
Uses and Abuses of Market Data: An In-Depth Look at the Tools of Our Trade

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Abstract

The transaction databases are a rich source of valuable information that can be used to strongly support your valuation. However, for the uninitiated and unwary, misuse of the information provided by the databases may seriously undermine your opinion of value. This article tells you how to get reliable results from proper use of the data.

Although we have made every effort to present the most accurate information, we make no representations or warranties with respect to its applications to a particular valuation assignment. Each appraiser should analyze his or her own situation carefully when determining the appropriate use of market data.

The Transaction Method is widely used and accepted by business valuers, the courts, and the Internal Revenue Service. Although the method has its place in the valuation of privately held companies, it must be applied carefully. Many pitfalls must be avoided in order to use the method effectively and accurately.

We've found that after one understands the wealth of information that the transaction databases provide, the Transaction Method becomes much easier to use and provides a meaningful and reliable value indication in many of our valuation engagements. Unfortunately, many appraisers apply this method without considering the details behind the underlying transactions or carefully applying the method itself, resulting in meaningless valuation conclusions. Taking the time to understand the transactions and the databases from which they come is extremely important and can help appraisers to avoid some of the more common pitfalls.

We first wrote about this topic for the September 2003 issue of *CCH Business Valuation Alert*. In that article, titled "The Direct Market Data Method: Common Errors in Application and a Closer Look at the Transaction Databases," we highlighted several common mistakes made by appraisers when applying the method. We also provided the reader with an overview of each database and pointed out some important differences in the reporting of the data. After many hours of research in preparation for a presentation on this same topic at the 2004 American Society of Appraisers' Advanced Business Valuation Conference, as well as our continued experiences in applying the method and rebutting other appraisers' application of the method, we thought it

important to share our additional findings. Thus, this article will discuss our refined and updated understanding of how to use each database and reiterate some common pitfalls to avoid.

For the duration of this article, we will refer to this method as the "Transaction Method." Note that we define the Transaction Method as any valuation method that relies on transactions of closely held companies. We distinguish the Transaction Method from the Guideline Public Company Method, which is predicated on trading metrics of publicly traded stocks. In researching material for this article, we discovered that even this basic distinction is not universally held.

The Transaction Method is included within the market approach to business valuation. The theory behind the method is that the prices of similar businesses that have sold in the marketplace can provide a reasonable approximation of the value of the subject company. Actual sale prices of privately or publicly owned companies in the same or a similar line of business are used to develop pricing multiples. These pricing multiples, either of revenue or some measure of profitability, are applied to the subject company's financial data to arrive at an indication of value.

In *The Market Approach to Valuing Businesses*, Shannon Pratt states, "Courts are becoming more sophisticated and increasingly able to evaluate market approach testimony. Many case decisions ultimately depend on the relative quality of respective experts' market approach presentations. While the market approach can provide an excellent indication of value, it can also be one of the easiest approaches to poke holes in during cross-examination, so careful selection of market data is critical to the success of the approach in the courtroom."¹

Indeed, although widely accepted, the Transaction Method can often be the most difficult method to apply. We have seen evidence of this in the countless valuation reports that we have reviewed. It is not for lack of sufficient transactions, because there are now several databases that offer information on literally tens of thousands of deals. It is the application of those transactions to a specific valuation assignment that proves most challenging. As business appraisers, the onus is on us to understand the data we use.

In this article, we will outline what we understand to be proper use of the data from the various databases, as well as highlight some common errors made by business appraisers and what can be done to avoid them. Although we will not be able to answer all of the

questions with absolute certainty, it is our goal to continue to further the understanding of this method, and to explain, at least in part, the appropriate use of the vast amount of data that is available to us.

The Transaction Databases

Various databases offer merger and acquisition data of public and privately owned companies. The databases used most frequently by business appraisers to value small and midsize companies include Pratt's Stats, BIZCOMPS, the Institute of Business Appraisers' Market Database, and DoneDeals. A good source for transactions of larger companies is the Mergerstat M&A Database. Here we provide a brief overview of these databases as background for the reader.

