

BUSINESS VALUATION UPDATE

TIMELY NEWS, ANALYSIS, AND RESOURCES FOR DEFENSIBLE VALUATIONS

Using Industry Benchmarks to Establish Secure Negotiating Positions for M&A Purposes

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On the surface, simple math appears to drive M&A activity. However, below the surface lies a myriad of crosscurrents that make navigating these waters difficult. When negotiating business value, the two parties often have drastically different ideas about what a business is worth. Both positions may be predicated on valuation multiples derived from the public marketplace, but these multiples often vary dramatically, causing difficulty in selecting an appropriate multiple for the subject company.

As a result, the parties in many potential transactions remain at odds, with one party believing that a lower multiple is warranted and the other side insisting on a higher multiple. People may feel frustrated and lose trust in the other party. Many deals ultimately fall apart because the two parties can't reach agreement on the appropriate multiple from the available data set.

Look to benchmarks. A solution to this dilemma is to select a multiple based on how the subject company compares to industry benchmarks. If the subject company outperforms the industry benchmarks, it often warrants a higher multiple. Conversely, a lower multiple is typically necessary if the subject company performs poorly relative to industry benchmarks.

A rigorous benchmarking analysis establishes a defensible, data-driven multiple that clarifies value and reduces confusion. This information establishes a secure negotiating position,

increasing the likelihood that transactions can be completed favorably and efficiently.

Industry benchmarks can be created directly from the guideline public companies and guideline completed transactions used to derive multiples or selected from industry benchmark databases. To establish a credible multiple, analysts perform a comprehensive comparison of the subject company and the selected benchmarks through a trend analysis, common size analysis, and ratio analysis. For guidance in selecting valuation benchmarks, analysts can also study the assumptions leading valuation experts and investment banking firms make in the valuation of similar companies.

Benchmarking data can be collected and compiled from Securities and Exchange Commission resources, which are free but may be time-consuming to use. Third-party databases such as Bloomberg and Capital IQ have been developed to make accessing and analyzing the data more efficient. These are premium services, however, and may come with matching prices. New services, such as PitchBook, TagniFi, and the recently developed Valuation Benchmarking Platform, offer a less expensive alternative to analyze benchmarking data.

Selecting and Creating Industry Benchmarks

The market approach makes a direct comparison of the subject entity to market transactions of similar companies. Both the guideline completed transaction method and the guideline public company method rely on multiples (e.g., the

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multiple of value to revenue, operating income, EBITDA, or other value drivers) from transactions of interests in companies engaged in the same (or similar) lines of business. After considering the subject company's performance relative to appropriate industry benchmarks, one selects a multiple(s) and applies it to the subject company's financial metrics to arrive at an indication of value.

Valuation analysts have several options when collecting benchmark data. Comparisons to selected public companies in the same (or similar) industry are easily made, given the plethora of financial data available to public companies. While it would be ideal to get detailed financial information from guideline completed transactions, this information is not always available. When these data are not available, valuation analysts often look to databases of financial performance by industry from industry trade groups, subscription services, or other sources.

To assist in selecting valuation multiples, analysts can also review the assumptions other analysts make. Business Valuation Resources launched a new database called the Valuation Benchmarking Platform (the VBP) that indexes data from valuations prepared in conjunction with actual M&A transactions. The VBP provides links to the source documents (i.e., fairness opinions and board books) so that analysts can review the disclosed information in its entirety.

Analysts can then consider the assumptions other analysts make such as: (1) the selection of guideline public companies and completed transactions; (2) identification of which multiples are most relevant to the particular industry; and (3) the concluded valuation multiples. This perspective and supporting data from the VBP can help analysts establish credible valuation multiples. In this discussion, we will develop some examples using the VBP. The data in these examples may also be available through other databases.

