

DealStats Companion Guide

DealStats. Market data. Evolved.

Welcome to the new generation of private and public company transaction comparables for valuation professionals, business brokers, and M&A advisors. DealStats is a state-of-the-art platform that boasts the most complete financials on acquired companies in both the private and public sectors.

Every transaction in DealStats is rigorously reviewed by BVR's dedicated team of financial analysts in real time. Whether you are valuing a business, deriving a sale price, benchmarking performance or conducting fairness opinion research, you won't find more complete and trustworthy comparable data in any other source.

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INTRODUCTION

Business Valuation Resources, LLC (BVR) was founded in 1995 by Dr. Shannon Pratt, CFA, ARM, ABAR, FASA, MCBA, CM&AA, who had the vision of creating the premier provider of data, news, and training to the business valuation profession. Dr. Pratt is known as one of the earliest and most prominent thought leaders in the area of private-company business valuations. Prior to BVR, Dr. Pratt was a co-founder and managing director of Willamette Management Associates. He is the author of many seminal texts on private-company valuation, including *Valuing a Business: The Analysis of Closely Held Companies* (now in its 5th edition), *Cost of Capital: Applications and Examples* (also in its 5th edition), *Standards of Value: Theory and Applications*, *Business Valuation Discounts and Premiums*, and *The Market Approach to Valuing Businesses*, to name a few.

After leaving valuation to pursue publishing full-time with BVR, Dr. Pratt first created the [Business Valuation Update](#) (BVU), a monthly newsletter that provides the appraisal profession with extensive coverage on all topics related to valuation, from methodology to case law. After he launched the BVU, Dr. Pratt tapped into a unique need he identified during his long tenure in the valuation profession: There was a significant lack of private-company transaction data that contained enough information and details to allow for a thorough and sufficient comparison with an appraiser's subject company. These data were something Dr. Pratt wished were available when he was practicing business valuation, so he understood how important it would be to the profession. This observation led to the creation of Pratt's Stats.

BVR partnered with the International Business Brokers Association (IBBA) and its middle-market group, M&A Source. Together, IBBA and M&A Source represent the largest organization of business intermediaries and M&A advisors in the world. These business intermediaries and M&A advisors contributed details on private-business sales that occurred between two private parties—data that were not before available to the public. Later, in May 1997, BVR launched the beta version of Pratt's Stats.

In its original launch, Pratt's Stats was available in print and disk formats and included a small number of transactions within 34 Standard Industry Classification (SIC) codes. In October 1997, Pratt's Stats version 1 was launched. At the time, the database contained 150 transactions and promised quarterly updates. Z. Christopher Mercer, ASA, CFA (president of Mercer Capital), was the first reviewer of Pratt's Stats. In his review, Mercer stated:

As all appraisers are aware, there is a relative void of good, cost-effective and easily accessible change of control transaction data for use with the guideline company method. The release of Pratt's Stats is a positive step toward providing a source for this information.¹

In July 2018, Pratt's Stats relaunched with new technology and was rebranded as DealStats. The new technology allows users to select the fields they wish to see, filter and search on any field they choose, save their searches, view analytics and statistics, be notified of new transactions, and more. The update also provides detailed purchase price allocation information, including useful lives for intangible assets. Additionally, up to five years of financial statement information were added, along with up to five years of growth rates and profit margins. DealStats also includes transactions of public companies

¹ *Business Valuation Update*, October 1997. Business Valuation Resources, LLC. All rights reserved.



(those transactions previously available in *Public Stats*)—a user has the option of searching for private companies, public companies, or both.

Since the original database launched in 1997, it has grown from 150 transactions reporting on 38 data points per transaction to a database that contains over 46,600 transactions² and reports on 202 data points per transaction. DealStats has evolved from a print and disk resource to a fully searchable and interactive online database covering transactions in nearly 70 countries. DealStats has expanded from reporting on transactions in 34 SIC codes to covering 892 SIC codes and 959 North American Industry Classification System (NAICS) codes. Further, DealStats has evolved from a beta version a few business appraisers tested to a database with subscribers on six continents from numerous professions.

DESCRIPTION OF THE DATA

DealStats collects information on transactions of private and public companies³ and seeks to capture enough data for the user to make a comparison between the comparable transactions in the database and the user's subject company. Additionally, DealStats collects data that provide insight into the transaction. The collected data include a business description and industry classification codes (both SIC and NAICS), financial statements (income statement/profit and loss statements and balance sheets), historical and forecast income statement information, other non-income-statement measures of earnings (such as EBITDA and seller's discretionary earnings), historical and forecast growth rates, purchase price allocations that detail which assets were acquired and which liabilities were assumed, and information pertaining to the transaction (including the selling price, structure of the consideration paid for the business, how the acquirer financed the transaction, whether there were any SBA or bank loans, and more), who the financial and legal advisors to the parties were, and information on employment agreements and noncompete agreements, among other things. For examples of the data collected, see the Sample Reports available on the [DealStats web page](#) or on page 6 of this guide.

DealStats uses the collected data to compute valuation multiples (also commonly referred to as transaction multiples or sale price multiples) for each transaction in the database. The database provides up to six valuation multiples for each transaction. Valuation multiples represent a ratio of the company's selling price divided by an earnings measure.⁴ For example, MVIC price/revenue is the selling price of the sold business divided by that business's revenue. If the company sold for \$1 million and had annual revenues of \$2 million, the reported MVIC/revenue multiple would be 0.50 (\$1 million/\$2 million). These multiples are computed so they can be applied to the user's subject company that is being valued or priced. For example, if the user's subject company had annual revenues of \$3 million, the user may estimate his or her subject company's value is \$1.5 million (\$3 million × 0.50).

The database also computes financial ratios for each transaction. These computed values can help users further compare their subject company to the companies in the database. The ratios are organized into the following categories: (1) profitability; (2) liquidity; (3) leverage; and (4) activity.

² As of June 2023.

³ Users can search by private companies, public companies, or both.

⁴ With the exception of the MVIC/book value of invested capital multiple.