Pratt's Stats

Pratt's Stats is an online database of sales of privately and closely held companies. Data is gathered from the International Business Brokers Association (IBBA), the Certified Business Counselors, and other business intermediaries. This database contains over 7,600 transactions from 1990 to the present, with deal prices ranging from less than \$1 million to \$5.9 billion dollars. This database offers comprehensive information for each transaction, with as many as 80 data points highlighting financial and transactional details, 18 of which are calculated multiples or financial ratios.

BIZCOMPS

BIZCOMPS is a transaction database of primarily small, "Main Street" businesses. BIZCOMPS reports on over 8,000 transactions of privately held companies, dating from 1990 to the present. In 63% of the deals, the target had revenues of less than \$500,000, whereas 17% had revenues over \$1 million. Valuation multiples that can be calculated from this database include price-to-sales and price-to-seller's discretionary earnings.

Institute of Business Appraisers' Market Database

This database reports on over 30,000 transactions of privately held companies in more than 775 standard industrial classification (SIC) codes. It is used to value primarily small and midsize businesses, with most of the target companies having revenues of less than \$500,000. There are 11 data points available, including two calculated multiples: price-to-sales, and price-to-earnings before owner compensation, interest, and taxes (EBITO).

DoneDeals

The DoneDeals database focuses on sales of private and public mid-market companies (78% of the selling companies are privately owned) with purchase prices

between \$1 million and \$250 million. Approximately 50% of the deals are under \$14.5 million. As of January 2005, the database contained over 7,000 transactions. The DoneDeals database provides approximately 25 data points, including several calculated pricing multiples.

Mergerstat M&A Database

Mergerstat tracks formal transfers of ownership of at least 5% of a company's common equity in which the purchase price is at least \$1 million and at least one of the parties is a U.S., Canadian, or European entity. The database contains hundreds of thousands of transactions dating back to 1992. Because this database focuses on transactions of larger, mostly publicly traded companies, there is a significant amount of information available. Mergerstat collects data from a variety of public and proprietary sources, including the SEC, press releases, and business wire releases.

Understanding the Databases

Proper application of the Transaction Method requires a thorough understanding of the databases. They vary widely in the number of data points they provide, the size of the deals, the number of transactions available, the format in which the information is provided, and the way such terms as *sale price* and *earnings* are defined. Some databases are more appropriately used on a transaction-by-transaction basis because they provide a great deal of information on each transaction, whereas others are more useful under the "total market theory" because they provide a large number of transactions but limited information on each. Both can be useful tools in a valuation analysis.

The databases provide a great deal of information on how to use their data. For example, the Institute of Business Appraisers (IBA) has a library of tutorials; Pratt's Stats, DoneDeals, and Mergerstat have series of frequently asked questions (FAQs); and BIZCOMPS has a user's guide. All of the databases provide a glossary of terms that can provide insight to the business appraiser. A telephone call to database representatives can provide general guidance for using the database or additional information regarding a specific transaction. Furthermore, a call to the business intermediary, when known, may provide further insight into a particular deal or to the deal climate in a given industry.

In the sections that follow, we will first discuss Pratt's Stats, DoneDeals, and Mergerstat together because these databases cover deals that, due to their size and the amount of information available for each deal, are more readily analyzed on a transaction-by-transaction basis. This will be followed by a discussion of the IBA and BIZCOMPS databases, which usually provide a larger number of transactions within a given industry but

Table 1
Reading the Transaction Report

	Unadjusted	Adjusted
MVIC Price	\$19,838,000	\$17,138,000
EBITDA	\$996,679	\$4,343,855
MVIC/EBITDA	19.90	3.95

limited information on each transaction, making these databases more useful under the total-market theory.

Pratt's Stats, DoneDeals, and Mergerstat

The amount of data provided by each of these databases is generally sufficient for the deals to be analyzed on a transaction-by-transaction basis. In doing so, there are some key points to remember.

Read the transaction reports

We speculate that all of us, at one time or another, have quickly downloaded some transactions into a spreadsheet, made sure the companies were reasonably comparable, and then applied a median or mean valuation multiple—or worse, used the multiples that were calculated by the database rather than calculating our own multiples. In doing so, we likely missed critical information about the individual transactions.