Creating industry benchmarks. When the data are available, analysts often create industry

benchmarks directly from the guideline companies used to derive multiples. Financial data to build benchmarks can be found through SEC forms 10-K, 10-Q, and/or 8-K for guideline public companies and the acquiring/acquired companies of completed transactions. Many subscription-based databases such as Capital IQ, Pitchbook, and TagniFi mine these sources and compile data. Financial data from guideline completed transactions can also be found in databases such as DealStats and BIZCOMPS, which rely on information received directly from the parties involved in a completed transaction.

When sufficient data are available, analysts consider benchmarks related to the following:

- Size (e.g., revenue, profit, or total assets);
- Growth (e.g., growth in revenue, profit, or total assets);
- Liquidity (e.g., current ratio and quick ratio);
- Performance (e.g., return on equity and return on assets);
- Profitability (e.g., EBITDA margin, operating income margin, or net income margin);
- Leverage (e.g., debt-to-equity ratio); and
- Turnover (e.g., total asset turnover and working capital turnover).

From these benchmarks, analysts then select relevant benchmarks based on the: (1) drivers of business value within the subject company's industry; and (2) availability of data. Outperforming the industry benchmarks typically merits a higher multiple. Conversely, if the subject company performs poorly relative to industry benchmarks, a lower multiple can be considered.

To assist in the selection of an appropriate multiple, valuation analysts can compile benchmark

data into charts or tables. The following is a hypothetical example of a benchmarking analysis.

A valuation analyst is valuing hypothetical construction company JEK Construction, the target of a proposed acquisition. As part of the valuation, the analyst applies the guideline public company method of the market approach. From the selected guideline public companies, the analyst estimates EBITDA multiples ranging from 6.6x to 18.2x, with a median and mean of 10.4x and 12.4x, respectively. To select an appropriate EBITDA multiple from this range, the analyst prepares a benchmarking analysis using guideline public company data from SEC forms 10-K and 10-Q using the Pitchbook database. Several of the industry benchmarks that the analyst considered are presented in Exhibit 1.

The analyst compares the financial performance of JEK Construction to the financial performance of the selected guideline public companies. The analyst observes that JEK Construction is below the median in each of the selected categories. Based on this analysis, the analyst selects an EBITDA multiple that is below the median of 10.4x EBITDA.

The analyst also applies the guideline completed transaction method and identifies transactions from the DealStats database (Exhibit 2).

As shown in Exhibit 2, the identified transactions supported a wide range of revenue and EBITDA multiples. Selecting a multiple from the indicated range of guideline completed transaction multiples is difficult because of two primary factors. First, complete financial data are not always available, making benchmarking against some metrics impossible. In the example above, EBITDA was only known for three of the six transactions. Second, the motivations of the buyer and seller are often unknown. These motivations could cause the transaction to be higher or lower than fair market value. In the data set above, the individual circumstances surrounding each sale may have contributed to the wide range of multiples.

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The analyst then decides to assess the reasonableness of the results by studying the assumptions made in the valuations of similar M&A transactions. The analyst performs a search using the VBP and identifies the data set shown in Exhibit 3.

The VBP includes access to the source documents filed with the Securities and Exchange Commission for each listed transaction. The analyst is able to review these documents to study the assumptions other analysts made. While the screening criteria are still not known, the results of the analysis—which comparable companies were chosen, what multiples were

selected, what range of cost of capital was used—are listed, serving as an external check to assumptions made.

In this example, an analyst might conclude, after reviewing the data from the VBP and the source documents for each transaction, that a multiple of tangible book value is another potential indicator of value. A wider set of completed transactions has also been developed. Using this information, the analyst can retool the application of the guideline completed transaction method, derive a greater number of data points, and select an appropriate multiple from the indicated range.