DEALSTATS FEATURES

DATABASE FEATURES

- Fully searchable database—search any data field
- Transactions are filtered in real-time as search criteria are selected
- Quickly view each detailed [transaction report](#), individually or in batches
- Automated calculation of summary statistics and executive summary
- View, download, or apply valuation/pricing multiples
- Save your search criteria and customized view to return to later
- Receive email alerts when new transactions are added that meet any of your saved criteria

DATA PRESENTATION

- Customize your view by selecting the data fields to be displayed
- Automated calculation of summary statistics for selected comparable transactions
- Automatic creation of graphs and charts, including interquartile range graphs, scatter plots, distribution charts, and stacked bar charts
- Generation of executive summary page formatted for an easy copy/paste into your report
- All data, charts, and graphs can be exported to Excel or PDF

RESOURCES AND TRAINING

- Complimentary subscription to the [DealStats Value Index](#) quarterly report: an analysis of private-company transactions from DealStats
- Access to [video tutorials](#)
- Free [training webinars](#)
- [FAQ page](#) with definitions of terms, explanation of calculations, and frequently asked questions
- Email and phone support

CONTRIBUTOR NETWORK

- Deal participants can [contribute transaction information](#) and receive free access to DealStats
- Contributor name, firm name, sold business name, and other info can be kept confidential
- Contributors can receive a listing in BVR's [Contributor Network Database](#) where buyers and sellers look for business intermediaries

SUBSCRIPTION OPTIONS

- Annual subscription
- Day pass

SAMPLE TRANSACTION REPORT



DealStats Transaction Report

Prepared: 06/27/2022 09:54AM (MDT)

Target Details					Source Data	
Transaction ID		55303-1	Name		Target Type	Private
Business Description		Industrial Automation Company Focused in the Automotive and Defense Sectors				Contributor Company
Location		Troy, MI, United States		Target Region		East North Central
Age		43	Structure		LLC	Employee Count
SIC		3569 - General Industrial Machinery and Equipment, NEC		NAICS		333999 - All Other Miscellaneous General Purpose Machinery Manufacturing
Transaction Data						
Sale Initiation			Sale Date		02/28/2022	
Percentage Acquired			100.0%		Days To Sell	
MVIC Price			\$68,000,000		Debt Assumed	
			\$0		Amount Down	
					\$68,000,000	
Income			Balance Sheet		Purchase Price Allocation	
Income Statement Type		Latest Full Year Income				
Tax Return/P&L		Yes				
Restated Income		Date				
No		12/31/2021		Date		
				02/28/2022		
Net Sales		\$39,089,366		Cash and Equivalents		\$1,101,541
COGS		\$26,363,311		Accounts Receivable		\$7,965,855
Gross Profit		\$12,726,055		Inventory		\$0
Rent		\$706,704		Other Current Assets		\$12,892,371
Owner's Compensation		\$664,616		Total Current Assets		\$21,959,767
Other Operating Expenses		\$1,317,204		Fixed Assets		\$496,139
Depreciation and Amortization		\$69,611		Real Estate		\$0
Total Operating Expenses		\$2,758,135		Total Intangibles		\$0
Operating Profit		\$9,967,920		Other Noncurrent Assets		\$0
Interest Expense		\$198,254		Total Assets		\$22,455,906
Interest Income		\$0		Current Liabilities		\$6,514,034
Other Expenses		\$0		Long-Term Liabilities		\$356,218
Other Income		\$0		Total Liabilities		\$6,870,252
Earnings Before Taxes		\$9,769,666		Stockholder's Equity		\$15,585,654
Tax Expense		\$0				
Tax Benefit		\$0				
Net Income		\$9,769,666				
Future, Current and Historical Earnings						
Net Sales FY+1		\$46,664,293		SDE FY+1		EBITDA FY+1
Net Sales		\$39,089,366		SDE		\$10,710,350
Net Sales FY-1		\$22,748,938		SDE FY-1		\$4,018,236
Net Sales FY-2		\$31,234,274		SDE FY-2		\$8,459,140
Net Sales FY-3						
Net Sales FY-4						

Continued on next page

Additional Transaction Information					
Deal Terms					
Consideration: Cash payment of \$68,000,000. The buyer financed \$54,400,000 of the cash purchase price through an bank loan.					
SBA or Bank Loan Included?	Yes	SBA/Bank Loan Amount	\$54,400,000	SBA or Bank Loan % of Amount Down	80.00%
Was there a Note in the consideration paid?	No	Was there a personal guarantee on the Note?	No	Amount Seller Financed	\$0
Was there a Noncompete Agreement?	No	Non-Compete Length (months)		Renewal Option	
Was there an Employment Agreement?	No	Employment Agreement Value		Lease Length (month)	
Lease Terms					
There was no assumed lease.					
Non-Compete Description					
Employment/Consulting Agreement Description					
There was no employment agreement.					
Additional Notes					
There was no non-compete agreement.					
Valuation Multiples		Profitability Ratios		SDE and EBITDA Profitability Ratios	
MVIC/Sales	1.74x	Net Profit Margin	25.0%	SDE Margin FY+1	
MVIC/Gross Profit	5.34x	Operating Profit Margin	25.5%	SDE Margin	27.4%
MVIC/EBITDA	6.8x	Gross Profit Margin	32.6%	SDE Margin FY-1	17.7%
MVIC/EBIT	6.8x	Return on Assets	43.5%	SDE Margin FY-2	27.1%
MVIC/Discretionary Earnings	6.3x	Return on Equity	62.7%	EBITDA Margin FY+1	
MVIC/Book Value Invested Capital	4.3x			EBITDA Margin	25.7%
				EBITDA Margin FY-1	14.7%
				EBITDA Margin FY-2	24.6%
				EBITDA Margin FY-3	
				EBITDA Margin FY-4	
Leverage Ratios		Liquidity Ratios		Activity Ratios	
Fixed Charge Coverage	50.28	Current Ratio	3.37	Total Asset Turnover	1.74
Long-Term Liabilities to Assets	1.59%	Quick Ratio	3.37	Fixed Asset Turnover	78.79
Long-Term Liabilities to Equity	2.29%			Inventory Turnover	
Future and Historical Annual Growth Rates		Compound Annual Growth Rates		Real Estate Performance	
Sales Growth FY+1	19.4%	Net Sales 2Y CAGR	11.9%	EBITDAR	\$10,752,438
Sales Growth	71.8%	Net Sales 3Y CAGR		Rent/EBITDAR	6.6%
Sales Growth FY-1	(27.2%)	Net Sales 4Y CAGR		Rent/Sales	1.8%
Sales Growth FY-2				Sales Per Square Foot	
Sales Growth FY-3					



DATA SOURCES AND THE REVIEW PROCESS

CONTRIBUTOR NETWORK

To build the DealStats database, BVR has created a network of business intermediaries that are members of BVR's Contributor Network. A business intermediary is a professional that connects business buyers and sellers and helps facilitate the business transaction between the parties involved. Many members of the Contributor Network are credentialed and hold a Certified Business Intermediary (CBI) certification, Merger & Acquisition Master Intermediary (M&AMI) certification, or Certified Merger & Acquisition Advisor (CM&AA) certification.

The Contributor Network was created so that business intermediaries can contribute their closed deal information to BVR and receive access to pooled data in an easily searchable and filterable online format. While the Contributor Network is primarily comprised of individual intermediary offices, BVR also partners with various business broker associations and corporate franchise headquarters. These partnerships have enabled DealStats to incorporate closed-deal transaction information from around the United States, Canada, and other countries around the world.