In an example from Pratt's Stats, we find important information in the Transaction Report that cannot be ignored. In the report's Terms section: "Consideration paid as follows: \$17,138,000 cash, \$2.7 million promissory note for real estate" Note that the footnote to the Market Value of Invested Capital (MVIC) price says the deal did not include real estate, as is noted in every Pratt's Stats deal. Therefore, \$2.7 million must be re-

moved from the MVIC price to get to a price that doesn't include real estate. Additional notes indicated that "EBT [earnings before taxes] includes stockholder bonuses expense of \$3,449,000 and other income of \$101,824." Table 1 highlights the difference in the pricing multiple before and after making the necessary adjustments.

Had the appraiser not read the transaction report carefully and calculated her own multiple, she may have simply discarded the transaction because the multiple appeared unreasonable, or she may have included the transaction at the unadjusted amount. Inclusion of the transaction would have resulted in an inflated pricing multiple and, most likely, an overvaluation of the subject company.

A deal is just a deal, or is it?

Often, the same transaction is reported by several different databases. However, as shown in Table 2, each database may provide financial information that is drastically different. This can result in large discrepancies in valuation multiples derived from the same transaction.

DoneDeals often presents the seller's financial information for the most recent period, which is often a number of months, not a full year. Pricing multiples are then calculated by using these data, which DoneDeals has "annualized" in their calculation. This is done for all but "obviously seasonal businesses," for which one full year of data is presented, according to their term definitions. Likewise, Pratt's Stats includes the noncompete value in the purchase price but does not include earn-outs, real estate, or employment or consulting agreements. Mergerstat does include such items in their deal price but provides a pricing detail section that sometimes breaks out the components of the total consideration

Table 2
Acquisition of ABC Company by XYZ Company

	Pratt's Stats	DoneDeals	Mergerstat
Seller SIC	XX41	XX69	XX66
Sales	\$9,439,346	\$8,200,000	\$8,620,000
Sales as of	12/31/97	Annualized (3 months)	LTM
Price (EV)	\$8,037,500	\$13,600,000	\$15,520,000
Price Includes	\$7,237,500 cash	\$7,237,500 cash	\$7,237,500 cash
	Buyer's stock valued at \$500,000 (without regard to restrictive discount). \$300,000 noncompete.	Buyer's stock valued at \$425,000. Potential earnout based on next 3 years performance valued at \$5,937,500.	Buyer's stock valued at \$500,000. Potential earnout based on next 3 years performance valued at \$5,937,500. CNTC valued at \$300,000. Assumption of debt valued at \$1,511,553.
P/R Multiple	0.85	1.66	1.80

paid. Appraisers using these data should be aware of these critical points; they would be aware if they read the instructions for the database and the transaction reports.

Table 3 shows us what we really needed to know about the sample deal, as reported in the buyer's Form 8-K filing.

Each of the databases picked up different pieces of the deal. The earnout was either not included or added to the acquisition price, and only one database provided the amount. The buyer's stock was counted differently, either adding restrictions or not. The covenants were also treated differently among the databases.

This is an example of why we might want to search each transaction to determine the composition of the purchase price. It may be helpful to search several databases and SEC filings to gather as much information about each deal as possible.

Equity price versus MVIC price

We believe that one of the most widely misunderstood components of the Transaction Method is the application of Pratt's Stats' equity and MVIC multiples. This question is addressed in Pratt's FAQs, but our review work indicates that many appraisers do not understand the implications of how these data are calculated or how they should be used in their appraisals.

When searching the Pratt's Stats database, one will find that equity price and invested capital price are the same in many transactions. Very often, however, the seller's EBIT and earnings before taxes (EBT) are different, indicating that the seller carried some amount of interest-bearing debt.

Table 4 depicts the relevant information provided in the Transaction Report for the selected stock sale. As shown, the equity price and the MVIC are the same, and Liabilities Assumed is listed as "N/A"—an indication that the buyer did not assume any debt. According to the database's FAQ, "if the Liabilities Assumed field is left blank, it can be assumed that the purchaser did not assume any of the seller's long-term financing liabilities, or that the amount of the long-term financing liabilities assumed was immaterial relative to the consideration paid." Therefore, the purchase price only includes the operating assets and current operating liabilities of the seller.