Exhibit 1. Comparison of Guideline Public Companies and Subject Company Financial Fundamentals
(Data From PitchBook Data Inc.)

| Size (Total Assets) | | Profitability (EBITDA Margin) | |
|-------------------------------------|----------------|-------------------------------------|--------|
| Company | Assets (\$000) | Company | Margin |
| Lennar (NYS: LEN) | 29,583,064 | Toll Brothers (NYS: TOL) | 9.6% |
| Jacobs Engineering Group (NYS: JEC) | 11,641,262 | PulteGroup (NYS: PHM) | 9.1% |
| Toll Brothers (NYS: TOL) | 10,452,117 | Lennar (NYS: LEN) | 8.8% |
| PulteGroup (NYS: PHM) | 10,095,537 | Jacobs Engineering Group (NYS: JEC) | 4.0% |
| Tutor Perini (NYS: TPC) | 4,413,496 | JEK Construction | 3.5% |
| Stantec (TSE: STN) | 3,475,244 | Century Communities (NYS: CCS) | 3.2% |
| JEK Construction | 2,500,000 | Stantec (TSE: STN) | 1.6% |
| Century Communities (NYS: CCS) | 2,410,373 | Tutor Perini (NYS: TPC) | -5.7% |
| Historical Growth (EBITDA Growth) | | Performance (Return on Equity) | |
| Company | Growth Rate | Company | Margin |
| Jacobs Engineering Group (NYS: JEC) | 75.5% | PulteGroup (NYS: PHM) | 19.4% |
| Lennar (NYS: LEN) | 63.9% | Toll Brothers (NYS: TOL) | 14.6% |
| Stantec (TSE: STN) | 21.2% | Lennar (NYS: LEN) | 13.3% |
| Toll Brothers (NYS: TOL) | 11.0% | Stantec (TSE: STN) | 9.9% |
| JEK Construction | 10.0% | Century Communities (NYS: CCS) | 8.9% |
| PulteGroup (NYS: PHM) | -5.1% | JEK Construction | 6.8% |
| Century Communities (NYS: CCS) | -10.0% | Jacobs Engineering Group (NYS: JEC) | 6.5% |
| Tutor Perini (NYS: TPC) | NA | Tutor Perini (NYS: TPC) | -13.4% |

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**Exhibit 2. Identified Guideline Completed Transactions
(Data From DealStats)**

| Business Description | Sale Date | MVIC Price \$000 | Net Sales \$000 | Target EBITDA \$000 | MVIC/Sales | MVIC/EBITDA |
|---|------------|------------------|-----------------|---------------------|------------|-------------|
| Homebuilding company | 02/12/2018 | 10,250,335 | 6,388,040 | 787,875 | 1.6x | 13.0x |
| Operates as a homebuilder | 02/04/2014 | 1,594,580 | 427,777 | NA | 3.7x | NA |
| Homebuilder and land developer | 08/04/2017 | 361,955 | 349,368 | 9,518 | 1.0x | 38.0x |
| Construction management/general contracting | 04/20/2017 | 82,226 | 386,924 | 17,409 | 0.2x | 4.7x |
| Home construction services | 12/02/2013 | 77,107 | 96,927 | NA | 0.8x | NA |
| Construction contractors | 03/09/2018 | 8,500 | 12,388 | NA | 0.7x | NA |
| | Minimum | 8,500 | 12,388 | 9,518 | 0.2x | 4.7x |
| | Median | 222,090 | 368,146 | 17,409 | 0.9x | 13.0x |
| | Average | 2,062,450 | 1,276,904 | 271,601 | 1.3x | 18.6x |
| | Maximum | 10,250,335 | 6,388,040 | 787,875 | 3.7x | 38.0x |

**Exhibit 3. Valuations of Comparable Businesses
(Data From the Valuation Benchmarking Platform)**

| Target | NAICS Description | Valuation Date | Equity Value (MM) | Valuation Firm | Val DCF [a] | Val GPC [b] | Val M&A [c] |
|-------------------|-------------------------------|----------------|-------------------|--------------------------|-------------|-------------|-------------|
| AV Homes | New Housing For-Sale Builders | 06/06/2018 | \$480.75 | Moelis & Co. | 1 | 3 | 1 |
| CalAtlantic Group | New Housing For-Sale Builders | 10/29/2017 | \$5,607.37 | J.P. Morgan Securities | 2 | 6 | 0 |
| UCP | New Housing For-Sale Builders | 04/10/2017 | \$90.42 | Citigroup Global Markets | 4 | 3 | 1 |

[a] Val DCF is the total number of times the DCF analysis was used.

