7	229.9
Noncontrolling Interest	-	-	-	-	-	-
Preferred Dividends	-	-	-	-	-	-
Net Income	**$272.8**	**$319.3**	**$355.3**	**$263.5**	**$283.3**	**$375.1**
Effective Tax Rate	*38.0%*	*38.0%*	*38.0%*	*38.0%*	*38.0%*	*38.0%*
Weighted Avg. Diluted Shares	100.0	100.0	100.0	100.0	100.0	100.0
Diluted EPS	**$2.73**	**$3.19**	**$3.55**	**$2.64**	**$2.83**	**$3.75**

Adjusted Income Statement

Reported Gross Profit	$1,300.0	$1,450.0	$1,575.0	$1,175.0	$1,250.0	$1,650.0	
Non-recurring Items in COGS	-	-	-	-	30.0	30.0	(1)
Adj. Gross Profit	**$1,300.0**	**$1,450.0**	**$1,575.0**	**$1,175.0**	**$1,280.0**	**$1,680.0**	
% margin	*34.7%*	*34.9%*	*35.0%*	*34.8%*	*35.6%*	*35.6%*	
Reported EBIT	$550.0	$620.0	$675.0	$500.0	$530.0	$705.0	
Non-recurring Items in COGS	-	-	-	-	30.0	30.0	
Other Non-recurring Items	-	-	(25.0)	-	15.0	(10.0)	(2), (3)
Adjusted EBIT	**$550.0**	**$620.0**	**$650.0**	**$500.0**	**$575.0**	**$725.0**	
% margin	*14.7%*	*14.9%*	*14.4%*	*14.8%*	*16.0%*	*15.3%*	
Depreciation & Amortization	155.0	165.0	175.0	125.0	125.0	175.0	
Adjusted EBITDA	**$705.0**	**$785.0**	**$825.0**	**$625.0**	**$700.0**	**$900.0**	
% margin	*18.8%*	*18.9%*	*18.3%*	*18.5%*	*19.4%*	*19.0%*	
Reported Net Income	$272.8	$319.3	$355.3	$263.5	$283.3	$375.1	
Non-recurring Items in COGS	-	-	-	-	30.0	30.0	
Other Non-recurring Items	-	-	(25.0)	-	15.0	(10.0)	
Non-operating Non-rec. Items	-	-	-	-	-	-	
Tax Adjustment	-	-	9.5	-	(17.1)	(7.6)	
Adjusted Net Income	**$272.8**	**$319.3**	**$339.8**	**$263.5**	**$311.2**	**$387.5**	
% margin	*7.3%*	*7.7%*	*7.6%*	*7.8%*	*8.6%*	*8.2%*	
Adjusted Diluted EPS	$2.73	$3.19	$3.40	$2.64	$3.11	$3.88	

Cash Flow Statement Data

Cash From Operations	400.0	450.0	500.0	360.0	380.0	520.0
Capital Expenditures	170.0	185.0	200.0	150.0	155.0	205.0
% sales	*4.5%*	*4.5%*	*4.4%*	*4.4%*	*4.3%*	*4.3%*
Free Cash Flow	**$230.0**	**$265.0**	**$300.0**	**$210.0**	**$225.0**	**$315.0**
% margin	*6.1%*	*6.4%*	*6.7%*	*6.2%*	*6.3%*	*6.7%*
FCF / Share	**$2.30**	**$2.65**	**$3.00**	**$2.10**	**$2.25**	**$3.15**
Depreciation & Amortization	155.0	165.0	175.0	125.0	125.0	175.0
% sales	*4.1%*	*4.0%*	*3.9%*	*3.7%*	*3.5%*	*3.7%*

Balance Sheet Data

	2011A	9/30/2012
Cash and Cash Equivalents	$75.0	$100.0
Accounts Receivable	625.0	650.0
Inventories	730.0	750.0
Prepaids and Other Current Assets	225.0	250.0
Total Current Assets	**$1,655.0**	**$1,750.0**
Property, Plant and Equipment, net	1,970.0	2,000.0
Goodwill and Intangible Assets	775.0	800.0
Other Assets	425.0	450.0
Total Assets	**$4,825.0**	**$5,000.0**
Accounts Payable	275.0	300.0
Accrued Liabilities	450.0	475.0
Other Current Liabilities	125.0	150.0
Total Current Liabilities	**$850.0**	**$925.0**
Total Debt	1,875.0	1,850.0
Other Long-Term Liabilities	500.0	500.0
Total Liabilities	**$3,225.0**	**$3,275.0**
Noncontrolling Interest	-	-
Preferred Stock	-	-
Shareholders' Equity	1,600.0	1,725.0
Total Liabilities and Equity	**$4,825.0**	**$5,000.0**
Balance Check	*0.000*	*0.000*

Calculation of Fully Diluted Shares Outstanding

Basic Shares Outstanding	98.500
Plus: Shares from In-the-Money Options	2.750
Less: Shares Repurchased	(1.250)
Net New Shares from Options	**1.500**
Plus: Shares from Convertible Securities	-
Fully Diluted Shares Outstanding	**100.000**

Options/Warrants

Tranche	Number of Shares	Exercise Price	In-the-Money Shares	Proceeds
Tranche 1	1.250	$10.00	1.250	$12.5
Tranche 2	1.000	30.00	1.000	30.0
Tranche 3	0.500	40.00	0.500	20.0
Tranche 4	0.250	60.00	-	-
Tranche 5	-	-	-	-
Total	**3.000**		**2.750**	**$62.5**

Convertible Securities

	Amount	Conversion Price	Conversion Ratio	New Shares
Issue 1	-	-	-	-
Issue 2	-	-	-	-
Issue 3	-	-	-	-
Issue 4	-	-	-	-
Issue 5	-	-	-	-
Total				**-**

Notes

(1) In Q2 2012, Gasparro Corp. recorded a $30 million pre-tax inventory valuation charge related to product obsolescence (see Q2 2012 10-Q MD&A, page 14).
(2) In Q4 2011, Gasparro Corp. realized a $25 million pre-tax gain on the sale of a non-core business (see 2011 10-K MD&A, page 45).
(3) In Q3 2012, Gasparro Corp. recognized $15 million of pre-tax restructuring costs in connection with the closure of a manufacturing facility (see Q3 2012 10-Q MD&A, page 15).

General Information In the "General Information" section of the input page, we entered various basic company data (see Exhibit 1.40). Gasparro Corp., ticker symbol JDG, is a U.S.-based company that is listed on the NYSE. Gasparro reports its financial results based on a fiscal year ending December 31 and has corporate credit ratings of Baa3 and BBB– as rated by Moody's and S&P, respectively. Gasparro's predicted levered beta is 1.25, as sourced from Bloomberg (see Chapter 3). We also determined a 38% marginal tax rate from Gasparro's tax rate disclosures in its 10-K.

EXHIBIT 1.40 General Information Section

General Information	
Company Name	Gasparro Corp.
Ticker	JDG
Stock Exchange	NYSE
Fiscal Year Ending	Dec-31
Moody's Corporate Rating	Baa3
S&P Corporate Rating	BBB-
Predicted Beta	1.25
Marginal Tax Rate	*38.0%*

Selected Market Data Under "Selected Market Data," we entered Gasparro's share price information as well as the most recent quarterly (MRQ) dividend paid of $0.25 per share (as sourced from the latest 10-Q, see Exhibit 1.41). Gasparro's share price was $50.00 as of market close on December 20, 2012, representing 80% of its 52-week high. As the trading multiples benchmarking output page shows (see Exhibit 1.55), this percentage is consistent with that of most of the comparables, which indicates that the market expects Gasparro to perform roughly in line with its peers.

This section also calculates equity value and enterprise value once the appropriate basic shares outstanding count, options/warrants data, and most recent balance sheet data are entered (see Exhibits 1.42, 1.43, 1.44, and 1.45).

EXHIBIT 1.41 Selected Market Data Section

($ in millions, except per share data)

Selected Market Data		
Current Price	12/20/2012	$50.00
% of 52-week High		*80.0%*
52-week High Price	7/20/2012	62.50
52-week Low Price	4/5/2012	40.00
Dividend Per Share (MRQ)		0.25
Fully Diluted Shares Outstanding		-
Equity Value		**-**
Plus: Total Debt		-
Plus: Preferred Stock		-
Plus: Noncontrolling Interest		-
Less: Cash and Cash Equivalents		-
Enterprise Value		**-**

= Closing Share Price on December 20, 2012

= Closing Share Price / 52-week High Price

Calculation of Fully Diluted Shares Outstanding Gasparro's most recent basic shares outstanding count is 98.5 million, as sourced from the first page of its latest 10-Q. We searched recent press releases and SEC filings to ensure that no stock splits, follow-on offerings, or major share buybacks, for example, took place following the most recent 10-Q filing. We also confirmed that Gasparro does not have convertible securities outstanding. However, Gasparro has several tranches of options, which must be reflected in the calculation of fully diluted shares in accordance with the TSM.

As shown in Exhibit 1.42 under the "Options/Warrants" heading, Gasparro has four tranches of options, each consisting of a specified number of shares and corresponding weighted average exercise price. The first tranche, for example, represents a group of options collectively owning the right to buy 1.25 million shares at a weighted average exercise price of $10.00. This tranche is deemed in-the-money given that Gasparro's current share price of $50.00 is above the weighted average strike price. The exercise of this tranche generates proceeds of $12.5 million (1.25 million × $10.00), which are assumed to repurchase Gasparro shares at the current share price of $50.00.