After receiving closed-deal information from a business intermediary, a BVR analyst reviews the data to ensure that the information is logical, mathematically correct, and complies with the DealStats data reporting conventions (such as removing the value of purchased real estate from the selling price. For more on DealStats reporting conventions, visit the [DealStats FAQ page](#)). During the review process, if the analyst finds anything that looks incorrect, ambiguous, or needs further explanation, the analyst will contact the intermediary with questions. After all questions are answered and the initial review process is complete, a second BVR analyst reviews the deal information to ensure that everything is accurate. By having more than one analyst review the data before incorporating them into the database, BVR is able to ensure a superior level of quality in the DealStats database.

Members of the Contributor Network are able to include their name and firm name on the transaction data they contribute, should they choose. If a user of DealStats has a question about a business transaction, he or she can contact the intermediary using the [Find an Intermediary database](#). The business intermediary may be able to help should the user have more detailed questions about the transaction. If the business intermediary's name and firm name do not appear on the transaction, then the broker elected to keep his or her information confidential when contributing the transaction data.

If you are a business intermediary and would like to contribute information on business sales to DealStats, please visit BVR's [Contributor Network](#) web page to learn more, discover the benefits, and join.

SEC AND SEDAR

The second source from which BVR's analysts collect transactional information is the Securities and Exchange Commission (SEC), utilizing the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system public-company filings portal. Through EDGAR, BVR analysts research mergers and

A hand is pointing at a laptop screen. In the background, there is a bar chart with several vertical bars of varying heights. The overall image has a blue and white color scheme.

acquisitions of private companies and public companies that publicly traded companies have completed and reported. Public companies report their merger and acquisition (M&A) activity through their published 8-K filings, also known as Current Reports. An 8-K is a broad form that covers events considered important to a company's shareholders. Among other items, the form may include information on new management, potential bankruptcy, the departure of a CEO, and any M&A activity. BVR analysts review all 8-Ks filed within a given year and identify and catalogue the forms that contain M&A information. After identifying the 8-K filings that contain M&A activity, BVR analysts conduct further research to determine whether sufficient information exists in order to include the transaction data in DealStats. If the required information is present, the transaction data are compiled into a DealStats transaction report. BVR analysts also use EDGAR to find public companies that have delisted to determine whether they were taken private in a going private transaction. These transactions are also documented for inclusion in DealStats.

Another source BVR's analysts use is the System for Electronic Document Analysis and Retrieval (SEDAR). SEDAR is the system used for electronically filing most securities-related information with the Canadian securities regulatory authorities. Filing with SEDAR started Jan. 1, 1997, and is now mandatory for most reporting issuers in Canada. BVR's analysts review Business Acquisition Reports filed with SEDAR and document the business transaction if sufficient information is present for inclusion in DealStats.

BVR analysts include references and links to the filings used to document the transactions sourced from the SEC and SEDAR sites. For SEC transactions, this includes the date of the 8-K used, the date of the 8-K/A used, and the filing type and date of any other filings used (such as a 10-K or 10-Q). For SEDAR transactions, this includes the date of the Business Acquisition Report used. Also, if the transaction was sourced from the SEC or SEDAR, the database also includes a link to the acquiring company's filing page. Accessing this link allows a user to easily find the documents BVR analysts used when capturing the transaction data. Reviewing these source documents may provide additional transaction details not available in the DealStats database.

After a BVR analyst documents a transaction from the SEC or SEDAR, the analyst reviews and revises his or her work before sending it to a second analyst for further review and revision. After a thorough review, the second analyst then sends the transaction to a third analyst for a final review. During this review and revision process, misreported information is corrected and any missing information is identified and included. The first analyst then makes the corrections and updates necessary for the transaction to be approved and added to the database.

To cut costs, many database companies have implemented data crawlers to scour the SEC and web and pull-down information, with little to no analyst review and revision. While these companies save money by eliminating the need for analysts, they forgo the many quality control procedures that human analysts provide. The continuous review and feedback between BVR's analysts during the research and data documentation process ensures that information is reported accurately and consistently across transactions.

FIELDS AND DEFINITIONS

DealStats reports up to 199 data fields per transaction. DealStats seeks to report on a significant number of fields so a user has the ability to make a comparison between the transactions in the database and the user's subject company in order to identify a set of comparable transactions. The following lists the field names and definitions included in the database. This list is available on the [DealStats FAQ page](#), along with other useful information. DealStats seeks to add transactions that users deem significant whenever possible. We encourage you to contact us with any suggestions or feedback you have at customerservice@bvresources.com.

SOURCE AND COMPANY DATA

Term	Definition
Contributor Name/ Firm	The name of the business broker or business intermediary that was involved with the sale of the business, as well as its company name. This intermediary provided the sale details to DealStats.
Acquirer Name	The name of the acquiring company.
Acquirer Type	Denotes whether the acquirer was a private company or individual or whether the acquirer was a public company.
Target Name	The name of the acquired business.
Target Type	Denotes whether the target was a private company or individual or whether the acquirer was a public company.
Target Business Description	The description of the acquired business.
Franchise	A yes/no field specifying whether the acquired company was a franchise or independent.
Development Stage Company	A yes/no field specifying whether the acquired company was focused on early-stage business activities, such as research and development. Companies marked as "yes" generally have no or little revenue.
CIK	The Central Index Key (CIK) is a unique SEC identifier for the public acquiring company.
8-K Date	The date of the public buyer's Current Report discussing the acquisition.
8-K/A Date	The date of the public buyer's Amended Current Report discussing the acquisition.
Other Filing Type	Type of other SEC filing that reports information regarding the acquisition.
Other Filing Date	The date of the other filing type.
Contributor Company	The name of the firm with which the business broker or business intermediary works. This is not the name of the acquirer.
SIC 1	The primary four-digit Standard Industrial Classification (SIC) code associated with the description of the acquired business. Go to osha.gov/pls/imis/sicsearch.html to search for an SIC code.
SIC 2 and SIC 3	The secondary and tertiary SIC codes for the acquired business based on additional services/products that generate less revenue than the primary SIC code.
NAICS 1	The primary North American Industry Classification System (NAICS) code associated with the description of the acquired business. Go to census.gov/eos/www/naics/ to search for a NAICS code.

Continued on next page

SOURCE AND COMPANY DATA, CONTINUED

Term	Definition
NAICS 2 and NAICS 3	The secondary and tertiary NAICS codes associated with the acquired business based on additional services/products that generate less revenue than the primary NAICS code.
Sale Location	The geographic location of the acquired business.
Target Region	The region of the acquired business. The list of state/region associations are as follows: <ul style="list-style-type: none"> • East North Central (IL, IN, MI, OH, WI); • East South Central (AL, KY, MS, TN); • Mid-Atlantic (NJ, NY, PA); • Mountain (AZ, CO, ID, MT, NM, NV, UT, WY); • New England (CT, MA, ME, NH, RI, VT); • Pacific (AK, CA, HI, OR, WA); • South Atlantic (DC, DE, FL, GA, MD, NC, SC, VA, WV); • West North Central (IA, KS, MN, MO, ND, NE, SD); and • West South Central (AR, LA, OK, TX).
Years in Business	The number of years the acquired business has been in operation.
Number of Employees	The number of employees working in the acquired business.