[b] Total number of times this valuation method was used. For example, two GPC valuations using different multiples = 2.

[c] Total number of times precedent transactions analysis was used.

Compiled industry benchmarks. In the event that there are insufficient data to adequately develop benchmarks from guideline public companies and guideline transactions, analysts often rely on already-prepared industry benchmarks. Many organizations compile and disseminate financial metrics and data on an industry-by-industry basis. These organizations can be an excellent source of benchmark data.

Commonly used benchmark data sources include the following:

- **The Risk Management Association (RMA)** is a not-for-profit, member-driven professional association that compiles financial data both online and in print. Through its Annual Statement Studies®, RMA publishes comparative industry benchmark data

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sourced from the financial statements of the clients of its member institutions. Provided data include balance-sheet and income-statement line items and 19 different ratios. This database covers over 700 industries, sorted by North American Industrial Classification System (NAICS) code.

- **Bizminer** is an economic development consulting database that prepares financial data organized through an expanded version of the NAICS system and by location. Bizminer provides financial data and ratios from more than 18 million business operations.
- **Duff & Phelps** issues an annual valuation handbook of financial data and benchmarks. This resource contains benchmark data, including financial and profitability ratios, equity returns, and growth rates from approximately 170 industries. Industries are organized by Standard Industrial Classification (SIC) code.
- **Capital IQ** offers a range of industry-specific data including financial, market, and demographic information. Analysts are able to build custom models to efficiently mine and apply benchmark data.
- **ValuSource** offers the IRS Corporate Ratios database, which includes financial statement benchmarking data from over 250 industries. Data are derived directly from over 5 million corporate tax returns filed with the IRS.
- **MicroBilt** offers benchmarking data through the Integra Industry Reports. Three-year and five-year reports are available, containing up to 60 key financial ratios.
- **Industry and trade associations** exist for many different industries. These organizations often collect financial and operational data from their members each year and are able to provide benchmark data.

- **The Valuation Benchmarking Platform** is a recently developed resource Business Valuation Resources offers. This resource differs slightly from the databases above. The databases above provide financial statement data and ratios that can be used as benchmarks. The VBP, however, catalogues the valuation inputs and data valuation experts and investment banking firms use in actual M&A transactions. Analysts can use these data when considering whether or not preliminary conclusions are reasonable. This database includes 2,015 valuation reports, 20,500 guideline public company comparables, and 21,700 comparable M&A transactions.

The first step in gathering industry benchmark data is to identify the subject company's industry. This process is not as straightforward as it seems. Many older classification systems do not adequately classify newer companies, particularly in the technology and communication sectors. For some databases, the list of companies comprising each industry is available, providing assistance to the analyst in identifying the appropriate industry. Analysts can review these lists to ascertain similarity to the subject company. Additionally, when deciding which of two industries or more is most appropriate, they can compare the ratios from the two industries to see whether they are significantly different. If they are not, data from either of the industries are sufficient. The valuation analyst should compare benchmark data from different industry classifications to understand the commonality (or disparity) before selecting a specific industry for analysis.

An additional challenge arises when a company operates in multiple industries. In this case, it is most appropriate to analyze the financial statements for each segment separately. If this is not possible, an analyst can either: (1) present multiple benchmarks; or (2) decide which set of benchmarks is most relevant (on the basis of subject company segment size, for example).