EXHIBIT 1.42 Calculation of Fully Diluted Shares Outstanding Section

($ in millions, except per share data)

Calculation of Fully Diluted Shares Outstanding	
Basic Shares Outstanding	98.500
Plus: Shares from In-the-Money Options	2.750
Less: Shares Repurchased	(1.250)
Net New Shares from Options	**1.500**
Plus: Shares from Convertible Securities	-
Fully Diluted Shares Outstanding	**100.000**

= Total In-the-Money Shares

= Total Option Proceeds / Current Share Price
= $62.5 million / $50.00

Options/Warrants

Tranche	Number of Shares	Exercise Price	In-the-Money Shares	Proceeds
Tranche 1	1.250	$10.00	1.250	$12.5
Tranche 2	1.000	30.00	1.000	30.0
Tranche 3	0.500	40.00	0.500	20.0
Tranche 4	0.250	60.00	-	-
Tranche 5	-	-	-	-
Total	**3.000**	**-**	**2.750**	**$62.5**

= IF(Weighted Average Strike Price < Current Share Price, display Number of Shares, otherwise display 0)
= IF($10.00 < $50.00, 1.250, 0)

= IF(In-the-Money Shares > 0, then In-the-Money Shares x Weighted Average Strike Price, otherwise display 0)
= IF(1.250 > 0, 1.250 x $10.00, 0)

Convertible Securities

	Amount	Conversion Price	Conversion Ratio	New Shares
Issue 1	-	-	-	-
Issue 2	-	-	-	-
Issue 3	-	-	-	-
Issue 4	-	-	-	-
Issue 5	-	-	-	-
Total	-	-	-	**-**

We utilized this same approach for the other tranches of options. The fourth tranche, however, has a weighted average exercise price of $60.00 (above the current share price of $50.00) and was therefore identified as out-of-the-money. Consequently, these options were excluded from the calculation of fully diluted shares outstanding.

In aggregate, the 2.75 million shares from the in-the-money options generate proceeds of $62.5 million. At Gasparro's current share price of $50.00, these proceeds are used to repurchase 1.25 million shares ($62.5 million/$50.00). The repurchased shares are then subtracted from the 2.75 million total in-the-money shares to provide net new shares of 1.5 million, as shown under the net new shares from options line item in Exhibit 1.42. These incremental shares are added to Gasparro's basic shares to calculate fully diluted shares outstanding of 100 million.

Equity Value The 100 million fully diluted shares outstanding output feeds into the "Selected Market Data" section, where it is multiplied by Gasparro's current share price of $50.00 to produce an equity value of $5,000 million (see Exhibit 1.43). This calculated equity value forms the basis for calculating enterprise value.

EXHIBIT 1.43 Equity Value

($ in millions, except per share data)

Selected Market Data		
Current Price	12/20/2012	$50.00
% of 52-week High		*80.0%*
52-week High Price	7/20/2012	62.50
52-week Low Price	4/5/2012	40.00
Dividend Per Share (MRQ)		0.25
Fully Diluted Shares Outstanding		100.000
Equity Value		**$5,000.0**
Plus: Total Debt		-
Plus: Preferred Stock		-
Plus: Noncontrolling Interest		-
Less: Cash and Cash Equivalents		-
Enterprise Value		**-**

= Current Share Price × Fully Diluted Shares Outstanding
= $50.00 × 100 million

Balance Sheet Data In the "Balance Sheet Data" section, we entered Gasparro's balance sheet data for the prior fiscal year ending 12/31/2011 and the most recent quarter ending 9/30/2012, as sourced directly from its 10-Q (see Exhibit 1.44).

EXHIBIT 1.44 Balance Sheet Data Section

($ in millions)

Balance Sheet Data		
	2011A	9/30/2012
Cash and Cash Equivalents	$75.0	$100.0
Accounts Receivable	625.0	650.0
Inventories	730.0	750.0
Prepaids and Other Current Assets	225.0	250.0
Total Current Assets	**$1,655.0**	**$1,750.0**
Property, Plant and Equipment, net	1,970.0	2,000.0
Goodwill and Intangible Assets	775.0	800.0
Other Assets	425.0	450.0
Total Assets	**$4,825.0**	**$5,000.0**
Accounts Payable	275.0	300.0
Accrued Liabilities	450.0	475.0
Other Current Liabilities	125.0	150.0
Total Current Liabilities	**$850.0**	**$925.0**
Total Debt	1,875.0	1,850.0
Other Long-Term Liabilities	500.0	500.0
Total Liabilities	**$3,225.0**	**$3,275.0**
Noncontrolling Interest	-	-
Preferred Stock	-	-
Shareholders' Equity	1,600.0	1,725.0
Total Liabilities and Equity	**$4,825.0**	**$5,000.0**
Balance Check	*0.000*	*0.000*

Enterprise Value We used selected balance sheet data, specifically total debt and cash, together with the previously calculated equity value to determine Gasparro's enterprise value. As shown in Exhibit 1.45, Gasparro had $1,850 million of total debt outstanding and cash and cash equivalents of $100 million as of 9/30/2012. The net debt balance of $1,750 million was added to equity value of $5,000 million to produce an enterprise value of $6,750 million.

EXHIBIT 1.45 Enterprise Value

($ in millions, except per share data)

Selected Market Data		
Current Price	12/20/2012	$50.00
% of 52-week High		*80.0%*
52-week High Price	7/20/2012	62.50
52-week Low Price	4/5/2012	40.00
Dividend Per Share (MRQ)		0.25
Fully Diluted Shares Outstanding		100.000
Equity Value		**$5,000.0**
Plus: Total Debt		1,850.0
Plus: Preferred Stock		-
Plus: Noncontrolling Interest		-
Less: Cash and Cash Equivalents		(100.0)
Enterprise Value		**$6,750.0**

= Equity Value + Total Debt - Cash
= $5,000 million + $1,850 million - $100 million

Reported Income Statement In the "Reported Income Statement" section, we entered the historical income statement items directly from Gasparro's most recent 10-K and 10-Q. The LTM column automatically calculates Gasparro's LTM financial data on the basis of the prior annual year, and the prior and current year stub inputs (see Exhibit 1.46).

EXHIBIT 1.46 Reported Income Statement Section

($ in millions, except per share data)

Reported Income Statement	Fiscal Year Ending December 31,			Prior Stub	Current Stub	LTM
	2009A	2010A	2011A	9/30/2011	9/30/2012	9/30/2012
Sales	**$3,750.0**	**$4,150.0**	**$4,500.0**	**$3,375.0**	**$3,600.0**	**$4,725.0**
COGS (incl. D&A)	2,450.0	2,700.0	2,925.0	2,200.0	2,350.0	3,075.0
Gross Profit	**$1,300.0**	**$1,450.0**	**$1,575.0**	**$1,175.0**	**$1,250.0**	**$1,650.0**
SG&A	750.0	830.0	900.0	675.0	720.0	945.0
Other Expense / (Income)	-	-	-	-	-	-
EBIT	**$550.0**	**$620.0**	**$675.0**	**$500.0**	**$530.0**	**$705.0**
Interest Expense	110.0	105.0	102.0	75.0	73.0	100.0
Pre-tax Income	**$440.0**	**$515.0**	**$573.0**	**$425.0**	**$457.0**	**$605.0**
Income Taxes	167.2	195.7	217.7	161.5	173.7	229.9
Noncontrolling Interest	-	-	-	-	-	-
Preferred Dividends	-	-	-	-	-	-
Net Income	**$272.8**	**$319.3**	**$355.3**	**$263.5**	**$283.3**	**$375.1**
Effective Tax Rate	*38.0%*	*38.0%*	*38.0%*	*38.0%*	*38.0%*	*38.0%*
Weighted Avg. Diluted Shares	100.0	100.0	100.0	100.0	100.0	100.0
Diluted EPS	**$2.73**	**$3.19**	**$3.55**	**$2.64**	**$2.83**	**$3.75**

= Prior Fiscal Year + Current Stub - Prior Stub
= $4,500 million + $3,600 million - $3,375 million

Adjusted Income Statement After entering the reported income statement, we made adjustments in the "Adjusted Income Statement" section, as appropriate, for those items we determined to be non-recurring (see Exhibit 1.47), namely:

- $25 million pre-tax gain on the sale of a non-core business in Q4 2011
- $30 million pre-tax inventory valuation charge in Q2 2012 related to product obsolescence
- $15 million pre-tax restructuring charge in Q3 2012 related to severance costs

As the adjustments for non-recurring items relied on judgment, we carefully footnoted our assumptions and sources.

EXHIBIT 1.47 Adjusted Income Statement Section

Inventory valuation charge ("write-off")

Gain on sale of non-core business ("asset sale")

Restructuring charge

($ in millions, except per share data)

Adjusted Income Statement

	Fiscal Year Ending December 31,			Prior Stub	Current Stub	LTM	
	2009A	2010A	2011A	9/30/2011	9/30/2012	9/30/2012	
Reported Gross Profit	$1,300.0	$1,450.0	$1,575.0	$1,175.0	$1,250.0	$1,650.0	
Non-recurring Items in COGS	-	-	-	-	30.0	30.0	(1)
Adj. Gross Profit	**$1,300.0**	**$1,450.0**	**$1,575.0**	**$1,175.0**	**$1,280.0**	**$1,680.0**	
% margin	*34.7%*	*34.9%*	*35.0%*	*34.8%*	*35.6%*	*35.6%*	
Reported EBIT	$550.0	$620.0	$675.0	$500.0	$530.0	$705.0	
Non-recurring Items in COGS	-	-	-	-		30.0	
Other Non-recurring Items	-	-	(25.0)	-	15.0	(10.0)	(2), (3)
Adjusted EBIT	**$550.0**	**$620.0**	**$650.0**	**$500.0**	**$575.0**	**$725.0**	
% margin	*14.7%*	*14.9%*	*14.4%*	*14.8%*	*16.0%*	*15.3%*	
Depreciation & Amortization	155.0	165.0	175.0	125.0	125.0	175.0	
Adjusted EBITDA	**$705.0**	**$785.0**	**$825.0**	**$625.0**	**$700.0**	**$900.0**	
% margin	*18.8%*	*18.9%*	*18.3%*	*18.5%*	*19.4%*	*19.0%*	
Reported Net Income	$272.8	$319.3	$355.3	$263.5	$283.3	$375.1	
Non-recurring Items in COGS	-	-	-	-	30.0	30.0	
Other Non-recurring Items	-	-	(25.0)	-	15.0	(10.0)	
Non-operating Non-rec. Items	-	-	-	-	-	-	
Tax Adjustment	-	-	9.5	-	(17.1)	(7.6)	
Adjusted Net Income	**$272.8**	**$319.3**	**$339.8**	**$263.5**	**$311.2**	**$387.5**	
% margin	*7.3%*	*7.7%*	*7.6%*	*7.8%*	*8.6%*	*8.2%*	
Adjusted Diluted EPS	$2.73	$3.19	$3.40	$2.64	$3.11	$3.88	

Notes

(1) In Q2 2012, Gasparro Corp. recorded a $30 million pre-tax inventory valuation charge related to product obsolescence (see Q2 2012 10-Q MD&A, page 14).
(2) In Q4 2011, Gasparro Corp. realized a $25 million pre-tax gain on the sale of a non-core business (see 2011 10-K MD&A, page 45).
(3) In Q3 2012, Gasparro Corp. recognized $15 million of pre-tax restructuring costs in connection with the closure of a manufacturing facility (see Q3 2012 10-Q MD&A, page 15).