In addition, the FAQ also says, "The income data reported by Pratt's Stats is the latest full fiscal year reported before the date of the closing of the sale. It would be incorrect to extrapolate that the sale included the assumption of long-term financing liabilities from the fact that interest expense was reported for the business before the date of the sale."

Table 3
XYZ Company 8-K Information

Cash Paid	\$7,237,500
Buyer's Stock	Valued either at \$450,000 or \$500,000 (depending on restrictions)
Covenant not to Compete	\$300,000

Table 4
Relevant Information Provided
in Sample Transaction Report

Interest Expense	\$119,000
Equity Price	\$5,600,000
MVIC	\$5,600,000
Liabilities Assumed	N/A
EBITDA (Calculated)	\$613,000
EBT	\$435,000
Equity Price/EBT	12.874
MVIC/EBITDA	9.135

Table 5
Calculation Using Multiples from
Table 4 as Typically Applied

	Equity Price/EBT	MVIC/EBITDA
Multiple	12.874	9.135
Subject Company EBT	\$435,000	
Subject Company EBITDA		\$613,000
Value Indication	\$5,600,000	\$5,600,000
Less Interest-bearing Debt	Unknown	\$2,000,000
Value of Equity	\$5,600,000	\$3,600,000

In the case of the data presented in Table 4, given \$119,000 in interest expense, we know that the guideline company had debt. Using a 6% rate of interest, we will assume that our example company carried a debt of approximately \$2.0 million (\$119,000 divided by 6%).

The MVIC/EBITDA is calculated as the sales price (which does not include the assumption of long-term liabilities) divided by EBITDA. In the case of equity price/EBT, which is the calculation is the same sales price (which again *does not include the assumption of debt*) divided by EBT, which is after the deduction for interest expense—somewhat of a difference from our typical thinking.

Let us see what happens when the aforementioned multiples are used and we attempt to calculate value in the typical manner (see Table 5). Assume that, fortuitously, we have a company that virtually mirrors this

guideline company. In fact, for the year we are valuing, this company's EBT and EBITDA are the same as the guideline company, and the company has debt of \$2.0 million. What we are trying to determine is the value of the company's equity.

What should we do with the debt? As the calculation shows, if the appraiser were to use the equity multiple at face value, he would significantly overstate the value of the company. This is because, in arriving at the equity price/EBT multiple, the denominator—EBT—includes a deduction for interest expense on debt that the buyer of the stock does not assume. Therefore, when using the multiple, you must reduce the resulting value by the interest-bearing debt that the company holds.

When using these data, you must ask yourself if you really have an equity price or an equity price disguised as an MVIC Price. As appraisers, we do not typically think of deducting debt from an equity-derived valuation multiple. However, if there were no liabilities assumed in your guideline transactions and the company you are valuing has debt, you *must* subtract debt from the value indication to arrive at the value of the equity.

One solution would be to simply use the invested capital multiples only, which is what we tend to do. We note also that the use of equity multiples may have further implications in any event, such as incomparability of capital structure with your subject company.

How DoneDeals handles debt

The guidance provided from the DoneDeals database for how to deal with debt seems to be different from Pratt's Stats. The DoneDeals' FAQ section states, "For 'Stock Sales' the price is an Equity Price, or the price paid for the seller's equity. Approximately 70% of the DoneDeals transactions are stock sales. For 'Asset Sales,' about 30% of DoneDeals, the price indicated is a Deal Price and is equal to the price paid for the equity acquired plus the value of any liabilities assumed. In DoneDeals, the assets acquired are listed in the 'Terms' field, when known, as is the value of any liabilities assumed by the buyer. Where there is no debt assumed, as is the case in the majority of the asset sales, the Deal Price is equal to the Equity Price."

Pratt's interpretation is that debt has not necessarily transferred in a stock deal (or if it has it is not material to the deal) unless the "Liabilities Assumed" field tells you otherwise. DoneDeals assumes that debt transfers in a stock deal, leading the user to assume that debt of the subject company does not need to be deducted from the value indication when using DoneDeals stock transactions. Given that the two databases cover similarly sized transactions, and likely many of the same transactions, these are two very different assumptions about whether or not to subtract debt from your value conclusion.