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Most databases are also organized by company size (typically either by revenue or assets). It is important to select the appropriate company size, as financial ratios are often substantially different for smaller companies than for larger companies. Some databases also allow analysts to filter by location, an important consideration if location affects business operations.

Application of Industry Benchmarks in Financial Statement Analyses

A rigorous financial statement analysis typically contains: (1) a trend analysis; (2) a common size analysis; and (3) a ratio analysis. The subject company can be compared to industry benchmarks in each of these analyses to estimate an appropriate multiple.

Trend analysis. A trend analysis, sometimes referred to as a horizontal analysis, studies the performance of the subject company over time. A trend analysis typically includes a review of the subject company financial statements over the last five years or the most applicable time period based on the business cycle and operating environment of the subject company. As part of a trend analysis, valuation analysts also often prepare a percentage change analysis indicating how much balance-sheet and income-statement line items changed each period.

The goals of a trend analysis include: (1) spotting any anomalies in historical growth patterns; and (2) predicting future results. Both of these factors affect the selected multiple.

Anomalies in growth patterns (i.e., sharp increases or declines) affect the multiple—buyers value stability. Stable historical results increase multiples. However, if historical financial results indicate sudden changes in past periods, a lower multiple may be warranted.

Predicting future results affects the selected multiple because companies with projected growth typically command higher multiples. To predict

future results, analysts consider historical growth rates to extrapolate into the future. They also review the subject company's cost structure, noting which costs are fixed and which costs are variable. Fixed costs do not fluctuate with sales volume in the short term (e.g., rent, certain staff salaries, and marketing expenses). Variable costs, however, fluctuate with sales volume (e.g., raw materials, seasonal employee expenses, and packaging). A company's cost structure has a direct result on projected future profitability. The higher the percentage of fixed costs, the more sensitive profitability is to revenue fluctuations.

Comparing subject company results to industry benchmarks allows the analyst to ascertain whether trend analysis patterns are specific to the subject company or are present industrywide. If the identified patterns are industrywide, then their impact on value is already reflected in the indicated multiples. Therefore, the analyst does not need to further adjust the selected multiple. However, if the identified patterns are specific to the company, then adjustments are often necessary. Consider the following hypothetical example.

An analyst is valuing a real estate brokerage firm as of Dec. 31, 2011. While performing a trend analysis, the analyst notes a sudden decrease in revenue and profits in 2008 and 2009, followed by a period of recovery. Because volatility increases risk, the analyst considers adjusting the multiples developed in the market approach. However, after comparing the subject company performance to industry benchmark growth rates, the analyst notes the sudden decrease in revenue and profits was industrywide, the result of the decline in real estate values and activity during the economic recession. Accordingly, the risk associated with this occurrence is already reflected in the multiples developed in the market approach. If the analyst makes another adjustment to the multiples, it would incorrectly double count the reduction in value. Therefore, the analyst should not adjust the multiple because the subject company's performance aligns with industry benchmarks.

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The concept in the above example is equally applicable to the impact of projected growth on the selected multiple. If the trend analysis indicates a trajectory of growth for the subject company, an adjustment to the multiple is warranted if this growth exceeds (or is exceeded by) industry benchmarks.

Common size analysis. The second component of a rigorous financial statement analysis is a common size analysis (also called a vertical analysis). In a common size analysis, the analyst: (1) divides each income-statement line item by total revenue to indicate a percentage of revenue; and (2) divides each balance-sheet line item by total assets to indicate a percentage of total assets.

A common size analysis allows analysts to compare: (1) financial-statement line items from year to year while normalizing company growth/decline; and (2) the subject company to other companies that are larger or smaller.

Industry benchmarks provide a useful frame of reference in a common size analysis. In the balance sheet, analysts use industry benchmarks to identify unusual levels of cash, debt, and other items. In the income statement, analysts can compare subject-company profitability and expense items to industry benchmarks.