= Negative adjustment for pre-tax gain on asset sale × Marginal tax rate
= - ($25) million × 38%

= Add-back for pre-tax inventory and restructuring charges × Marginal tax rate
= - ($30 million + $15 million) × 38%

As shown in Exhibit 1.47, we entered the $30 million non-recurring product obsolescence charge as an add-back in the non-recurring items in COGS line item under the "Current Stub 9/30/2012" column heading. We also added back the $15 million restructuring charge in the other non-recurring items line under the "Current Stub 9/30/2012" column. The $25 million gain on asset sale, on the other hand, was backed out of reported earnings (entered as a negative value) under the "2011A" column. These calculations resulted in adjusted LTM EBIT and EBITDA of $725 million and $900 million, respectively.

To calculate LTM adjusted net income after adding back the full non-recurring charges of $30 million and $15 million, respectively, and subtracting the full $25 million gain on sale amount, we made tax adjustments in the tax adjustment line item. These adjustments were calculated by multiplying each full amount by Gasparro's marginal tax rate of 38%. This resulted in adjusted net income and diluted EPS of $387.5 million and $3.88, respectively. The adjusted financial statistics then served as the basis for calculating the various LTM profitability ratios, credit statistics, and trading multiples used in the benchmarking analysis (see Exhibits 1.53, 1.54, and 1.55).

Cash Flow Statement Data Gasparro's historical *cash from operations,* D&A, and capex were entered directly into the input page as they appeared in the cash flow statement from its 10-K and 10-Q with adjustments made as necessary for non-recurring items (see Exhibit 1.48). We also calculated free cash flow (FCF) by subtracting capex from cash from operations for each reporting period. This enabled us to calculate a FCF-to-sales margin of 6.7% and FCF per share of $3.15 for LTM 9/30/2012.

EXHIBIT 1.48 Cash Flow Statement Data Section

($ in millions, except per share data)

Cash Flow Statement Data	Fiscal Year Ending December 31,			Prior Stub	Current Stub	LTM
	2009A	2010A	2011A	9/30/2011	9/30/2012	9/30/2012
Cash From Operations	400.0	450.0	500.0	360.0	380.0	520.0
Capital Expenditures	170.0	185.0	200.0	150.0	155.0	205.0
% sales	*4.5%*	*4.5%*	*4.4%*	*4.4%*	*4.3%*	*4.3%*
Free Cash Flow	**$230.0**	**$265.0**	**$300.0**	**$210.0**	**$225.0**	**$315.0**
% margin	*6.1%*	*6.4%*	*6.7%*	*6.2%*	*6.3%*	*6.7%*
FCF / Share	**$2.30**	**$2.65**	**$3.00**	**$2.10**	**$2.25**	**$3.15**
Depreciation & Amortization	155.0	165.0	175.0	125.0	125.0	175.0
% sales	*4.1%*	*4.0%*	*3.9%*	*3.7%*	*3.5%*	*3.7%*

LTM Return on Investment Ratios

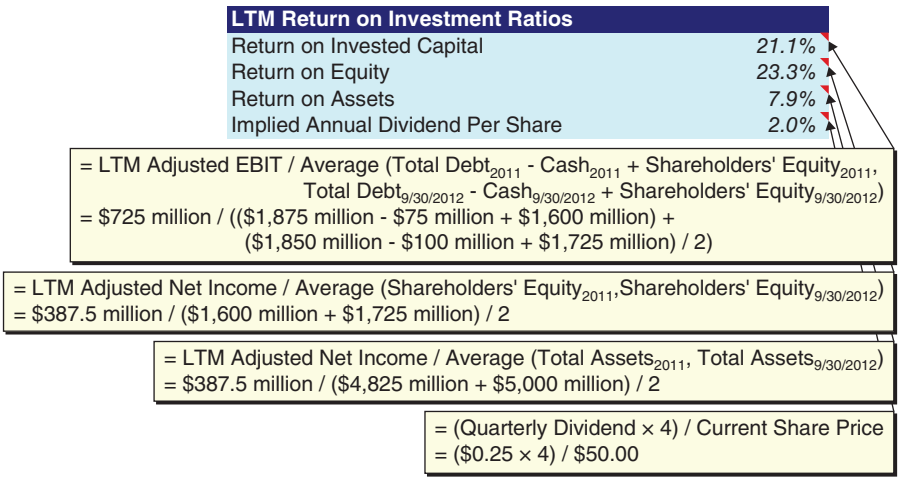
Return on Invested Capital For ROIC, we calculated 21.1% (see Exhibit 1.49) by dividing Gasparro's LTM 9/30/2012 adjusted EBIT of $725 million (as calculated in Exhibit 1.47) by the sum of its average net debt and shareholders' equity balances for the periods ending 12/31/2011 and 9/30/2012 ($725 million / (($1,875 million – $75 million + $1,600 million) + ($1,850 million – $100 million + $1,725 million) / 2)).

Return on Equity For ROE, we calculated 23.3% by dividing Gasparro's LTM 9/30/2012 adjusted net income of $387.5 million (as calculated in Exhibit 1.47) by its average shareholders' equity balance for the periods ending 12/31/2011 and 9/30/2012 (($1,600 million + $1,725 million) / 2).

Return on Assets For ROA, we calculated 7.9% by dividing Gasparro's LTM 9/30/2012 adjusted net income of $387.5 million by its average total assets for the periods ending 12/31/2011 and 9/30/2012 (($4,825 million + $5,000 million) / 2).

Dividend Yield To calculate dividend yield, we annualized Gasparro's dividend payment of $0.25 per share for the most recent quarter (see Exhibit 1.41), which implied an annual dividend payment of $1.00 per share. We checked recent press releases to ensure there were no changes in dividend policy after the filing of the 10-Q. The implied annualized dividend payment of $1.00 per share was then divided by Gasparro's current share price of $50.00 to calculate an implied annual dividend yield of 2%.

EXHIBIT 1.49 LTM Return on Investment Ratios Section



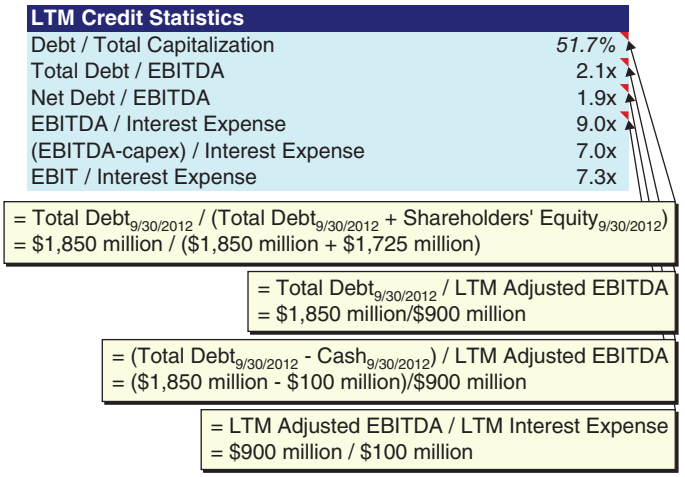
LTM Credit Statistics

Debt-to-Total Capitalization For debt-to-total capitalization, we divided Gasparro's total debt of $1,850 million as of 9/30/2012 by the sum of its total debt and shareholders' equity for the same period ($1,850 million + $1,725 million). This provided a debt-to-total capitalization ratio of 51.7% (see Exhibit 1.50).

Total Debt-to-EBITDA For total debt-to-EBITDA, we divided Gasparro's total debt of $1,850 million by its LTM 9/30/2012 adjusted EBITDA of $900 million. This provided a total leverage multiple of 2.1x (1.9x on a net debt basis).

EBITDA-to-Interest Expense For EBITDA-to-interest expense, we divided Gasparro's LTM 9/30/2012 adjusted EBITDA of $900 million by its interest expense of $100 million for the same period. This provided a ratio of 9.0x. We also calculated Gasparro's (EBITDA – capex)-to-interest expense and EBIT-to-interest expense ratios at 7.0x and 7.3x, respectively.

EXHIBIT 1.50 LTM Credit Statistics Section



Trading Multiples

In the "Trading Multiples" section, we entered consensus estimates for Gasparro's 2012E, 2013E, and 2014E sales, EBITDA, EBIT, and EPS (see Exhibit 1.51). These estimates, along with the calculated enterprise and equity values, were used to calculate forward trading multiples. Gasparro's LTM adjusted financial data is also linked to this section and used to calculate trailing trading multiples.