It is unlikely that debt always transfers in a stock deal. A search of the buyer's SEC filings may tell you more about whether debt transferred. Whether or not debt is included in the transaction price is important and can have serious implications on value. We always calculate our own multiples, gathering as much information as possible from the database. Additional sources of information that may help determine whether debt is included in the transaction price include other databases, SEC filings, and business intermediaries, as well as the underlying companies. If you ultimately don't know, given the example in Table 5, you may not be able to use the transaction.

Key points about Mergerstat

In response to the FAQ, "What type of transactions does Mergerstat NOT provide?" Mergerstat replies, "Historically, Mergerstat had not tracked repurchase programs/buybacks, spinoffs, asset sales, or product lines and brand names." From this response, one would assume that all of the Mergerstat deals are stock transactions. However, a review of the "Synopsis" field will show that some of their deals are, in fact, asset deals.

There are important distinctions in the definitions of terms of which the appraiser must be aware. In this database, the term *deal size (base equity price)* is defined as the price paid for the equity of the company. It does not include preferred stock option value. The term *total invested capital* is the base equity price plus short- and long-term debt, plus preferred stated or par/preferred redemption value/preferred liquid assets (whichever is higher). The term *enterprise value* is defined as total invested capital less cash.

Like Pratt's Stats, Mergerstat offers a "Liabilities Assumed" field, which will tell you how much, if any, of the target's debt was assumed. If no liabilities were assumed, then the deal size (base equity price) and the total invested capital will be the same. Enterprise value will differ from these in that it will *exclude the cash of the target*. This is important to note because the calculated multiples in Mergerstat's Deal Reports are based on enterprise value. When using these multiples, you must add your subject company's cash to the value indication.

Note, too, that Mergerstat prices may include earn-outs, warrants, options, and other additional payments that are not cash equivalents. They do, however, offer the pricing details that break down the deal into its various components.

A critical factor to consider when using Mergerstat is to be sure the deals have closed. Mergerstat reports deals that have been announced but may not have closed yet or may have been cancelled. If there are multiple bids on a company, Mergerstat only includes the highest bid.

Asset sales versus stock sales

All transactions must be analyzed carefully and separately. While both asset sales and stock sales can be used in developing value indications, they should not be combined because different assets and liabilities of the subject company must be added or subtracted from the value indication to arrive at the value of the subject's equity.

In fact, one of the more difficult decisions the appraiser faces when using any of the Pratt's Stats, DoneDeals, and Mergerstat databases is what current assets and liabilities to add or subtract from the value indication. In asset or stock transactions, certain assets are included in the price whereas others are not. In a stock sale, it is generally assumed that all assets and liabilities transferred. In an asset sale, only certain assets (and possibly some liabilities) transfer. The answer, of course, depends on what transacted in the subject deals. However, we do not always have perfect information available, therefore we do not always know exactly what transferred. To the extent that we can't locate that information through SEC filings or by other means, the appraiser must decide whether to rely on the databases' general instructions regarding what transferred or to reject the transaction altogether.

Pratt's Stats' FAQs tell us that the entire legal entity of the company transfers in a stock sale, including all assets and liabilities, unless otherwise specified in the purchase agreement. With regard to asset sales, the database assumes that all, or substantially all, operating assets are transferred. Generally, but not always, the following are *not* transferred in an asset sale: cash, trade receivables, prepaid expenses, real estate, and nonoperating assets. If known, Pratt's Stats will identify the purchase price allocation among assets and liabilities and report the information in either the "Asset Data" or the "Additional Notes" field. If the buyer is public, you may be able to determine more about the deal through SEC filings. We highly recommend that you obtain such filings whenever they are available because they contain important information about the deal that you otherwise may not learn.

Mergerstat offers enterprise value, which is total invested capital excluding the seller's cash. With regard to other assets and liabilities, we can look to the "Deal Synopsis" and "Transaction Notes" for more information. Very often, the purchaser in the Mergerstat transactions is a public company; therefore, more information is likely available through SEC filings.