INCOME STATEMENT DATA

All dollar figures are in whole numbers, not thousands or millions.

Term	Definition
Data Are "Latest Full Year" Reported	Indicates that the income data reflect the latest reported full-year financial statement.
Data Are Restated	Indicates that, for broker submitted transactions (see "Source Data" section on detailed transaction report to determine whether the transaction was submitted by a broker or retrieved from SEC filings), the income data have been recast in order to normalize the financial statement. This may include adjustments such as bringing owner's compensation or rent payments to reasonable levels. For transactions collected from the SEC website, this indicates that certain items have been corrected or changed as they may have been misstated in the prior publishing of the financial statement. The DealStats "Notes" field may contain further details pertaining to the restatements. Please note that the contributing business intermediary may still submit recasted EBITDA and Discretionary Earnings (SDE) values even though the provided income statement/P&L is not recasted. This occurs in the majority of the intermediary contributed deals. Please see EBITDA and Discretionary Earnings below for more information.
Income Statement Date	Date of the last filed income statement.
Income Statement Type	This value describes the type of income data the business buyer had access to, and/or the type of income data the business seller provided to the buyer, during the business transaction negotiation. The available income statement types are Tax Return/P&L, Owner to Prove, and Owner Estimate. The Tax Return/P&L type (accounting for 98.4% of all types as of August 2018) means that the buyer and seller had access to tax returns and/or profit and loss statements. The Owner to Prove generally applies to businesses where the owner had a lot of unreported cash sales, and the owner planned on proving the sales to the buyer to justify the business's selling price (instead of providing a tax return, which would show lower earnings). The Owner Estimate type generally applies to income statements where the owner did not keep detailed records and, as a result, estimated his or her sales and expenses to the best of his or her ability.

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INCOME STATEMENT DATA, CONTINUED

Term	Definition
Net Sales	Annual gross sales, net of returns and discounts allowed, if any.
Cost of Goods Sold	The cost of the inventory items sold during the year. Net of any discounts, returns, or write-offs.
Gross Profit	Net Sales - Cost of Goods Sold
Yearly Rent	Annual cost of occupying all space necessary for operation of the business.
Owner's Compensation	Annual income, salary, or wage paid to one business owner.
Other Operating Expenses	All selling and general and administrative expenses, excluding Rent, Owner's Compensation, and Depreciation/Amortization.
Depreciation/Amortization	Annual decrease in value due to wear and tear, decay, or decline in the price of a tangible and/or intangible fixed asset.
Total Operating Expenses	Rent + Owner's Compensation + Depreciation/Amortization + Other Operating Expenses
Operating Profit	Gross Profit - Total Operating Expenses
Interest Expense	Cost of borrowing expressed as an annual dollar amount. (Does not include interest earnings. If the company had interest earnings, you will find that value in the "Interest Income" field.)
Interest Income	Interest revenue, expressed as an annual dollar amount, from any investments the entity makes or on debt it owns.
Other Non-Operating Expenses	Any losses from sources not related to the typical activities of the business or organization.
Other Non-Operating Income	Any gains from sources not related to the typical activities of the business or organization.
Earnings Before Taxes	Operating Profit - Interest Expense + Interest Income - Other Non-Operating Expenses + Other Non-Operating Income
Tax Expense	Annual value of tax expense. This figure only includes income taxes and does not include sales taxes, property taxes, payroll taxes, etc. (Does not include an income tax benefit. If the company had a tax benefit, you will find that value in the "Tax Benefit" field.)
Tax Benefit	Annual value of tax benefit.
Net Income	Earnings Before Taxes - Tax Expense + Tax Benefit
EBITDA	Operating Profit + Depreciation/Amortization Note: If the contributor provided BVR with the recasted value for EBITDA, this value will be given preference and displayed in the EBITDA field instead of the above calculation. The provided EBITDA value will also be used in other calculations that use EBITDA, such as MVIC/EBITDA and EBITDA Margin.
Discretionary Earnings (also referred to as Seller's Discretionary Earnings, or SDE)	Operating Profit + Depreciation/Amortization + Owner's Compensation If the contributor provided BVR with the recasted value for Discretionary Earnings, which is common, this value will be given preference and displayed in the Discretionary Earnings field instead of the above calculation. The provided Discretionary Earnings value will also be used in other calculations that use Discretionary Earnings, such as MVIC/SDE and SDE Margin. If the business has more than one working owner, generally, the highest-paid partner's compensation is added back and the lesser-paid partner's compensation is normalized. Typically, brokers who sell businesses try to indicate the highest earnings available to one working owner.

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INCOME STATEMENT DATA, CONTINUED

Term	Definition
Gross Cash Flow	Net Income + Depreciation/Amortization
Net Sales FY+1	Projected net sales for the first fiscal year after the most recent fiscal year. This figure is forecasted by the business owner and the business broker/M&A advisor.
Net Sales FY-1, Net Sales FY-2, Net Sales FY-3, Net Sales FY-4	Net sales for the fiscal years prior to most recent full fiscal year
SDE FY+1	Projected Seller's Discretionary Earnings for the first fiscal year after the most recent fiscal year. This figure is forecasted by the business owner and the business broker/M&A advisor.
SDE FY-1, SDE FY-2	Seller's Discretionary Earnings for the fiscal years prior to the most recent full fiscal year.
EBITDA FY+1	Projected EBITDA for the first fiscal year after the most recent fiscal year. This figure is forecasted by the business owner and the business broker/M&A advisor.
EBITDA FY-1, EBITDA FY-2, EBITDA FY-3, EBITDA FY-4	EBITDA for the fiscal years prior to the most recent full fiscal year.
EBITDAR	Operating Profit + Depreciation & Amortization + Rent

BALANCE SHEET DATA

All dollar figures are in whole numbers, not thousands or millions.