Enterprise Value Multiples For enterprise value-to-LTM EBITDA, we divided Gasparro's enterprise value of $6,750 million by its LTM 9/30/2012 adjusted EBITDA of $900 million, providing a multiple of 7.5x. For EV/2012E EBITDA, we divided the same enterprise value of $6,750 million by Gasparro's 2012E EBITDA of $950 million to calculate a multiple of 7.1x. This same methodology was used for EV/2013E EBITDA and EV/2014E EBITDA, as well as for the trailing and forward sales and EBIT enterprise value multiples.

Price-to-Earnings Ratio The approach for calculating P/E mirrors that for EV/EBITDA. We divided Gasparro's current share price of $50.00 by its LTM, 2012E, 2013E, and 2014E EPS of $3.88, $4.45, $5.00, and $5.50, respectively. These calculations provided P/E ratios of 12.9x, 11.2x, 10.0x, and 9.1x, respectively.

Free Cash Flow Yield Free cash flow (FCF) generation is an important metric for determining valuation. FCF is an indicator of a company's ability to return capital to shareholders or repay debt, which accrues to equity holders. Therefore, many investors focus on FCF yield, calculated as (cash from operations – capex) / market capitalization or FCF per share / share price. Gasparro's FCF yield for LTM, 2012E, 2013E, and 2014E is 6.3%, 7.0%, 7.5%, and 8.3%, respectively.

EXHIBIT 1.51 Trading Multiples Section

($ in millions, except per share data)

Trading Multiples	LTM 9/30/2012	NFY 2012E	NFY+1 2013E	NFY+2 2014E
EV/Sales	1.4x	1.4x	1.3x	1.2x
Metric	$4,725.0	$5,000.0	$5,350.0	$5,625.0
EV/EBITDA	7.5x	7.1x	6.6x	6.3x
Metric	$900.0	$950.0	$1,025.0	$1,075.0
EV/EBIT	9.3x	8.8x	8.2x	7.8x
Metric	$725.0	$765.0	$825.0	$865.0
P/E	12.9x	11.2x	10.0x	9.1x
Metric	$3.88	$4.45	$5.00	$5.50
FCF Yield	*6.3%*	*7.0%*	*7.5%*	*8.3%*
Metric	$315.0	$350.0	$375.0	$415.0

= Enterprise Value / LTM Sales
= $6,750 million / $4,750 million

= Enterprise Value / 2012E EBITDA
= $6,750 million / $950 million

= Current Share Price / 2013E EPS
= $50.00 / $5.00

= 2014E Free Cash Flow / Equity Value
= $415 million / $5,000 million

Growth Rates

In the "Growth Rates" section, we calculated Gasparro's historical and estimated growth rates for sales, EBITDA, and EPS for various periods. For historical data, we used the adjusted income statement financials from Exhibit 1.47. As shown in Exhibit 1.52, Gasparro's EPS grew 6.4% over the past year (1-year historical growth) and at an 11.6% CAGR over the past two years (2-year historical compounded growth).

For the forward growth rates, we used consensus estimates from the "Trading Multiples" section. On a forward year basis, Gasparro's expected EPS growth rate for 2011A to 2012E is 31%, with an expected 2011A to 2013E CAGR of 21.3%. We sourced Gasparro's long-term EPS growth rate of 12%, which is based on equity research analysts' estimates, from consensus estimates.

EXHIBIT 1.52 Growth Rates Section

Growth Rates	Sales	EBITDA	FCF	EPS
Historical				
1-year	*8.4%*	*5.1%*	*13.2%*	*6.4%*
2-year CAGR	*9.5%*	*8.2%*	*14.2%*	*11.6%*
Estimated				
1-year	*11.1%*	*15.2%*	*16.7%*	*31.0%*
2-year CAGR	*9.0%*	*11.5%*	*11.8%*	*21.3%*
Long-term				*12.0%*

= 2012E Sales / 2011A Sales - 1
= $5,000 million / $4,500 million - 1

= (2013E EBITDA / 2011A Adjusted EBITDA) ^ (1 / (2013E - 2011A)) - 1
= ($1,025 million / $825 million) ^ (1/2) - 1

Step IV. Benchmark the Comparable Companies

After completing Steps I through III, we were prepared to perform the benchmarking analysis for ValueCo.

The first two benchmarking output pages focused on the comparables' financial characteristics, enabling us to determine ValueCo's relative position among its peers for key value drivers (see Exhibits 1.53 and 1.54). This benchmarking analysis, in combination with a review of key business characteristics (outlined in Exhibit 1.3), also enabled us to identify ValueCo's closest comparables—in this case, BuyerCo, Gasparro Corp., and Sherman Co. These closest comparables were instrumental in helping to frame the ultimate valuation range.

Similarly, the benchmarking analysis allowed us to identify outliers, such as McMenamin & Co. and Adler Worldwide among others, which were determined to be less relevant due to their profitability and size, respectively. In this case, we did not eliminate the outliers altogether. Rather, we elected to group the comparable companies into three tiers based on subsector and size—Specialty Chemicals, Commodity/Diversified Chemicals, and Small-Cap Chemicals. The companies in the "Specialty Chemicals" group are more similar to ValueCo in terms of key business and financial characteristics and, therefore, are more relevant in our view. The companies in the "Commodity/Diversified Chemicals" and "Small-Cap Chemicals" groups, however, provided further perspective as part of a more thorough analysis.

We used the output page in Exhibit 1.55 to analyze and compare the trading multiples for ValueCo's comparables. As previously discussed, financial performance typically translates directly into valuation (i.e., the top performers tend to receive a premium valuation to their peers, with laggards trading at a discount). Therefore, we focused on the multiples for ValueCo's closest comparables as the basis for framing valuation.

Exhibit 1.55(a) presents a comparable companies output page in a format preferred by certain equity research analysts and equity investors. Many equity investors focus primarily on free cash flow generation for their valuation and investment decisions.

EXHIBIT 1.53 ValueCo Corporation: Benchmarking Analysis – Financial Statistics and Ratios, Page 1

ValueCo Corporation

Benchmarking Analysis – Financial Statistics and Ratios, Page 1

($ in millions, except per share data)

		Market Valuation		LTM Financial Statistics					LTM Profitability Margins				Growth Rates						
													Sales		EBITDA		EPS		
Company	Ticker	Equity Value	Enterprise Value	Sales	Gross Profit	EBITDA	EBIT	Net Income	Gross Profit (%)	EBITDA (%)	EBIT (%)	Net Income (%)	Hist. 1-year	Est. 1-year	Hist. 1-year	Est. 1-year	Hist. 1-year	Est. 1-year	Est. LT
ValueCo Corporation	**NA**	**-**	**-**	**$3,385**	**$1,155**	**$700**	**$500**	**$248**	**34%**	**21%**	**15%**	**7%**	**10%**	**9%**	**15%**	**9%**	**NA**	**NA**	**NA**
Tier I: Specialty Chemicals																			
BuyerCo	BUY	$9,800	$11,600	$6,560	$2,329	$1,443	$1,279	$705	36%	22%	20%	11%	14%	8%	22%	8%	27%	10%	7%
Sherman Co.	SHR	5,600	8,101	5,895	1,411	1,047	752	419	33%	18%	13%	7%	10%	7%	10%	7%	11%	11%	9%
Pearl Corp.	PRL	5,172	5,856	4,284	1,585	839	625	325	37%	20%	15%	8%	10%	7%	10%	7%	10%	15%	11%
Gasparro Corp.	JDG	5,000	6,750	4,725	1,680	900	725	388	36%	19%	15%	8%	8%	11%	5%	15%	6%	31%	12%
Kumra Inc.	KUM	4,852	5,345	3,187	922	665	506	248	29%	21%	16%	8%	10%	8%	10%	8%	11%	20%	10%
Mean									**34%**	**20%**	**16%**	**8%**	**10%**	**8%**	**11%**	**9%**	**13%**	**17%**	**10%**
Median									**36%**	**20%**	**15%**	**8%**	**10%**	**8%**	**10%**	**8%**	**11%**	**15%**	**10%**
Tier II: Commodity / Diversified Chemicals																			
Falloon Group	FLN	$7,480	$11,254	$11,835	$3,373	$1,636	$1,044	$465	29%	14%	9%	4%	5%	4%	5%	4%	5%	18%	5%
Goodson Corp.	GDS	4,160	5,660	4,769	1,431	763	525	214	30%	16%	11%	4%	10%	5%	10%	5%	17%	16%	9%
Pryor Industries	PRI	3,926	4,166	3,682	1,178	569	421	227	32%	15%	11%	6%	5%	5%	5%	5%	2%	11%	10%
Lanzarone Global	LNZ	3,230	3,823	3,712	854	578	430	233	23%	16%	12%	6%	5%	5%	4%	5%	4%	16%	8%
McMenamin & Co.	MCM	3,193	3,193	3,223	903	355	226	119	28%	11%	7%	4%	5%	15%	5%	15%	7%	20%	12%
Mean									**28%**	**14%**	**10%**	**5%**	**6%**	**7%**	**6%**	**7%**	**7%**	**16%**	**9%**
Median									**29%**	**15%**	**11%**	**4%**	**5%**	**5%**	**5%**	**5%**	**5%**	**16%**	**9%**
Tier III: Small-Cap Chemicals																			
S. Momper & Co.	MOMP	$2,240	$2,921	$2,077	$457	$378	$295	$130	22%	18%	14%	6%	5%	11%	5%	11%	7%	8%	5%
Adler Worldwide	ADL	1,217	1,463	1,550	387	245	183	89	25%	16%	12%	6%	5%	5%	5%	5%	7%	8%	7%
Schachter & Sons	STM	1,125	1,674	1,703	426	238	170	76	25%	14%	10%	4%	11%	15%	11%	15%	16%	19%	11%
Girshin Holdings	MGP	1,035	1,298	1,606	273	177	112	52	17%	11%	7%	3%	5%	15%	5%	15%	12%	15%	8%
Crespin International	MCR	872	1,222	1,443	390	190	133	61	27%	13%	9%	4%	5%	15%	4%	14%	5%	10%	6%
Mean									**23%**	**14%**	**10%**	**5%**	**6%**	**12%**	**6%**	**12%**	**10%**	**12%**	**7%**
Median									**25%**	**14%**	**10%**	**4%**	**5%**	**15%**	**5%**	**14%**	**7%**	**10%**	**7%**
Overall																			
Mean									**29%**	**16%**	**12%**	**6%**	**8%**	**9%**	**8%**	**9%**	**10%**	**15%**	**9%**
Median									**29%**	**16%**	**12%**	**6%**	**5%**	**8%**	**5%**	**8%**	**7%**	**15%**	**9%**
High									**37%**	**22%**	**20%**	**11%**	**14%**	**15%**	**22%**	**15%**	**27%**	**31%**	**12%**
Low									**17%**	**11%**	**7%**	**3%**	**5%**	**4%**	**4%**	**4%**	**2%**	**8%**	**5%**

Source: Company filings, Bloomberg, Consensus Estimates

Note: Last twelve months data based on September 30, 2012. Estimated annual financial data based on a calendar year.