Most DoneDeals data come from SEC filings; therefore, if sufficient data are not provided in the transaction report, you may also find more information on those transactions by searching the buyer's filings as well.

Matching the numerator and denominator

Appraisers often mistakenly derive market multiples by using a sale price in the numerator (equity or invested capital) that is inconsistent with the level of earnings used in the denominator (debt-free or debt-inclusive). For example, when using an equity price as the numerator, it is important that the denominator include only those returns available to equity holders. Likewise, when using an invested capital price as the numerator, the denominator should include returns available to both equity and debt holders.

Common equity valuation multiples include net income, gross cash flow, and earnings before taxes. Common invested capital valuation multiples include price-to-sales, EBITDA, EBIT, and discretionary earnings (earnings before interest, taxes, noncash charges, and owner's compensation).

Earnouts based on contingent future performance

The appraiser should be aware of whether the purchase price includes a potential earnout that is contingent upon future performance. If so, has it been included at its full future value, at a present value, or at some other discounted value?

In the deal in Tables 2 and 3, \$7.7 million was paid in cash and common stock (unrestricted). DoneDeals and Mergerstat (but *not* Pratt's Stats) added another \$5.9 million to that amount for a potential earnout that was tied to future performance plus an employment contract.

If at all possible, the appraiser should adjust the purchase price to the present value of the best estimate of the expected proceeds. This can often be very difficult to determine. Analysts might also consider removing transactions involving earnouts if reasonable estimates cannot be made or if the contingent payment significantly affects the multiple.

IBA and BIZCOMPS: Critical differences

IBA and BIZCOMPS are most appropriately used under the "total market theory" since they typically contain a large number of transactions for each SIC code but limited information is available for each transaction, making a transaction-by-transaction analysis impractical. When using these databases, the more transactions the appraiser has to work with the better. This stems from the idea that a large sample size helps to mitigate the impact of any errors or imperfections in a few of the data points, thereby making the result statistically relevant.

IBA and BIZCOMPS have more differences in their application than most appraisers realize. In fact, we often see transactions from these two databases combined in the Transaction Method because they are both assumed

to be asset sales of similarly sized companies and both produce multiples of sales and earnings. However, there are two important distinctions that bear mention: (1) whether inventory is included in the price and (2) how each database defines earnings. We believe that these two differences make it inappropriate to combine data from the IBA and BIZCOMPS databases in a valuation analysis.

Inventory

We are all aware that whether inventory is included in the transaction price depends on the particular deal and is oftentimes a characteristic of the particular industry in which the seller operates. However, IBA and BIZCOMPS do provide specific information regarding inventory.

The IBA's position has been that whether or not inventory is included in the price depends on the industry. However, their tutorial indicates that, "Typically (but not always), assets transferred in an asset sale include inventory, fixed assets exclusive of real estate, and intangible assets or the 'book of business.'"² This would lead the appraiser to believe that, generally, inventory does not need to be added to the value indication arrived at using IBA multiples, as it is assumed to be included in the price.

The basic information received from the IBA after placing a request for data includes the business type, annual gross, discretionary earnings, owner compensation, sale price, price/gross, price/earnings, geography of seller, and year and month of sale. A perhaps little-known fact is that when requesting data from the IBA, they will give you the value of any inventory that transacted in the deal. They will also give you the value of real estate that may have sold but has been excluded from the sale price, as well as a "Terms" field, which is most often blank, but can provide useful information when known. These are three extra columns of data—but you have to ask for it! When you do, this is what you'll find: The IBA did not originally list inventory separately, so these amounts only appear in more recent years, and even then, they are only provided for *some* transactions. According to Raymond Miles, IBA Technical Director, if the "Inventory" field is blank, it is because the data provider did not fill it in. It does not necessarily mean that inventory is not included in the selling price. Thus, some IBA transactions clearly include inventory and sometimes it is not known if there was inventory included. The determination is not necessarily industry specific, as within the same SIC code you will find some deals with and some without inventory listed. The way we tend to handle this is by examining the "Inventory" field provided by IBA. If it appears that

the majority of the transactions included inventory in the price, we do not add it back separately.