Term	Definition
Balance Sheet Date	Date of most recent balance sheet reported.
Cash and Equivalents	All cash, marketable securities, and other near-cash items. Excludes sinking funds. Cash equivalents (NOW accounts and money market funds) must be available upon demand in order to justify inclusion.
Trade Receivables	All accounts from trade, net of allowance for doubtful accounts, that will result in the collection of cash.
Inventory	Anything constituting inventory for the firm including raw material, work in progress, and finished goods. Those items of tangible property that are held for sale in the normal course of business, are in the process of being produced for such purposes, or are to be used in the production of such items.
Other Current Assets	Any other current assets, excluding Cash and Equivalents, Trade Receivables, and Inventory.
Total Current Assets	Cash and Equivalents + Trade Receivables + Inventory + Other Current Assets
Fixed Assets	Equipment and leasehold improvements, net of accumulated depreciation. DealStats does not include the value of buildings and real estate in the "Fixed Assets" field (this value is captured in the "Real Estate" field). Some of the larger transactions that are captured from the Securities and Exchange Commission website may not provide information that separates the value of buildings and real estate from fixed assets, and in these instances DealStats is unable to determine and separate their values.

Continued on next page

BALANCE SHEET DATA, CONTINUED

Term	Definition
Real Estate	Dollar value placed on any real estate associated with the sale of the business. The real estate value is not included in the MVIC.
Intangibles	Assets with uncertain or hard-to-measure benefits, such as brand names, trademarks, patents or copyrights, a trained workforce, special know-how, and customer or supplier relationships, that make the company a viable competitor and give it earning power. These values are net of accumulated amortization.
Other Non-Current Assets	Any other noncurrent asset, excluding Real Estate, Fixed Assets, Intangibles, a Noncompete Agreement, and an Employment/Consulting Agreement.
Total Assets	Total Current Assets + Real Estate + Fixed Assets + Total Intangibles + Other Non-Current Assets
Current Liabilities	Any monies owed that are payable on demand within one year. Includes the current portion of long-term debt.
Long-Term Liabilities	Any monies owed that are not payable on demand within one year. The current portion of long-term debt is a current liability, as distinguished from a long-term liability.
Total Liabilities	Current Liabilities + Long-Term Liabilities
Stockholder's Equity	Paid-in capital, donated capital, and retained earnings less the liabilities of the company. Stockholder's Equity = Total Assets - Total Liabilities

PURCHASE PRICE ALLOCATION DATA

All dollar figures are in whole numbers, not thousands or millions.

Term	Definition
Purchase Price Allocation Date	Date for which the purchase price allocation was reported.
Cash and Equivalents PPA	All cash, marketable securities, and other near-cash items acquired. Excludes sinking funds. Cash equivalents (NOW accounts and money market funds) must be available upon demand in order to justify inclusion.
Accounts Receivable PPA	All accounts from trade, net of allowance for doubtful accounts, that were acquired.
Inventory PPA	Anything constituting inventory for the firm including raw material, work in progress, and finished goods that were acquired. Those items of tangible property that are held for sale in the normal course of business, are in the process of being produced for such purposes, or are to be used in the production of such items.
Other Current Assets PPA	Any other current assets that were acquired, excluding Cash and Equivalents PPA, Trade Receivables PPA, and Inventory PPA.
Total Current Assets PPA	Cash and Equivalents PPA + Trade Receivables PPA + Inventory PPA + Other Current Assets PPA
Fixed Assets PPA	All equipment and leasehold improvements acquired, net of accumulated depreciation. Some of the larger transactions that are captured from the SEC website may not provide information that separates the value of buildings and real estate from the acquired fixed assets, and in these instances DealStats is unable to determine and separate their values.

Continued on next page

PURCHASE PRICE ALLOCATION DATA, CONTINUED

Term	Definition
Real Estate PPA	The value placed on any real estate acquired in the sale of the business. The real estate value is not included in the MVIC price.
Customer Relationships Lists PPA	The value attributed to any customer relationships or customer list acquired as part of the acquisition.
Backlog PPA	Any acquired purchase orders or booked sales on orders that have not been fully completed.
Developed/Existing Technology PPA	Any acquired developed/completed technology, core technology, and/or acquired or purchased technology. Technology that is in the process of being developed is included in in-process R&D.
In-Process R&D PPA	Intangible assets acquired relating to any uncompleted/in-process research and development.
Trade Names/Trademarks PPA	The value of acquired trademarks/service marks to identify and/or differentiate goods and services or business trade names.
Noncompete Agreements PPA	The value placed on an agreement with the selling party not to compete with the purchaser, usually for a certain period and usually in a specified geographic area.
Other Intangibles PPA	Any other intangible asset acquired that is not listed in the preceding fields.
Total Identifiable Intangibles PPA	The sum of all the identifiable intangible assets acquired.
Goodwill PPA	Represents the excess of the aggregate purchase price over the fair value of net assets of the acquired business.
Total Intangibles PPA	Total Identifiable Intangible Assets PPA + Goodwill PPA
Other Non-Current Assets PPA	All other noncurrent assets acquired not already identified and included in the preceding purchase price allocation fields.
Total Assets PPA	The value of all assets acquired, both tangible and intangible.
Interest-Bearing Liabilities PPA	The value of all interest-bearing liabilities assumed. In addition to long-term debt, includes the current portion of long-term debt, as well as any other current liabilities bearing interest.
Total Liabilities PPA	The sum of all the seller's liabilities the buyer assumed.
Useful Life Fields	When available, the useful lives will be populated for the identifiable intangible assets. An intangible asset with a finite useful life is amortized, and its life will be provided in years (e.g., 6.5). An intangible asset with an indefinite useful life is not amortized and will be labeled as "Indefinite."

TRANSACTION AND OTHER DATA

All dollar figures are in whole numbers, not thousands or millions.

Term	Definition
Date Sale Initiated	Date business was listed for sale.
Date of Sale	Date sale of business was closed.
Days to Sell	The number of days it took the business to sell. The difference between Date Sale Initiated and Date of Sale.