EXHIBIT 1.54 ValueCo Corporation: Benchmarking Analysis – Financial Statistics and Ratios, Page 2

ValueCo Corporation

Benchmarking Analysis – Financial Statistics and Ratios, Page 2

($ in millions, except per share data)

		General		Return on Investment				LTM Leverage Ratios			LTM Coverage Ratios			Credit Ratings	
Company	Ticker	FYE	Predicted Beta	ROIC (%)	ROE (%)	ROA (%)	Implied Div. Yield (%)	Debt / Tot. Cap. (%)	Debt / EBITDA (x)	Net Debt / EBITDA (x)	EBITDA / Int. Exp. (x)	EBITDA - Cpx/ Int. (x)	EBIT / Int. Exp. (x)	Moody's	S&P
ValueCo Corporation	**NA**	**Dec-31**	**NA**	**10%**	**7%**	**4%**	**NA**	**30%**	**2.1x**	**1.9x**	**7.0x**	**5.5x**	**5.0x**	**NA**	**NA**
Tier I: Specialty Chemicals															
Buyer Co	BUY	Dec-31	1.24	30%	29%	9%	0%	47%	1.5x	1.2x	10.1x	8.8x	9.0x	Ba2	BB
Sherman Co.	SHR	Dec-31	1.35	16%	18%	6%	2%	57%	3.0x	2.4x	13.8x	10.7x	9.9x	Baa2	BBB
Pearl Corp.	PRL	Dec-31	1.58	19%	14%	7%	0%	37%	1.8x	0.8x	18.4x	7.1x	6.2x	Baa3	BBB-
Gasparro Corp.	JDG	Dec-31	1.25	21%	23%	8%	2%	52%	2.1x	1.9x	9.0x	7.0x	7.3x	Baa3	BBB-
Kumra Inc.	KUM	Dec-31	1.50	17%	10%	6%	2%	25%	1.3x	0.6x	11.0x	8.7x	8.4x	Baa1	BBB+
Mean			**1.38**	**21%**	**19%**	**7%**	**1%**	**44%**	**1.9x**	**1.4x**	**10.5x**	**8.4x**	**8.2x**		
Median			**1.35**	**19%**	**18%**	**7%**	**2%**	**47%**	**1.8x**	**1.2x**	**10.1x**	**8.7x**	**8.4x**		
Tier II: Commodity / Diversified Chemicals															
Falloon Group	FLN	Dec-31	1.69	16%	14%	4%	3%	55%	2.5x	2.2x	5.7x	3.8x	3.6x	Ba3	BB
Goodson Corp.	GDS	Dec-31	1.45	15%	11%	5%	1%	52%	2.9x	2.0x	4.2x	3.0x	2.9x	Baa1	BBB-
Pryor, Industries	PRI	Dec-31	1.46	14%	8%	5%	1%	19%	1.1x	0.4x	11.1x	8.9x	8.2x	Baa2	BBB
Lanzarone Global	LNZ	Dec-31	1.68	17%	12%	6%	0%	27%	1.3x	1.0x	10.7x	7.9x	7.9x	Ba3	BB-
McMenamin & Co.	MCM	Dec-31	1.64	12%	7%	4%	1%	18%	1.2x	0.0x	10.6x	8.2x	6.7x	Ba2	BB-
Mean			**1.58**	**15%**	**10%**	**5%**	**1%**	**34%**	**1.8x**	**1.1x**	**8.5x**	**6.4x**	**5.9x**		
Median			**1.64**	**15%**	**11%**	**5%**	**1%**	**27%**	**1.3x**	**0.1x**	**10.6x**	**7.9x**	**6.7x**		
Tier III: Small-Cap Chemicals															
S. Mompor & Co.	MOMP	Dec-31	1.14	15%	9%	6%	4%	40%	2.6x	1.8x	4.5x	3.7x	3.5x	Ba1	BB
Adler Worldwide	ADL	Dec-31	1.46	12%	7%	3%	4%	22%	1.6x	1.0x	6.2x	5.0x	4.7x	Ba2	BB
Schacter & Sons	STM	Dec-31	1.90	12%	8%	3%	1%	38%	2.5x	2.3x	5.0x	3.2x	3.6x	Ba3	BB-
Girshin Holdings	MGP	Dec-31	1.55	13%	9%	4%	3%	34%	1.8x	1.4x	6.3x	4.7x	4.0x	Ba3	BB-
Crespin International	MCR	Dec-31	1.80	10%	6%	4%	0%	28%	2.1x	1.8x	5.7x	4.4x	3.9x	Ba3	BB-
Mean			**1.57**	**12%**	**8%**	**4%**	**2%**	**33%**	**2.1x**	**1.7x**	**5.5x**	**4.2x**	**3.9x**		
Median			**1.55**	**12%**	**8%**	**4%**	**3%**	**34%**	**2.1x**	**1.8x**	**5.7x**	**4.4x**	**3.9x**		
Overall															
Mean			**1.51**	**16%**	**12%**	**5%**	**1%**	**37%**	**2.0x**	**1.4x**	**8.2x**	**6.3x**	**6.0x**		
Median			**1.50**	**15%**	**10%**	**5%**	**1%**	**37%**	**1.8x**	**1.4x**	**8.4x**	**7.0x**	**6.2x**		
High			**1.90**	**30%**	**29%**	**9%**	**4%**	**57%**	**3.0x**	**2.4x**	**13.8x**	**10.7x**	**9.9x**		
Low			**1.14**	**10%**	**6%**	**3%**	**0%**	**18%**	**1.1x**	**0.0x**	**4.2x**	**3.0x**	**2.9x**		

Source: Company filings, Bloomberg, Consensus Estimates

Note: Last twelve months data based on September 30, 2012. Estimated annual financial data based on a calendar year.

EXHIBIT 1.55 ValueCo Corporation: Comparable Companies Analysis—Trading Multiples Output Page

ValueCo Corporation
Comparable Companies Analysis
($ in millions, except per share data)

