

# CHAPTER TWO

## COMPLETED TRANSACTIONS METHOD

### I. OVERVIEW

The Completed Transactions Method looks to define the value of the business by reference to transactions involving similarly comparable businesses. These similar companies are referred to as “comparables” or “comps.”

### II. PRINCIPLES TO SELECT COMPARATIVE DATA

What makes a company comparable? Unlike the sale of other assets such as houses or cars, the data regarding the sales of companies occurs less frequently and may not be as similar to our subject as the valuation professional would like. Hence, one of the challenges faced by valuation analysts is deciding on the search parameters for comparable transactions in terms of time period, company metrics and industry characteristics (other than SIC classification).

**Practice Pointer:** It is critically important that the valuation analyst applies professional judgment in reducing the population of observations or adding back additional observations as he/she deem appropriate. Notwithstanding, valuation professionals sometimes adopt the “**5/10/10 Principle**” as a way to examine transaction data. Its application begins by selecting all transactions within the subject company’s SIC code. After obtaining this raw information, transactions older than five years from the valuation date will be eliminated. This timeframe is suggested because a typical business cycle lasts approximately five years; however, economic shocks or shorter or longer business cycles should be considered. Next, any transactions that are ten times larger or ten times smaller than the subject company’s revenues AND 10 times larger or ten times smaller than the subject company’s earnings or EBITDA are eliminated. Application of the 5/10/10 principle is an objective paring of the data.

#### A. VALUE PRODUCED BY COMPLETED TRANSACTIONS METHOD

Usually, the transactions listed in the Completed Transactions Method data involve the sale of 100% of the business. Therefore, the result obtained from applying the Completed Transactions Method is a control position or market value of invested capital (MVIC) value. To obtain the subject company’s equity value, the valuation analyst must subtract the subject company’s interest-bearing debt and apply additional adjustments depending on the database used. This database specific process is described more fully in the individual databases sections that follow.

What multiples are used? Since the Completed Transactions Method produces a control value, MVIC multiples are most often used to calculate the market value of invested capital (MVIC)

directly. The following are the most common multiples used in the Completed Transactions Methodology:

Market Value of Invested Capital (MVIC) Multiples:

- MVIC/Sales
- MVIC/ EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization)
- MVIC/EBIT
- MVIC/Total Book Value of Invested Capital (TBVIC)<sup>16</sup>

The Completed Transactions Method uses databases of transactions that are available for purchase. The data gathered is from the three following events:

- Public companies buying public companies
- Public companies buying private companies
- Private companies buying private companies

Not listed are private companies buying public companies. Although this does occur occasionally, there are simply not enough transactions from which to draw meaningful statistical conclusions for business valuation purposes. Accordingly, there is no business valuation repository of this data other than the individual announcements themselves.

### **III. UNDERSTANDING THE PRINCIPLE BEHIND THE MULTIPLE**

#### **A. BASIC IMPLEMENTATION**

A simplified outline of the steps in applying the Completed Transactions Method is as follows:

1. Review the nature and background of the subject company, its industry, the economy, etc. The valuation analyst should understand the subject company's business sustainability in the industry and the conditions under which it operates.
2. Obtain the financial statements for the subject company (prior five years of financial data).
3. Normalize the subject company's financial statements. This is done to eliminate non-recurring transactions, adjust for unusual conditions and identify non-operating assets and liabilities.
4. Search for and select appropriate industry transactions.
5. Select appropriate multiples from the comparable transaction population. The valuation analyst should consider which multiples will be the most appropriate to value the subject company from the population of multiple choices. Remember, that as one adjusts the data population, the coefficient of variation, standard deviation, mean, median, etc. will change based on the data selected.

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<sup>16</sup> Commonly used in holding companies that use mark-to-market accounting such as insurance companies (not insurance agencies) and banking entities.