Continued on next page

TRANSACTION AND OTHER DATA, CONTINUED

Term	Definition
Asking Price	The price the seller desired at time of listing the business for sale.
MVIC Price (Market Value of Invested Capital)	<p>Also known as the selling price, MVIC is the total consideration paid to the seller and includes any cash, notes, and/or securities that were used as a form of payment plus any interest-bearing liabilities the buyer assumed. The MVIC price includes the noncompete value and the assumption of interest-bearing liabilities and excludes: (1) the real estate value; (2) any earnouts (because they have not yet been earned and they may not be earned); and (3) the employment/consulting agreement values.</p> <p>In a stock sale, all assets and liabilities are typically transferred. In an asset sale, inventory, fixed assets, and intangibles/goodwill are typically transferred. In an asset sale, cash and accounts receivable are rarely transferred and liabilities are generally not assumed.</p> <p>Transactions with information in the "Purchase Price Allocation" section will provide definitive information as to what was included in the asset sale. An appraiser can also look to the "Additional Notes" field to see whether a purchase price allocation is presented there. If no purchase price allocation is available for the transactions, the appraiser will need to use his or her experience and knowledge in the field and the buyer's/seller's knowledge and experience with his or her business to determine what is customarily transferred in an asset sale in that industry.</p>
Debt Assumed	Those interest-bearing financial liabilities that the buyer assumes upon the purchase of the company. Includes the current portion of long-term debt.
Amount Down	Dollar value of consideration given as a down payment.
Employment/Consulting Agreement Value	Dollar value placed on an agreement between the buyer and seller for the seller's personal services to be provided to the buyer either as an employee or consultant after the sale of the business. The Employment/Consulting Agreement is not included in the MVIC.
Transaction Costs	This applies to deals documented from the SEC, not those contributed by members of BVR's Contributor Network. Transaction Costs are the reported amount of costs the acquiring company incurred with the acquisition. The amount reported typically includes the cost of advisory fees, legal fees, accounting fees, and other costs that were directly associated with the acquisition.
Employment/Consulting Agreement Description	The description of the seller's agreement to provide services or training to the acquirer or acquiring company.
Amount Seller Financed	The value of the seller financing, if any. Often referred to as a "promissory note" or "seller note," this is the amount the buyer will need to pay the seller over time. The terms of seller financing, when available, will be included in the "Deal Terms" field.
Acquirer Note Paid	A yes/no field specifying whether the seller financed a portion, or all, of the selling price
Acquirer Personal Guarantee	A yes/no field specifying whether the buyer personally guaranteed the seller note. If yes, then the note was secured by the buyer's personal assets and not solely the acquired business.
Deal Terms	The detailed consideration information that specifies what, and how, the buyer paid the seller for the equity or assets of the business.
SBA or Bank Loan	Indicates whether the acquirer used an SBA or other bank loan to finance the cash portion of the purchase price.
SBA/Bank Loan Amount	The amount of the SBA or other bank loan used to finance the cash portion of the purchase price.
SBA or Bank Loan % of Amount Down	The percentage of the SBA or other bank loan used to finance the cash portion of the purchase price relative to the total cash consideration paid to the seller.
Transaction Type	Specifies whether the acquirer purchased the stock or assets of the business.

Continued on next page

TRANSACTION AND OTHER DATA, CONTINUED

Term	Definition
Earn-Out Fair Value	The fair value of any additional payment or payments to the seller, contingent on the achievement of a predetermined future performance measure or occurrence of some future event. The earn-out fair value is not included in the MVIC.
Earn-Out Full Value	The full value of any additional payment or payments to the seller, contingent on the achievement of a predetermined future performance measure or occurrence of some future event. The earn-out full value is not included in the MVIC.
Assumed Lease	A yes/no field specifying whether the buyer assumed the seller's lease in conjunction with the business purchase.
Renewal Option	A yes/no field specifying whether the assumed lease has options for lease renewal.
Lease Length	The current length of the assumed lease, reported in months (excludes any renewal options).
Lease Terms	The terms of the lease assumed, such as square footage and monthly rent.
Real Estate Acquired	A yes/no field specifying whether real estate was acquired in the transaction. The value of real estate is removed from the MVIC.
Noncompete Agreement Value	Dollar value placed on an agreement with the selling party not to compete with the purchaser, usually for a certain period and usually in a specified geographic area. The Noncompete Agreement value is included in the MVIC.
Noncompete Agreement Length	The duration, presented in months, that the seller has agreed not to compete with the acquirer or acquiring company.
Noncompete Description	The specific geographic area that the seller has agreed not to compete with the acquirer or acquiring company.
Live Date	The date the transaction was entered into DealStats internal data management system. For broker-contributed deals, this would represent the date the broker contributed the deal information to DealStats. For internally documented deals BVR captures from the Securities and Exchange Commission, it would represent the date a BVR analyst documented the transaction.

COMPANY STRUCTURE DATA

Term	Definition
C Corporation	A corporation acting as a separate tax-paying entity for income tax purposes. The profit of a C corporation is taxed to the corporation when earned and then is taxed to the shareholders when distributed as dividends.
S Corporation	A corporation with restrictions on equity ownership. S corporations pass corporate income, losses, deductions, and credits through to their shareholders for federal tax purposes.
Partnership	A business comprised of two partners, either created as a general partnership or limited partnership. A partnership files an annual information return to report the income, deductions, gains, losses, etc. to the IRS, but it does not pay income tax. Instead, it passes through any profits or losses to its partners.
Sole Proprietorship	A sole proprietor is someone who owns an unincorporated business by himself or herself. The business pays no income taxes. The sole proprietor pays personal income tax on the profits generated. A sole proprietor reports all business income or losses on his or her personal income tax return.
LLC	A Limited Liability Company (LLC) is a structure where the members have limited legal liability and may participate in the management of the organization. A single-member LLC is taxed as a sole proprietorship or corporation. An LLC that has more than one member pays income tax as a partnership or as a corporation.

VALUATION MULTIPLES

Valuation Multiple	Database Calculation
MVIC/Net Sales	MVIC/Net Sales
MVIC/Gross Profit	MVIC/Gross Profit
MVIC/EBITDA	MVIC/(Operating Profit + Depreciation/Amortization)
MVIC/EBIT	MVIC/Operating Profit
MVIC/SDE	MVIC/(Operating Profit + Owner's Compensation + Depreciation/Amortization)
MVIC/Book Value of Invested Capital	MVIC/[(Total Assets - Total Liabilities) + Long-Term Liabilities]

FINANCIAL RATIOS

Financial Ratio	Database Calculation
Net Profit Margin	Net Income/Net Sales
Operating Profit Margin	Operating Profit/Net Sales
Gross Profit Margin	Gross Profit/Net Sales
EBITDA Margin FY+1	EBITDA FY+1/Net Sales FY+1
EBITDA Margin	EBITDA/Net Sales
EBITDA Margin FY-1	EBITDA FY-1/Net Sales FY-1
EBITDA Margin FY-2	EBITDA FY-2/Net Sales FY-2
EBITDA Margin FY-3	EBITDA FY-3/Net Sales FY-3
EBITDA Margin FY-4	EBITDA FY-4/Net Sales FY-4
SDE Margin FY+1	Discretionary Earnings FY+1/Net Sales FY+1
SDE Margin	Discretionary Earnings/Net Sales
SDE Margin FY-1	Discretionary Earnings FY-1/Net Sales FY-1
SDE Margin FY-2	Discretionary Earnings FY-2/Net Sales FY-2
Return on Assets	Net Income/Total Assets
Return on Equity	Net Income/(Total Assets - Total Liabilities)
Fixed Charge Coverage	Operating Profit/Interest Expense
Long-Term Liabilities to Assets	Long-Term Liabilities/Total Assets
Long-Term Liabilities to Equity	Long-Term Liabilities/(Total Assets - Total Liabilities)
Current Ratio	Total Current Assets/(Total Liabilities - Long-Term Liabilities)
Quick Ratio	(Total Current Assets - Inventory)/(Total Liabilities - Long-Term Liabilities)