Company	Ticker	Current Share Price	% of 52-wk. High	Equity Value	Enterprise Value	Enterprise Value / LTM Sales	Enterprise Value / 2012E Sales	Enterprise Value / 2013E Sales	Enterprise Value / LTM EBITDA	Enterprise Value / 2012E EBITDA	Enterprise Value / 2013E EBITDA	Enterprise Value / LTM EBIT	Enterprise Value / 2012E EBIT	Enterprise Value / 2013E EBIT	LTM EBITDA Margin	Total Debt / EBITDA	Price / LTM EPS	Price / 2012E EPS	Price / 2013E EPS	LT EPS Growth
Tier I: Specialty Chemicals																				
BuyerCo	BUY	$70.00	91%	$9,800	$11,600	1.8x	1.7x	1.6x	8.0x	7.8x	7.3x	9.1x	8.8x	8.2x	22%	1.5x	13.9x	13.5x	12.5x	7%
Sherman Co.	SHR	40.00	76%	5,600	8,101	1.4x	1.4x	1.3x	7.7x	7.7x	7.2x	10.8x	10.7x	10.1x	18%	3.0x	13.4x	12.8x	11.8x	9%
Pearl Corp.	PRL	68.50	95%	5,172	5,856	1.4x	1.4x	1.3x	7.0x	7.0x	6.5x	9.4x	9.4x	8.7x	20%	1.8x	15.9x	14.7x	13.4x	11%
Gasparro Corp.	JDG	50.00	80%	5,000	6,750	1.4x	1.4x	1.3x	7.5x	7.1x	6.6x	9.3x	8.8x	8.2x	19%	2.1x	12.9x	11.2x	10.0x	12%
Kumra Inc.	KUM	52.50	88%	4,852	5,345	1.7x	1.7x	1.5x	8.0x	7.9x	7.4x	10.6x	10.4x	9.7x	21%	1.3x	19.5x	16.6x	14.4x	10%
Mean						**1.5x**	**1.5x**	**1.4x**	**7.7x**	**7.5x**	**7.0x**	**9.8x**	**9.6x**	**9.0x**	**20%**	**1.9x**	**15.1x**	**13.8x**	**12.4x**	**10%**
Median						**1.4x**	**1.4x**	**1.3x**	**7.7x**	**7.7x**	**7.2x**	**9.4x**	**9.4x**	**8.7x**	**20%**	**1.8x**	**13.9x**	**13.5x**	**12.5x**	**10%**
Tier II: Commodity / Diversified Chemicals																				
Falloon Group	FLN	$31.00	87%	$7,480	$11,254	1.0x	1.0x	0.9x	6.9x	7.0x	6.7x	10.8x	11.0x	10.5x	14%	2.5x	16.1x	15.0x	13.1x	5%
Goodson Corp.	GDS	64.00	83%	4,160	5,660	1.2x	1.2x	1.1x	7.4x	7.5x	7.2x	10.8x	11.0x	10.4x	16%	2.9x	19.5x	18.6x	16.3x	9%
Pryor Industries	PRI	79.00	88%	3,926	4,166	1.1x	1.2x	1.1x	7.3x	7.4x	7.1x	9.9x	10.1x	9.6x	15%	1.1x	17.3x	16.9x	15.4x	10%
Lanzarone Global	LNZ	32.25	95%	3,230	3,823	1.0x	1.0x	1.0x	6.6x	6.7x	6.4x	8.9x	9.0x	8.6x	16%	1.3x	13.9x	12.9x	11.7x	8%
McMenamin & Co.	MCM	33.50	80%	3,193	3,193	1.0x	0.9x	0.8x	9.0x	8.4x	7.5x	14.2x	13.1x	11.8x	11%	1.2x	26.8x	23.3x	20.3x	12%
Mean						**1.1x**	**1.1x**	**1.0x**	**7.4x**	**7.4x**	**7.0x**	**10.9x**	**10.8x**	**10.2x**	**14%**	**1.8x**	**18.7x**	**17.3x**	**15.3x**	**9%**
Median						**1.0x**	**1.0x**	**1.0x**	**7.3x**	**7.4x**	**7.1x**	**10.8x**	**11.0x**	**10.4x**	**15%**	**1.3x**	**17.3x**	**16.9x**	**15.4x**	**9%**
Tier III: Small-Cap Chemicals																				
S. Momper & Co.	MOMP	$28.00	95%	$2,240	$2,921	1.4x	1.4x	1.2x	7.7x	7.4x	6.7x	9.9x	9.5x	8.6x	18%	2.6x	17.2x	17.5x	16.2x	5%
Adler Worldwide	ADL	10.50	80%	1,217	1,463	0.9x	1.0x	0.9x	6.0x	6.1x	5.8x	8.0x	8.1x	7.7x	16%	1.6x	13.7x	14.8x	13.7x	7%
Schachter & Sons	STM	4.50	89%	1,125	1,674	1.0x	0.9x	0.8x	7.0x	6.5x	5.7x	9.8x	9.1x	7.9x	14%	2.5x	14.8x	13.6x	12.2x	11%
Girshin Holdings	MGP	50.00	67%	1,035	1,298	0.8x	0.8x	0.7x	7.3x	6.8x	6.1x	11.5x	10.7x	9.7x	11%	1.8x	20.0x	18.9x	17.2x	8%
Crespin International	MCR	27.00	80%	872	1,222	0.8x	0.8x	0.7x	6.4x	6.0x	5.4x	9.2x	8.6x	7.7x	13%	2.1x	14.2x	14.0x	12.7x	6%
Mean						**1.0x**	**1.0x**	**0.9x**	**6.9x**	**6.6x**	**5.9x**	**9.7x**	**9.2x**	**8.3x**	**14%**	**2.1x**	**16.0x**	**15.7x**	**14.4x**	**7%**
Median						**0.9x**	**0.9x**	**0.8x**	**7.0x**	**6.5x**	**5.8x**	**9.8x**	**9.1x**	**7.9x**	**14%**	**2.1x**	**14.8x**	**14.8x**	**13.7x**	**7%**
Overall																				
Mean						**1.1x**	**1.1x**	**1.0x**	**7.3x**	**7.2x**	**6.7x**	**10.3x**	**10.0x**	**9.3x**	**16%**	**1.9x**	**17.0x**	**16.0x**	**14.4x**	**9%**
Median						**1.0x**	**1.0x**	**1.0x**	**7.3x**	**7.4x**	**6.7x**	**9.9x**	**9.8x**	**9.2x**	**16%**	**1.8x**	**16.6x**	**15.8x**	**14.1x**	**9%**
High						**1.8x**	**1.7x**	**1.6x**	**9.0x**	**8.4x**	**7.5x**	**14.2x**	**13.1x**	**11.8x**	**22%**	**3.0x**	**26.8x**	**23.3x**	**20.3x**	**12%**
Low						**0.8x**	**0.8x**	**0.7x**	**6.0x**	**6.0x**	**5.4x**	**8.0x**	**8.1x**	**7.7x**	**11%**	**1.1x**	**12.9x**	**11.2x**	**10.0x**	**5%**

Source: Company filings, Bloomberg, Consensus Estimates
Note: Last twelve months data based on September 30, 2012. Estimated annual financial data based on a calendar year.

EXHIBIT 1.55(a) ValueCo Corporation: Trading Multiples Output Page for Equity Research Analysts and Equity Investors

ValueCo Corporation
Comparable Companies Analysis
($ in millions, except per share data)

Company	Ticker	Current Share Price	% of 52-wk. High	Equity Value	Enterprise Value	EV / EBITDA 2012E	EV / EBITDA 2013E	2012E EBITDA Margin	LTM Debt / EBITDA	LTM Int Exp / EBITDA	P / E 2012E	P / E 2013E	LT EPS Growth	Div Yield	FCF Yield 2012E	FCF Yield 2013E
Tier I: Specialty Chemicals																
BuyerCo	BUY	$70.00	91%	$9,800	$11,600	7.8x	7.3x	22%	1.5x	10.1x	13.5x	12.5x	7%	0.0%	7.2%	7.8%
Sherman Co.	SHR	$40.00	76%	5,600	8,101	7.7x	7.2x	18%	3.0x	13.8x	12.8x	11.8x	9%	1.8%	8.8%	9.7%
Pearl Corp.	PRL	$68.50	95%	5,172	5,856	7.0x	6.5x	20%	1.8x	8.4x	14.7x	13.4x	11%	0.0%	8.1%	8.9%
Gasparro Corp.	JDG	$50.00	80%	5,000	6,750	7.1x	6.6x	19%	2.1x	9.0x	11.2x	10.0x	12%	2.0%	7.0%	7.5%
Kumra Inc.	KUM	$52.50	88%	4,852	5,345	7.9x	7.4x	21%	1.3x	11.0x	16.6x	14.4x	10%	1.5%	5.8%	6.4%
Mean						**7.5x**	**7.0x**	**20%**	**1.9x**	**10.5x**	**13.8x**	**12.4x**	**10%**	**1.1%**	**7.4%**	**8.1%**
Median						**7.7x**	**7.2x**	**20%**	**1.8x**	**10.1x**	**13.5x**	**12.5x**	**10%**	**1.5%**	**7.2%**	**7.8%**
Tier II: Commodity / Diversified Chemicals																
Falloon Group	FLN	$31.00	87%	$7,480	$11,254	7.0x	6.7x	14%	2.5x	5.7x	15.0x	13.1x	5%	2.6%	7.0%	7.7%
Goodson Corp.	GDS	$64.00	83%	4,160	5,660	7.5x	7.2x	16%	2.9x	4.2x	18.6x	16.3x	9%	1.0%	5.7%	6.3%
Pryor Industries	PRI	$79.00	88%	3,926	4,166	7.4x	7.1x	15%	1.1x	11.1x	16.9x	15.4x	10%	0.8%	6.9%	7.5%
Lanzarone Global	LNZ	$32.25	95%	3,230	3,823	6.7x	6.4x	16%	1.3x	10.7x	12.9x	11.7x	8%	0.0%	7.3%	8.0%
McMenamin & Co.	MCM	$33.50	80%	3,193	3,193	8.4x	7.5x	11%	1.2x	10.6x	23.3x	20.3x	12%	1.2%	5.4%	5.9%
Mean						**7.4x**	**7.0x**	**14%**	**1.8x**	**8.5x**	**17.3x**	**15.3x**	**9%**	**1.1%**	**6.5%**	**7.1%**
Median						**7.4x**	**7.1x**	**15%**	**1.3x**	**10.6x**	**16.9x**	**15.4x**	**9%**	**1.0%**	**6.9%**	**7.5%**
Tier III: Small-Cap Chemicals																
S. Momper & Co.	MOMP	$28.00	95%	$2,240	$2,921	7.4x	6.7x	18%	2.6x	4.5x	17.5x	16.2x	5%	3.7%	6.8%	7.4%
Adler Worldwide	ADL	$10.50	80%	1,217	1,463	6.1x	5.8x	16%	1.6x	6.2x	14.8x	13.7x	7%	4.0%	8.2%	8.9%
Schachter & Sons	STM	$4.50	89%	1,125	1,674	6.5x	5.7x	14%	2.5x	5.0x	13.6x	12.2x	11%	0.8%	5.2%	5.7%
Girshin Holdings	MGP	$50.00	67%	1,035	1,298	6.8x	6.1x	11%	1.8x	6.3x	18.9x	17.2x	8%	2.8%	7.1%	7.7%
Crespin International	MCR	$27.00	80%	872	1,222	6.0x	5.4x	13%	2.1x	5.7x	14.0x	12.7x	6%	0.0%	8.9%	9.7%
Mean						**6.6x**	**5.9x**	**14%**	**2.1x**	**5.5x**	**15.7x**	**14.4x**	**7%**	**2.2%**	**7.2%**	**7.9%**
Median						**6.5x**	**5.8x**	**14%**	**2.1x**	**5.7x**	**14.8x**	**13.7x**	**7%**	**2.8%**	**7.1%**	**7.7%**
Overall																
Mean						**7.2x**	**6.6x**	**16%**	**2.0x**	**8.2x**	**15.6x**	**14.0x**	**9%**	**1.5%**	**7.0%**	**7.7%**
Median						**7.1x**	**6.7x**	**16%**	**1.8x**	**8.4x**	**14.8x**	**13.4x**	**9%**	**1.2%**	**7.0%**	**7.7%**
High						**8.4x**	**7.5x**	**22%**	**3.0x**	**13.8x**	**23.3x**	**20.3x**	**12%**	**4.0%**	**8.9%**	**9.7%**
Low						**6.0x**	**5.4x**	**11%**	**1.1x**	**4.2x**	**11.2x**	**10.0x**	**5%**	**0.0%**	**5.2%**	**5.7%**

Source: Company filings, Bloomberg, Consensus Estimates

Step V. Determine Valuation

The means and medians for the Specialty Chemicals comparables universe helped establish an initial valuation range for ValueCo, with the highs and lows providing further perspective. We also looked to the Commodity/Diversified Chemicals and Small-Cap Chemicals comparables for peripheral guidance. To fine-tune the range, however, we focused on those comparables deemed closest to ValueCo in terms of business and financial profile—namely, BuyerCo, Gasparro Corp., and Sherman Co., as well as Goodson Corp. and S. Momper & Co. to a lesser extent.