With regard to BIZCOMPS, the assumption is that inventory is not included in the price. This is based on the User Guide, which states, "Since the amount of inventory can vary so significantly from business to business, BIZCOMPS believes that the financial ratios of the selling price of a small business should exclude this relatively volatile asset. The author of BIZCOMPS believes that the best policy is for the analyst to add his or her client's inventory value to the sale price, thus customizing the value for his or her client's particular situation." As such, what is assumed to have transferred is fixed and intangible assets; all other assets and liabilities must be added or deducted accordingly to arrive at an equity value.

Definition of earnings

These two databases also differ in how they define earnings. The BIZCOMPS User Guide defines Seller's Discretionary Earnings (SDE) as net income before taxes, amortization, depreciation, interest, owner's compensation, non-business-related expenses, and one-time-only expenses. IBA defines Discretionary Earnings as annual earnings before owner's compensation, interest, and taxes. The difference is depreciation and amortization. For this reason, they should never be mixed because the price-to-earnings multiple is not applied to the same earnings base.

Often, though, we find that IBA and BIZCOMPS report the same earnings figure despite the fact that they define earnings differently. We've also found that sometimes what Pratt's Stats reports as owner's compensation is reported by IBA as EBITO and by BIZCOMPS as EBITDAO, and that entirely different figures for EBITO and EBITDA are reported by Pratt's Stats.

It appears, then, that the revenue multiples from IBA and BIZCOMPS are likely more reliable than the earnings multiples. The IBA states in their tutorial that the earnings multiple is of "only marginal utility." We agree.

Table 6 summarizes the proper application of the IBA and BIZCOMPS data. According to Raymond Miles, their instructions to people who supply data have always been to include inventory as part of the selling price.

Other Considerations

The following are some other general issues applicable to all of the databases and of which business appraisers should be aware when applying the Transaction Method.

Mixing the databases

This can be a dangerous practice due to the varying definitions of the data points within each database. Even

Table 6
Summary of Application of IBA and BIZCOMPS

	IBA	BIZCOMPS
Transaction Type	Asset	Asset
Assets Sold	Fixtures and Equipment (FFE), Intangible Assets	Fixtures and Equipment (FFE), Intangible Assets
According to Mr. Ray Miles, IBA Technical Director, their instructions to persons who supply data have always been to include inventory as part of the selling price.		
Inventory Included in Price?	Usually; Ask for Detail	No
Add to Value Indication	All other Assets, Possibly Inventory	All other Assets, Including Inventory
Deduct from Value Indication	All Liabilities	All Liabilities
Sale Price Includes	Employment and Noncompete Agreements	Does not Say
Sale Price Excludes	Real Estate, Possibly Inventory	Real Estate, Inventory

with a multiple as seemingly homogenous as price-to-revenue, the definition of sales price among the databases can be very different. Therefore, while the denominator of revenue may easily be combined from several databases, the numerator can vary drastically from one database to the next. For earnings multiples, the problem is magnified. In this case, the definition of both the numerator *and* denominator may be different. It is advisable to calculate a value indication for each database separately to ensure that variables are not mixed.

Not eliminating duplicate transactions

Appraisers should be certain that their sample does not include duplicate transactions. Duplicate transactions may be found within the same database or across databases. They can be difficult to identify because often the qualitative and quantitative information provided are different. Sometimes the clue that there are duplicate transactions might be small; for example, noticing that two of the transactions in a sample occurred in Kent, Washington. This may mean that there are two identical transactions in the sample. It may also mean that the same business in Kent, Washington was sold more than once in the time period for which transactions were collected. Or, it may mean that two similar businesses in the same industry code and both located in Kent, Washington transacted during the time period for which transactions were collected. What it certainly means is that further investigation is necessary to avoid duplicate transactions in the sample.

Inadequate comparative analysis

The transactions selected should be comparable to the subject company, in terms of both financial and operational characteristics. Often, however, it appears that little attention is paid to comparability.