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FINANCIAL RATIOS, CONTINUED

Financial Ratio	Database Calculation
Total Asset Turnover	Sales/Total Assets
Fixed Asset Turnover	Sales/Fixed Assets
Inventory Turnover	Sales/Inventory
Rent/EBITDAR	Rent/(Operating Profit + Depreciation & Amortization + Rent)
Rent/Sales	Rent/Net Sales
Sales Per Square Foot	Net Sales/Square feet of operating space
Sales Growth FY+1	$[(\text{Net Sales FY}+1) - (\text{Net Sales Current})]/\text{Net Sales Current}$
Sales Growth (Current)	$[(\text{Net Sales Current}) - (\text{Net Sales FY-1})]/\text{Net Sales FY-1}$
Sales Growth FY-1	$[(\text{Net Sales FY-1}) - (\text{Net Sales FY-2})]/\text{Net Sales FY-2}$
Sales Growth FY-2	$[(\text{Net Sales FY-2}) - (\text{Net Sales FY-3})]/\text{Net Sales FY-3}$
Sales Growth FY-3	$[(\text{Net Sales FY-3}) - (\text{Net Sales FY-4})]/\text{Net Sales FY-4}$
Net Sales 2Y CAGR Net Sales 3Y CAGR Net Sales 4Y CAGR	Compound Annual Growth Rate Y3 = $\left(\frac{\text{Net Sales Current}}{\text{Net Sales FY-3}} \right)^{\frac{1}{3}} - 1$

WHY USE TRANSACTION DATA?

As Heidi Walker aptly stated, “Investors absolutely use it, academic research supports it, and the courts require it.”⁵ A key principle in valuation is substitution—what alternatives are available to the buyer and seller. Transaction data represent real transactions, allowing users to value companies based on prices of actual businesses that have sold in the market. As of June 2023, DealStats captures a wealth of transaction data, comprised of up to 202 data fields for over 46,600 transactions.

Transaction data can be used to create valuation multiples that can be applied to a subject company. These valuation multiples, and their application, are easy to understand and can clearly be explained to clients, attorneys, juries, or whoever your target audience is. Courts have generally recognized three standard methodologies in business valuation, one of which is the comparable transaction analysis.⁶ Further, it has been said that “[t]ransactional data can provide one of the strongest indications of value in the appraisal of a company if the method is applied with diligence and care.”⁷

Different methods exist to estimate the required return for private companies, including:

1. From public markets using the capital asset pricing model (CAPM);
2. From public markets using the buildup method (BUM);
3. From industry-specific public markets using the guideline public company method (the rate of return is expressed as a multiple); and
4. From private transaction databases (the rate of return is expressed as a multiple).

While all four methods have their own strengths and should be considered by the practitioner, when comparing the methods, Heidi Walker finds that using the private transaction databases requires fewer subsequent adjustments, as size and industry factors are included within the resultant multiple from the practitioner’s comparable companies group.⁸


Exhibit 1. Adjustments Typically Required From Rate of Return Proxy				
Adjustment	Rate of Return BUM	Rate of Return CAPM	Guideline Public Company	Private Transaction Database
Specific company	Yes	Yes	Yes	Yes
Growth	Yes	Yes	Yes	Yes
Size	Yes	Yes	Yes	No
Industry	Yes	No	No	No

5 Heidi Walker, *The Comprehensive Guide to the Use and Application of the Transaction Databases*, 3rd edition, 2015, Business Valuation Resources, pg. 9.

6 Ibid.

7 Heidi Walker and Nancy Fannon, “Understanding the Transaction Databases: Excerpt From New Guide,” *Business Valuation Update*, May 2008.

8 Heidi Walker, *The Comprehensive Guide to the Use and Application of the Transaction Databases*, 3rd edition, 2015, Business Valuation Resources, pg. 8.



Using data from private transaction databases works in tandem with other methods. The Delaware Court of Chancery has said:

Although there is no single preferred or accepted valuation methodology under Delaware law that establishes beyond question a company's value, there are commonly accepted methodologies that a prudent expert should use in coordination with one another to demonstrate the reliability of its valuation. If a discounted cash flow [DCF] analysis reveals a valuation similar to a comparable companies or comparable transactions analysis, I have more confidence that both analyses are accurately valuing a company.⁹

FINDING COMPARABLE COMPANIES

DealStats is searchable by a variety of criteria that a user may deem relevant when searching for comparable companies in order to observe transaction multiples. It is important that the user seeks to utilize transaction multiples derived from companies that are similar to the subject company. It should be noted that the goal in determining comparable companies should not be to find a “perfect match”—all companies are unique, so finding an identical match is not possible. Instead, the user should focus on identifying comparable companies that have similar characteristics to the subject company. These characteristics include the relevant financial and operational aspects that the user has deemed important in his or her identification of comparable companies.

The comparability or “likeness” of other companies to the user's subject company is important, yet subjective, and what is considered comparable can vary from practitioner to practitioner. Regardless, industry, size, profitability, and transaction date are generally factors that practitioners consider when selecting comparable companies. While one often seeks enough transactions to have a meaningful sample, sometimes even relatively few transactions can be instructive. Dr. Shannon Pratt writes, “As a generality, the more data we have per transaction (to select those comparable to our subject) and the more reliable the data, the fewer transactions we need to have a meaningful sample.”¹⁰