Companies in ValueCo's sector tend to trade on the basis of forward EV/EBITDA multiples. Therefore, we framed our valuation of ValueCo on the basis of the forward EV/EBITDA multiples for its closest comparables, selecting ranges of 6.75x to 7.75x 2012E EBITDA, and 6.5x to 7.5x 2013E EBITDA. We also looked at the implied valuation based on a range of 7.0x to 8.0x LTM EBITDA.

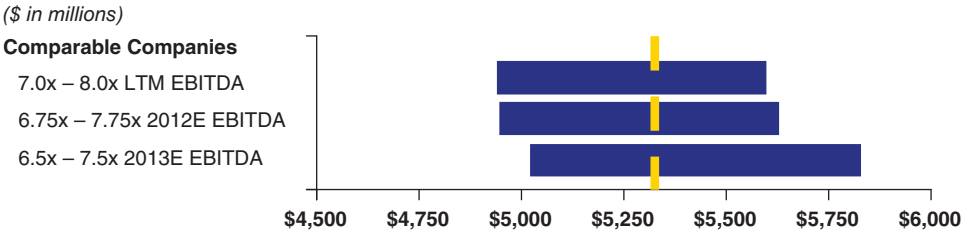
EXHIBIT 1.56 ValueCo Corporation: Implied Valuation Range – Enterprise Value

ValueCo Corporation
Implied Valuation Range
($ in millions, last twelve months ending 9/30/2012)

EBITDA	Metric	Multiple Range			Implied Enterprise Value		
LTM	$700.0	7.00x	–	8.00x	$4,900.0	–	$5,600.0
2012E	725.0	6.75x	–	7.75x	4,893.8	–	5,618.8
2013E	779.4	6.50x	–	7.50x	5,065.9	–	5,845.3

The chosen multiple ranges in Exhibit 1.56 translated into an implied enterprise value range of approximately $4,900 million to $5,850 million. This implied valuation range is typically displayed in a format such as that shown in Exhibit 1.57 (known as a "football field") for eventual comparison against other valuation methodologies, which we discuss in the following chapters.

EXHIBIT 1.57 ValueCo Football Field Displaying Comparable Companies



CHAPTER 1 QUESTIONS

1) Which of the following is the correct order of steps to complete comparable companies analysis?

I. Locate the Necessary Financial Information
II. Select the Universe of Comparable Companies
III. Spread Key Statistics, Ratios, and Trading Multiples
IV. Determine Valuation
V. Benchmark the Comparable Companies

A. II, I, III, V, IV
B. I, II, III, IV, V
C. II, I, III, IV, V
D. III, I, IV, V, IV

2) Which of the following are key business characteristics to examine when screening for comparable companies?

I. Sector
II. Return on investment
III. End markets
IV. Distribution channels
V. Return on assets

A. I and III
B. II and IV
C. I, III, and IV
D. I, II, III, IV, and V

3) Which of the following are key financial characteristics to examine when screening for comparable companies?

I. Customers
II. Profitability
III. Growth profile
IV. Credit profile
V. End markets

A. II and III
B. II, III, and IV
C. I, II, and IV
D. II, III, and V

4) Which of the following is NOT a source for locating financial information for comparable companies?

A. 10-K
B. 13-D
C. Investor Presentations
D. Equity Research

5) Which of the following is the correct calculation for fully diluted shares outstanding when used in trading comps?

A. "Out-of-the money" options and warrants + "in-the-money" convertible securities
B. Basic shares outstanding + "in-the-money" options and warrants + "in-the-money" convertible securities
C. "In-the-money" options and warrants + "in-the-money" convertible securities
D. Basic shares outstanding + "out-of-the money" options and warrants

6) Which methodology is used to determine additional shares from "in-the-money" options and warrants when determining fully diluted shares?

A. Treasury Stock Method
B. "If-Converted Method"
C. Net Share Settlement Method
D. "In-the-Money" Method

7) Calculate fully diluted shares using the information below

($ in millions, except per share data; shares in millions)

Assumptions	
Current Share Price	$25.00
Basic Shares Outstanding	200.0
Exercisable Options	20.0
Weighted Average Exercise Price	$10.00

A. 150.4 million
B. 200.5 million
C. 212.0 million
D. 220.0 million

8) What is the most conservative (most dilutive scenario) way to treat options and warrants when calculating fully diluted shares outstanding?

A. Use all outstanding "in-the-money" options and warrants
B. Use all exercisable "in-the-money" options and warrants
C. Ignore all "in-the-money" options and warrants
D. Ignore all outstanding "in-the-money" options and warrants

9) What is the formula for calculating enterprise value?

A. Equity value + total debt
B. Equity value + total debt + preferred stock + noncontrolling interest – cash
C. Equity value + total debt – preferred stock – noncontrolling interest – cash
D. Equity value + total debt + preferred stock + noncontrolling interest + cash

10) All else being constant, how does enterprise value change if a company raises equity and uses the entire amount to repay debt?

A. Stays constant
B. Increases
C. Decreases
D. Not enough information to answer the question

11) Show the necessary adjustments and pro forma amounts if a company issues $200.0 million of equity and uses the proceeds to repay debt (excluding fees and expenses).

($ in millions)

Issuance of Equity to Repay Debt				
	Actual 2012	Adjustments +	Adjustments -	Pro forma 2012
Equity Value	$1,200.0			
Plus: Total Debt	750.0			
Plus: Preferred Stock	100.0			
Plus: Minority Interest	50.0			
Less: Cash and Cash Equivalents	(100.0)			
Enterprise Value	**$2,000.0**			

12) When calculating an interest coverage ratio, which of the following is NOT used in the numerator?

A. Net income
B. EBIT
C. EBITDA
D. (EBITDA – capex)

13) Calculate adjusted net income, EBITDA, and EPS, respectively, assuming $50 million of D&A, and adjusting for the $10.0 million restructuring charges as well as an inventory write-down of $5 million

($ in millions, except per share data)

Income Statement	
	Reported 2012
Sales	**$1,000.0**
Cost of Goods Sold	625.0
Gross Profit	**$375.0**
Selling, General & Administrative	230.0
Restructuring Charges	10.0
Operating Income (EBIT)	**$135.0**
Interest Expense	35.0
Pre-tax Income	**$100.0**
Income Taxes @ 40%	40.0
Net Income	**$60.0**
Weighted Average Diluted Shares	30.0
Diluted Earnings Per Shares	$2.00

A. $60.0 million, $185.0 million, $2.00
B. $69.0 million, $200.0 million, $2.30
C. $60.0 million, $200.0 million, $2.00
D. $69.0 million, $185.0 million, $2.30

14) The P/E ratio is equivalent to

A. Equity value/net income
B. Enterprise value/net income
C. Enterprise value/EBITDA
D. Share price/free cash flow

15) Which of the following is not an appropriate valuation multiple?

A. Enterprise value/EBITDA
B. Enterprise value/EBIT
C. Enterprise value/net income
D. Enterprise value/sales

Bloomberg Appendix

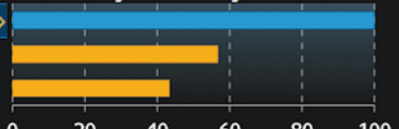
APPENDIX 1.1 Bloomberg "Relative Valuation" Comparable Companies Analysis (RV<GO>)

BUY US Equity | 96) Settings | 97) Actions | 98) Output | 99) Feedback | Relative Valuation

Comp Source: Custom

1) * Whole Firm
2) Basic & Diversified Ch...
3) Agricultural Chemicals

% Rev. by Industry FY2011



* Has Custom Comps

Region: Global | Currency: USD

Metric	BUY	Low	Comp Range	High
P/E	18.31	7.50		28.24
EPS 1 Yr Gr	96.48	-21.28		310.74
Rev 1 Yr Gr	8.39	8.39		53.79
ROE	30.85	12.49		53.55
Chg Pct 1M	16.05	-0.72		16.05

BUY US ◆ Median

21) Overview | 22) Comp Sheets | 23) Markets | 24) EPS Preview | 25) Ownership | 26) Credit | 27) Custom