One of the clearest examples of inadequate comparative analysis we have encountered involved an opposing

appraiser's application of the Transaction Method in the valuation of a natural food store. The appraiser used hundreds of data points from SIC code 5411—retail grocery stores—to develop a price-to-sales multiple when, in fact, the transactions did not include any natural food stores. The price-to-revenue multiples for conventional grocery stores tend to be much lower than those of natural food stores, reflecting the lower profit margins of conventional stores, the difference in projected growth rates between a mature conventional grocery store industry and a growing natural food store industry, and different cost structures and market demographics. In addition to conventional grocery stores, the transaction data included convenience stores, liquor stores, candy stores, fish markets, dry cleaning, truck stops, consignment shops, and bars. A more appropriate SIC code would have been 5499—miscellaneous food stores—from which transactions of natural food stores could have been specifically selected. Although the appraiser included a statistical analysis of the significant amount of market data he had selected, if the market data is not comparable, what purpose does a sophisticated analysis of irrelevant data serve?

Comparability should not stop at business lines. The guideline transactions should also be reasonably comparable in terms of financial metrics such as revenue, asset size, and profitability. There should also be evidence of a correlation between the multiple selected and the metric against which it is applied. This lack of attention to the comparability of the market transactions resulted in the opposing appraiser significantly undervaluing the subject company.

Synergistic deals

Very often the deals found in the various transaction databases involve synergistic deals in which the buyer paid a premium for anticipated synergies. Synergistic deals should not necessarily be excluded from consider-

ation when valuing an interest under the fair market value standard. In the BTR Dunlop Holdings case,² the Tax Court found that, because there were six potential synergistic buyers for the subject business, synergies should be considered, stating that the hypothetical buyer and seller must be disposed to maximum economic gain. Despite the fact that the taxpayer's expert gave equal weight to a discounted cash flow using a stand-alone scenario and a synergistic scenario, and that the IRS expert found only one acquisition in the industry over a three-year period, the court rejected the stand-alone valuation.³

Understanding whether synergistic deals are a part of the Transaction Method data set, and to what extent they may be influencing value, can be helpful to the appraiser in understanding the conclusion resulting from the Transaction Method compared to the Income Approach. There are several ways to determine whether a purchase price may involve some amount of synergistic premium. Synergistic buyers are typically in the same, or a related line, of business as the subject company and may have purchased several companies in the same industry. By identifying the buyer and the buyer's line of business, the appraiser can often determine the potential for synergies.

Not all of the transaction databases provide information on the buyer. Gathering data from several different transaction sources will provide the most complete information for each transaction. The appraiser may also obtain more information by calling a database representative directly or by contacting the business intermediary, if named in the transaction report.

Mergerstat provides a field called "Acquisition Purposes," with an "F" for financial and an "S" for strategic. If the deal was strategic, you may also find words such as "vertical" or "horizontal." There are also fields called "Transaction Notes" and "Synopsis," both which can be used to determine if synergies may have influenced the price.

When presented with this situation, we tend to consider the level of acquisition activity in the subject's industry and the likelihood of the subject company becoming an acquisition target of a synergistic buyer when weighing the results of the Transaction Method and the Income Approach (which produced a value to a

financial buyer or a stand-alone value) to arrive at our final value conclusion.

Summary

We first embarked on this mission of gaining a better understanding of how to use the transaction databases when doing appraisal review work. At that time, we were often rejecting this method in our own valuations, mostly out of the frustration that resulted from our own lack of understanding of the data. Since undertaking the task of attempting to improve our knowledge of the various databases and how they are to be used, we've found that we apply the Transaction Method frequently in our valuations, and that it gives us meaningful and relevant results. The databases provide us with a great deal of valuable information, both in terms of transaction data and instruction on its proper use. It is our responsibility to be sure we understand the source of the data we rely on and how to properly use it. With that knowledge, this method can be applied effectively and efficiently and provide powerful support for many of our valuation conclusions.

End Notes

1. Shannon P. Pratt, *The Market Approach to Valuing Businesses* (New York: John Wiley & Sons, Inc., 2001), xxxvi.
2. *BTR Dunlop Holdings, et al., v. Comm.*, T.C. Memo 1999-377.
3. Roger Grabowski, "Identifying pool of willing buyers may introduce synergy to fair market value," *Business Valuation Update* (April 2001).

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