6. Choose the appropriate multiple based on an analysis of the multiple with the lowest coefficient of variation. The coefficient of variation closest to zero has the smallest standard deviation and therefore, the least amount of variability in its application.<sup>17</sup>
7. Multiply the appropriate multiple by the corresponding subject company measure – (i.e. multiple the comparable company derived MVIC/EBITDA multiple by the subject company's EBITDA). Misapplying multiples is a common mistake. Be sure to apply the proper multiple to the proper performance measure.
8. Make any adjustments to the raw number computed for any non-operating assets or other adjustments as discussed in the database section that follows. Be sure to understand what is included in the computation and what is not included. If one is valuing the company's equity, which is common, an adjustment is needed for working capital, net non-operating assets, excess assets and subtract interest-bearing debt. See the database specific information for detailed information about what is required.
9. Consider the applicability of premiums and/or discounts for control, marketability, and/or liquidity. The value derived under the Completed Transactions Method initially is a control, non-marketable position. To this result, adjust for premiums and discounts as appropriate. See sections 6.5 and 6.6 for a more robust discussion of these issues.
10. Perform sanity checks and compare the results of this methodology to the results of other methods. Compare the results achieved under this method to the Income and Asset approaches. Are they similar? If a substantial difference exists, check the methodology and calculations to ensure that the valuation has been performed correctly. Be prepared to discuss and explain the results and applicability of each method.

## B. APPROPRIATE MULTIPLES FOR VALUING SMALL AND LARGE COMPANIES

In general, smaller companies use gross revenue and earnings multiples. Owners of small businesses are able to exercise greater control over the expenses of the business. Therefore, using multiples that remove subjective control better reflect the value of the business. Revenue is the top line of what the business is producing at a given point in time. It is an easy multiple to use because there is little subjective argument about what a firm's revenue might be compared to its net income. Furthermore, discretionary earnings reflect the total amount that the business owner makes from the business whether it is earned through salary, dividends, executive perquisites, or other means. Though there is not a consensus on a formal definition, it is generally offered as an estimate of what the owner ultimately receives for operating the small business.

**Practice Point:** When using transaction databases, use caution with discretionary earnings. Each database defines discretionary earnings differently.

Larger companies most frequently use EBITDA multiples. EBITDA multiples are good measures for larger companies because the control over the company's decision making is usually spread to a larger group of directors and managers. Therefore, EBITDA many times is a good yardstick by which to measure larger subject entities.

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<sup>17</sup> The valuation analyst should also understand what industry multiples are commonly associated with the type of business being valued. The multiple selected should be a multiple commonly used in that particular industry.

### C. ADVANTAGES OF THE COMPLETED TRANSACTIONS METHOD

The advantage of the Completed Transactions Method is that it produces values for controlling interests on a non-marketable basis<sup>18</sup> (the databases list transactions for 100% interests in almost every instance). The transactions are non-marketable since the observed value is based upon the sale of non-public entities.

The data captures actual market transactions. Unlike the income approach, observed transactions are not based on theory, professional judgment or market assumptions. The transactions themselves are frequently difficult to locate businesses, small companies and otherwise private data not available in another forum. Unlike the asset method, the transactions observed are for the business' operating assets *and* its goodwill.

### D. DISADVANTAGES OF COMPLETED TRANSACTIONS METHOD

One of the disadvantages of the Completed Transactions Method is that the underlying data is not always verifiable. Transactions rarely occur on the valuation date. This requires the valuation analyst to consider whether an adjustment needs to be made due to changing market forces over time.

The quantity of companies that are comparable may be less than optimal. In most cases, the valuation analyst will search by SIC code for comparable companies. Broad types of companies within the same SIC code might hinder the analysis as no additional information may be available to further differentiate or compare the similarity of the comparable and subject entities to one another.

### E. PERSPECTIVES ON LACK OF CONTROL ISSUES WITH MARKET VALUE OF INVESTED CAPITAL MULTIPLES AND EQUITY MULTIPLES

Control is implicit in invested capital multiples. By virtue of the resulting entire entity value being derived from an invested capital multiple, it is implied that control can be exercised over the debt structure. Therefore, when calculating control positions, invested capital multiples are preferred because they require fewer subjective adjustments to arrive at a control value.

Equity multiples calculate value subject to the existing debt structure. Equity multiples value company's equity, not the market value of invested capital. Therefore, when using an equity multiple (such as Price/Net Income), based on a controlling purchase of 100% of an entity, a measure of lack of control may already be factored into the equity multiple. Stated differently, transactions involving minority interests in private transactions would more directly produce equity multiples that could be used to value minority interests using the fewest adjustments possible for a lack of control.