31) Equity Valuation | 32) CDS Spreads | 34) Profitability | 35) Balance Sheet

	Name	Mkt Cap (USD)	EV	EV/TTM EBITDA	/EBITDA FY1	/EBITDA FY2	P/E	P/E FY1	P/E FY2	P/FCF	Dividend Yield
	Average	14.21B	16.25B	9.22	8.20	7.20	15.48	15.87	12.87	20.56	1.53%
100)	BUY CORP	8.46B	9.31B	11.52	10.85	9.75	18.31	17.64	15.42	38.89	0.88%
101)	Company A	40.17B	61.97B	9.60	8.27	7.52	18.31	17.49	13.99	20.83	3.80%
102)	Company B	1.79B	2.42B	6.87	6.67	5.68	12.11	12.17	10.41	N.A.	3.57%
103)	Company C	36.68B	40.26B	10.34	10.04	8.86	14.49	15.08	13.07	34.36	1.99%
104)	Company D	887.51M	918.00M	13.48	12.52	9.47	28.24	25.72	19.36	25.99	0.44%
105)	Company E	15.57B	16.47B	6.06	6.41	6.27	10.86	10.93	10.67	14.43	1.94%
106)	Company F	10.82B	15.57B	11.41	9.33	7.53	14.26	13.11	11.17	16.30	1.70%
107)	Company G	53.36B	50.70B	12.61	11.75	10.58	23.32	21.84	19.21	18.55	1.51%
108)	Company H	5.65B	5.22B	8.00	7.12	6.74	18.27	15.64	14.88	17.65	0.89%
109)	Company I	4.35B	7.73B	5.52	5.53	5.79	9.28	7.98	8.80	8.04	2.20%
110)	Company J	25.26B	22.89B	8.16	7.64	6.77	13.49	13.85	12.03	42.81	1.68%
111)	Company K	817.44M	1.06B	8.11	6.67	5.95	12.57	12.35	10.57	14.24	2.42%

11) Edit Comparables | 16) Select Stats | 17) Group by | Zoom 100%

APPENDIX 1.2 Bloomberg Functions for Business and Financial Profile

Information Item	Bloomberg Function
Business Profile	
Sector	Bloomberg Industries (BI <GO>), Company Classification Browser (CCB<GO>)
Products and Services	Description (DES<GO>)
Customers and End Markets	Supply Chain (SPLC<GO>)
Distribution Channels	Supply Chain (SPLC<GO>)
Geography	Financial Analysis (FA<GO>)
Financial Profile	
Size	Description (DES<GO>), Financial Analysis (FA<GO>)
Profitability	Financial Analysis (FA<GO>)
Growth Profile	Financial Analysis (FA<GO>), Earnings & Estimates (EE<GO>)
Return on Investment	Description (DES<GO>), Financial Analysis (FA<GO>)
Credit Profile	Credit Profile (CRPR<GO>)

APPENDIX 1.3 Bloomberg Company Classification Browser (CCB<GO>)

BUY US Equity | 1) Settings | 2) Actions | Company Classification Browser

Classification: BICS | Currency: USD | Selected Industry: Agricultural Chemicals | 5) Hierarchy (ICS)

Hierarchy	Rev.	% Rev.
Materials		
└Chemicals		
├*Agricultural Chemicals		
│ └Crop Chemicals		
│ ├Fungicides	131.81M	3.90%
│ ├Herbicides	629.74M	18.62%
│ └Insecticides	702.96M	20.78%
└Basic & Diversified Chemicals		
├Inorganic Base Che...	1.26B	37.35%
│ ├Alkalis & Chlorine	696.40M	20.59%
│ └Other Inorganic B...	522.20M	15.44%
└Organic Base Chem ...	654.30M	19.35%

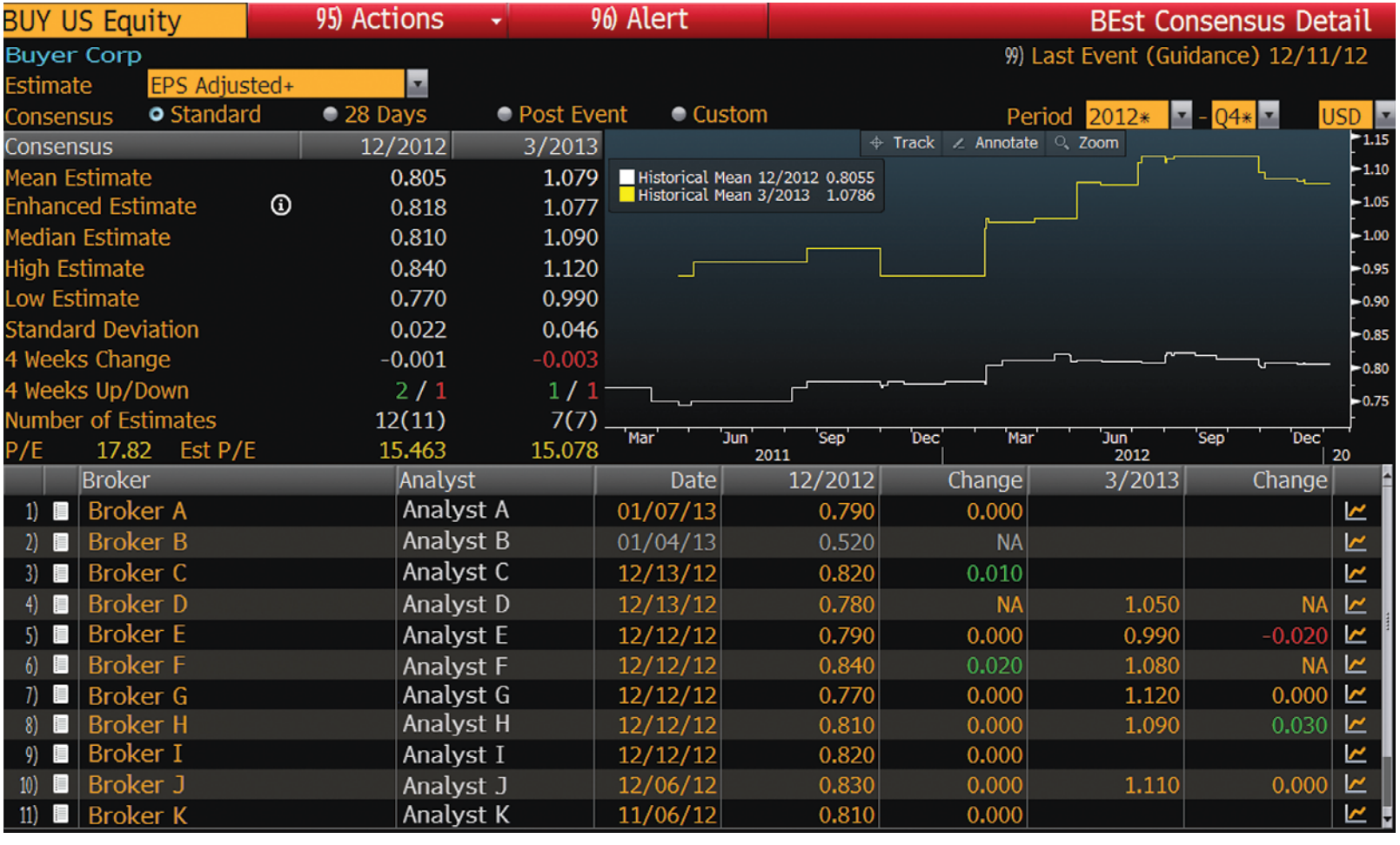
Aggregate Statistics	Value	Count
Total Market Cap	1.87T	492
Price/Earnings	12.52	479
Total Revenue	2.32T	555
Industry Revenue	245.92B	317
Industry Rev. 1YR Growth	27.47%	266

Filter By: None | 6) Equity Screening

	Public Member Companies ↓	Mkt Cap	Ind. Rev	% Tot. Rev
11) *	BUY CORP	8.14B	1.46B	43.30%
12)	Company A	66.09B	N.D.	N.D.
13)	Company B	148.36M	80.06M	22.85%
14) *	Company C	384.18M	25.77M	72.34%
15) *	Company D	1.59B	507.72M	100.00%
16)	Company E	40.65M	32.91M	100.00%
17)	Company F	41.49M	15.85M	6.74%
18) *	Company G	1.90B	2.02B	55.64%
19) *	Company H	1.12M	58.23k	100.00%
20)	Company I	878.80M	624.78M	28.86%
21)	Company J	2.34B	441.33M	9.62%
22)	Company K	23.43M	N.D.	N.D.
23) *	Company L	297.63M	196.05M	100.00%
24)	Company M	65.45M	N.D.	N.D.
25) *	Company N	15.21B	15.16B	92.41%

* Company's Primary Industry N.D. Not Disclosed

APPENDIX 1.4 Bloomberg BEst Consensus Estimates (EEB<GO>)



Consensus	12/2012	3/2013
Mean Estimate	0.805	1.079
Enhanced Estimate	0.818	1.077
Median Estimate	0.810	1.090
High Estimate	0.840	1.120
Low Estimate	0.770	0.990
Standard Deviation	0.022	0.046
4 Weeks Change	-0.001	-0.003
4 Weeks Up/Down	2 / 1	1 / 1
Number of Estimates	12(11)	7(7)
P/E 17.82 Est P/E	15.463	15.078

	Broker	Analyst	Date	12/2012	Change	3/2013	Change
1)	Broker A	Analyst A	01/07/13	0.790	0.000		
2)	Broker B	Analyst B	01/04/13	0.520	NA		
3)	Broker C	Analyst C	12/13/12	0.820	0.010		
4)	Broker D	Analyst D	12/13/12	0.780	NA	1.050	NA
5)	Broker E	Analyst E	12/12/12	0.790	0.000	0.990	-0.020
6)	Broker F	Analyst F	12/12/12	0.840	0.020	1.080	NA
7)	Broker G	Analyst G	12/12/12	0.770	0.000	1.120	0.000
8)	Broker H	Analyst H	12/12/12	0.810	0.000	1.090	0.030
9)	Broker I	Analyst I	12/12/12	0.820	0.000		
10)	Broker J	Analyst J	12/06/12	0.830	0.000	1.110	0.000
11)	Broker K	Analyst K	11/06/12	0.810	0.000		

APPENDIX 1.5 Bloomberg Coverage Dashboard (IBNK<GO>)

APPENDIX 1.6 Bloomberg Industries Comparable Analysis for Basic & Diversified Chemicals (BI<GO>)