A benchmarked common size analysis allows analysts to answer questions such as the following:

- Is the subject company overleveraged?
- Is the company spending more on advertising than its competitors?
- Is the subject company's workforce really getting more expensive and cutting into the bottom line, or is it just expanding as revenue increases?

Each of these factors, and many others, can affect the selected multiple.

Ratio analysis. In a ratio analysis—the third component of a financial statement analysis—analysts use the relationships between different financial-statement line items to gauge the financial health and stability of a company. For example, analysts compare current assets to current liabilities (the current ratio) to gauge a company's ability to pay liabilities as they come due. Analysts then analyze fluctuations in the current ratio over time and compare this ratio to industry benchmarks. If the subject company outperforms or underperforms industry benchmark ratios, an adjustment to the multiple may be necessary.

Analysts primarily look at ratios in four areas:

1. **Liquidity**, or the short-term ability of a company to meet its maturing obligations;
2. **Coverage/leverage**, or the degree of protection for long-term creditors and investors and the margin by which certain obligations of a company can be met;
3. **Profitability**, or the company's ability to convert sales dollars into income; and
4. **Operating ratios**, which measure the efficiency and productivity of a company.

To ensure an accurate comparison, analysts should calculate ratios in the same manner as industry benchmarks.

A simplified ratio analysis is presented in Exhibit 4 (data from BizMiner).

An efficient way to compare subject-company performance to an industry benchmark is through the use of an index. In a ratio comparison index, the analyst divides the subject-company ratio by the industry benchmark. A value greater than one indicates that the subject-company ratio exceeds the industry benchmark; a value less than one indicates that the subject-company ratio is less than the industry benchmark. Exhibit 5 contains an example of a ratio comparison index.

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| Exhibit 4. Ratio Analysis | | |
|---|----------------------|-------------------------|
| | Subject Company 2018 | Industry Benchmark 2018 |
| Liquidity/Solvency | | |
| Quick ratio | 1.25 | 1.06 |
| Current ratio | 2.00 | 1.75 |
| Coverage/Leverage | | |
| Interest coverage ratio (EBITDA/interest expense) | 25.70 | 29.60 |
| Long-term debt to total assets | 0.25 | 0.18 |
| Profitability | | |
| Gross margin | 12.0% | 14.7% |
| Operating margin | 4.5% | 5.6% |
| Operating Efficiency | | |
| Sales to total assets | 2.87 | 2.23 |
| Sales to fixed assets | 21.65 | 18.17 |

| Exhibit 5. Index of Company Ratios to Industry Benchmarks | |
|---|------|
| | 2018 |
| Liquidity/Solvency | |
| Quick ratio | 1.18 |
| Current ratio | 1.14 |
| Coverage/Leverage | |
| Interest coverage ratio (EBITDA/interest expense) | 0.87 |
| Long-term debt to total assets | 1.38 |
| Profitability | |
| Gross margin | 0.82 |
| Operating margin | 0.81 |
| Operating Efficiency | |
| Sales to total assets | 1.29 |
| Sales to fixed assets | 1.19 |

The comparison of ratios presented here could be used to gauge the subject company's health relative to the industry. If the subject company's performance is different from the industry, an adjustment to the multiple may be necessary.

In summary, comparing the subject company to industry benchmarks in the three parts of a financial statement analysis (trend analysis, common size analysis, and ratio analysis) arms analysts with the data necessary to estimate an accurate, fair multiple.

Conclusion

Multiples used to value businesses for M&A purposes vary considerably. The parties involved in a transaction often have opposing views on where, within a range, to select a multiple to value the subject company. Selection of a multiple is often the largest hurdle in their ability to reach agreement and complete the transaction. By comparing subject-company performance to industry benchmarks, an analyst can identify and justify a credible valuation multiple. The benchmarking methods outlined in this discussion establish defensible, data-driven multiples for M&A purposes. A well-supported multiple establishes a secure negotiating position, increasing the likelihood of a successful transaction.

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