Therefore, a valuation analyst has to consider the merits and the degree to which he/she applies a lack of control discount to minority interests using both MVIC and equity multiples under the Completed Transactions Method. A lack of control discount on a minority interest would tend to be larger when using MVIC multiples compared to equity multiples because equity multiples

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<sup>18</sup> It is not uncommon to adjust the control non-marketable position as derived from the Market Approach for lack of liquidity factors such as business brokerage fees, marketing expenses and other selling-related costs. In addition, privately held businesses do not sell quickly as do marketable securities. Therefore, a discount for the time value of money may also be appropriate in certain circumstances.

may have a measure of lack of control built into them since they are derived on an after-debt basis.

#### **F. PERSPECTIVES ON LACK OF MARKETABILITY ISSUES WITH MARKET VALUE OF INVESTED CAPITAL MULTIPLES AND EQUITY MULTIPLES USING THE COMPLETED TRANSACTIONS METHOD**

In its basic unadjusted calculation, the Completed Transactions Method produces a non-marketable value.<sup>19</sup> It is non-marketable because the transactions observed are not publicly traded entities. However, when considering a controlling interest, the valuation analyst might consider additional factors concerning the lack of liquidity of the subject interest.<sup>20</sup> In addition, there are risks, such as changes in value, and time value of money issues that the appraiser may consider. There could be significant time and costs that would need to be incurred in order to make the subject company salable.<sup>21</sup> How much time will be incurred in liquidating the subject interest? What is the reasonable cost related to the time necessary to liquidate the entity? Lack of liquidity factors might be considered by the valuation expert when applying the Completed Transactions Method to controlling interest values.

Generally, a minority share interest is not as desirable as a controlling share interest. Therefore, a lack of marketability discount might be appropriate when valuing minority interests using the Completed Transactions Method. The degree to which the discount is applied, if any, is subject to the valuation analyst's judgment and research.

### **IV. ISSUES IN THE APPLICATION OF THE COMPLETED TRANSACTIONS METHOD**

#### **A. FACTORS TO CONSIDER**

To apply consistently the Completed Transactions Method, the valuation analyst should follow the same logic used to select the performance measures of the other approaches. For example, if the valuation analyst has selected a three-year average of EBITDA as his/her calculation base for the Weighted Average Cost of Capital (WACC), then the same three-year period should be used when applying the Completed Transactions Method metrics to the subject company.<sup>22</sup> This ensures the consistent application of the same selection principles to both the Market and Income approaches.

#### **B. AVERAGING METHODS OR MULTIPLES**

It is not uncommon for valuation analysts to average the results from more than one multiple when applying the Market Approach. For example, using the same dataset, one can calculate a value using both a revenue multiple and an EBITDA multiple and average the results of these two calculations. When applying this principle the valuation analyst should consider the disparity of the two independent results.

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<sup>19</sup> This statement is subject to the database selected and the underlying data from which the valuation analysis is made. For more guidance, the valuation analyst should refer to the database specific information contained herein and available from the data provider for additional guidance.

<sup>20</sup> The distinction between Liquidity and Marketability is an important, but more advanced topic.

<sup>21</sup> Pratt, Shannon P. *The Market Approach to Valuing Businesses*. Second Edition, page 42.

<sup>22</sup> If the selection involves a three-year EBITDA calculation for the Income Approach, then use the same three-year period when applying, for example, revenue or EBITDA multiples in the Market Approach.

Some questions to consider include: Is the average based on good underlying data in each? Or, is the average simply a midpoint between poor datasets? Is one multiple more useful than the other? If the independent results of applying several multiples are fairly close, there may be more confidence in the result. Many valuation analysts advise against blindly averaging values reached using different multiples, and suggest trying to reconcile any material differences if possible. Language in Revenue Ruling 59-60 warns against *blindly* averaging factors in valuation engagements.

### C. DEAL STRUCTURE AND TERMS

The terms of sale are frequently disclosed in the notes about the comparable company sale. The valuation analyst should consider the affect the terms may have on the calculation of a deal price expressed in “cash today” terms. For example, the time value of money or contingent consideration might be an adjustment necessary to convert longer payment terms to a deal price as of the date of the transaction observed.

### D. CORRELATION TO OTHER VALUE INDICATIONS

If the analyst is using an EBITDA or earnings multiple in the Market and Income approaches, then a further crosscheck may be performed against the Income Approach. This is done by understanding the reciprocal relationship between market multiples and discount rates. Mathematically, dividing by a fraction is the same as multiplying by its inverse:

\$100,000 divided by 20% (or  $1/5^{\text{th}}$ ) = \$500,000; is the same as  
\$100,000 times the inverse,  $5/1$  (or 5) = \$500,000.

If we convert the WACC to a pre-tax discount rate and calculate its inverse, we produce an EBITDA multiple. Therefore, it must be true that if we invert the EBITDA multiple we produce a discount rate (pre-tax). This simple exercise allows us to crosscheck Income Approach based theoretical WACC rates against market observed transactions. Review the following example:

An EBITDA market multiple of 5.2 = a WACC of  $(1/5.2 * 60\%)$  or 11.5%

### E. SUFFICIENT SAMPLE SIZE

How many transactions do I need to apply the Completed Transactions Method effectively? In the *Estate of Joyce C. Hall*, 1992 T.C. No 19 (1989) the court rejected the appraiser’s reliance on one business transaction stating that, “One company does not a market make.” Pratt offers: “Our confidence rises sharply when we can find four to seven good guideline publicly traded companies.” A valuation professional should ensure there are enough, good comparable data to establish an adequate base from which to draw reasonable conclusion.<sup>23</sup> Ranges of uncertainty (which can be expressed as the standard deviation) tend to narrow with sample sizes of at least 10 reasonable guideline transactions.

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<sup>23</sup> Shannon P. Pratt, Robert F. Reilly and Robert P. Schweihs, *Valuing a Business-The Analysis and Appraisal of Closely Held Companies*, fifth edition, page 274.

## V. SUMMARY

The Completed Transactions Method relies on pricing multiples derived from transactions involving similar companies and applied to the subject company's metrics to determine the value of the subject interest.

The valuation analyst must exercise care in the determination of what is the result of applying the multiple. Is the result the value of equity or is it the value of total invested capital? If a total invested capital or market value of invested capital multiple to value equity is used, one must subtract interest-bearing debt to arrive at the value of equity. Similarly, if one is calculating the market value of invested capital using an equity multiple, one must add interest-bearing debt to the calculation to arrive at the market value of invested capital.

According to IRS Revenue Ruling 59-60, the Market Approach should be considered whenever determining the value of an underlying security. Accordingly, the valuation professional should document his consideration of the Market Approach when valuing securities for gift or estate tax purposes.

The NACVA and AICPA standards also provide guidance suggesting that the Market Approach should be considered whenever performing a business valuation.

The valuation professional should understand several statistics. These include the mean, median, mode, standard deviation and coefficient of variation.

The Completed Transactions Method emphasizes the principle of substitution that says that the value of any "thing" tends to be determined by the cost of acquiring an equally desirable substitute. The comparable thing does not have to be identical; it simply needs to be substantially equivalent.

When selecting comparable company transactions, the valuation analyst may decide on the search parameters such as time period, company metrics and industry characteristics (other than SIC classification). Tools available involve the application of the 5/10/10 principle and other comparative analysis.

Transactions in databases are derived from three primary sources: public companies buying public companies, public companies buying private companies and private companies buying private companies.

The advantages of the Completed Transactions Method are that it consists of data involving private companies that are not publically traded and for which data is not readily available to the public. The value produced is a control value. The data is based on actual transactions and not on valuation theory, assumptions or other hypothesis.

The disadvantages of the Completed Transactions Method are that the data within the databases is often not verifiable, may include synergistic or disadvantaged market conditions, transactions do not normally occur on the valuation date and the number of comparable company deals may be limited.

Databases that have a substantial number of private smaller-sized transactions include BIZCOMPS, IBA and Pratt's Stats. Generally, these datasets involve the sales of 100% asset sale interests.

Databases with larger transactions include Done Deals, FactSet MergerStat and S&P CapitalIQ. Generally, these datasets involve the sale of equity. The valuation analyst should understand what is included in the transaction fields of each dataset to properly calculate the subject company's MVIC value or equity value.