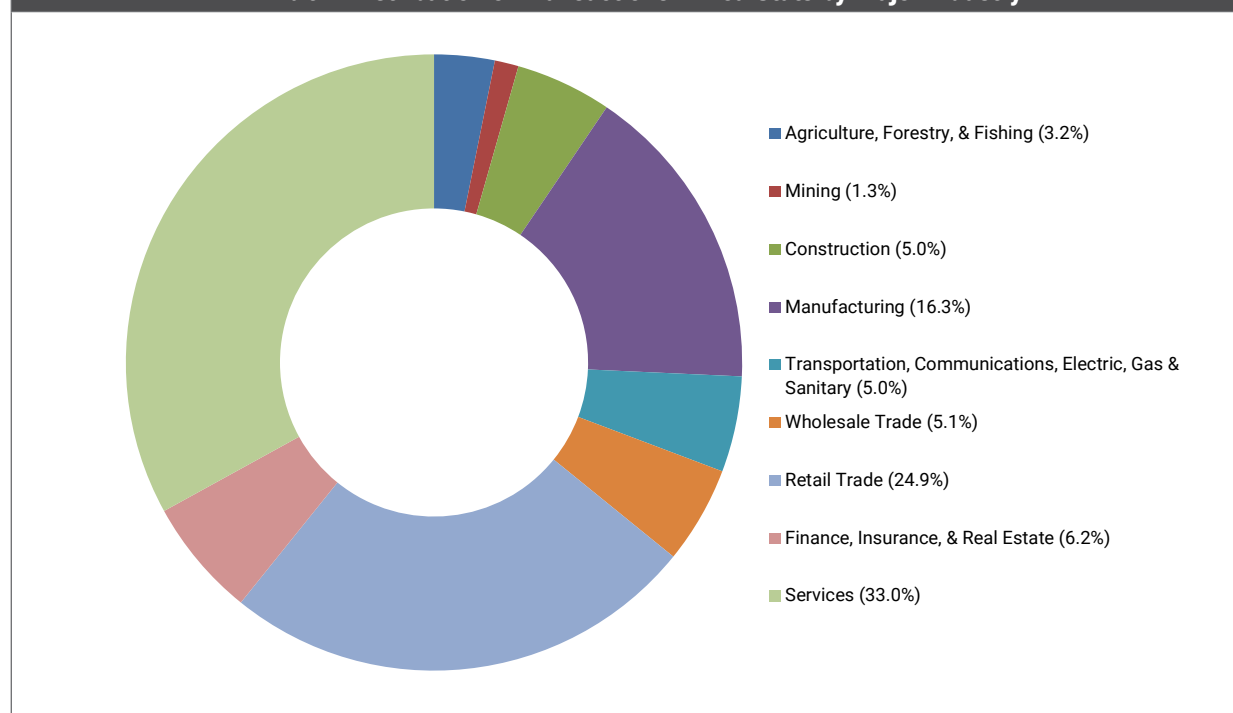
Each company in DealStats is given at least one [Standard Industry Classification](#) (SIC) code and one [North American Industry Classification System](#) (NAICS) code. Companies that engage in more than one line of business or provide more than one type of product or service can be given up to two additional SIC and NAICS codes, for a total of up to three SIC and NAICS codes per company. Users can search by the primary SIC or NAICS code or by any SIC or NAICS code assigned to the company. DealStats also has a “Business Description” field for each transaction, along with additional and expanded information regarding the target company's operations in the “Notes” field (both the “Business Description” and “Notes” fields are fully searchable).

Searching by any SIC or NAICS code assigned to the company may yield more results and may be a good method to identify a larger pool of comparable companies. While commonly used, SIC codes were last updated in 1987. NAICS codes, on the other hand, were adopted in 1997 and are updated every five years. The NAICS codes were most recently revised in 2022. DealStats updates the NAICS codes assigned to all companies in the database every five years when each a new revision is made.

⁹ [In re Hanover Direct, Inc. Shareholder's Litigation](#), Delaware Court of Chancery, Sept. 24, 2010.

¹⁰ Shannon Pratt, *The Market Approach to Valuing Businesses*, New Jersey, Wiley & Sons, 2005, p. 40.

Exhibit 2. Distribution of Transactions in DealStats by Major Industry



A user may find that some industries have a lot of acquisition activity, while others do not. Ultimately, if some data are available, it may be important to give it consideration. Dr. Shannon Pratt writes: “Even one good transaction generally is better than nothing, if it is a reasonably good guideline transaction and the data are complete and reliable.”¹¹

The industry in which the analyst’s subject company operates is often considered important, as the median multiples and dispersion of those multiples can vary among industries. Consider Exhibit 3, which displays the interquartile range for EBITDA multiples in DealStats by NAICS sector.¹² Both the median EBITDA multiple and spread between the 25th and 75th percentiles vary by industry. Some industries appear to have high EBITDA multiples relative to other industries and a larger interquartile range (such as the information sector, which contains technology companies), while other industries have lower relative median multiples and a smaller interquartile range (such as the accommodation and food service sector). Also consider that, for the same industry, the interquartile range can vary among multiples. For example, the interquartile range for MVIC/EBITDA is comparatively large for the healthcare and social assistance sector, yet the sector has a relatively less dispersed interquartile range for its MVIC/Net Sales multiple.

¹¹ Shannon Pratt and Alina Niculita, *Valuing a Business*, 5th edition, New York, McGraw-Hill, 2008, p. 312.

¹² The interquartile range describes the middle 50% of observations. The top of the gray rectangle indicates the 75th percentile; the bottom of the blue rectangle indicates the 25th percentile. The line where the two rectangles meet represents the median. If the interquartile range is large, it means that the middle 50% of observations are spaced wide apart, and, if the interquartile range is narrow, it means the middle 50% of observations are spaced close together.

Exhibit 3. DealStats MVIC/EBITDA Interquartile Range by NAICS Sector (Private Targets)

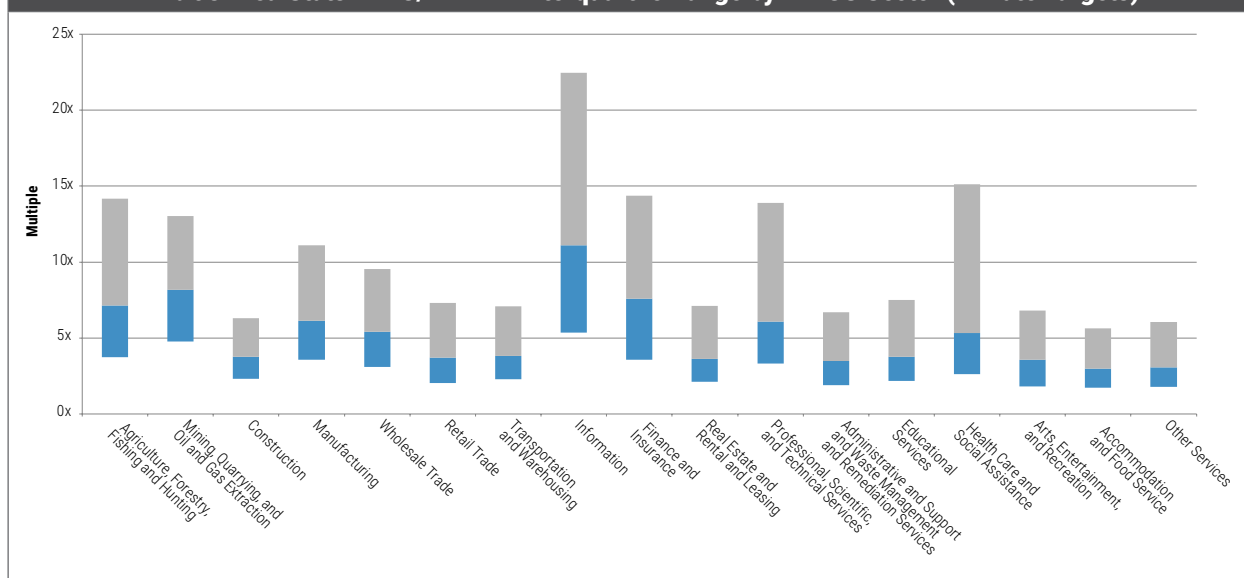
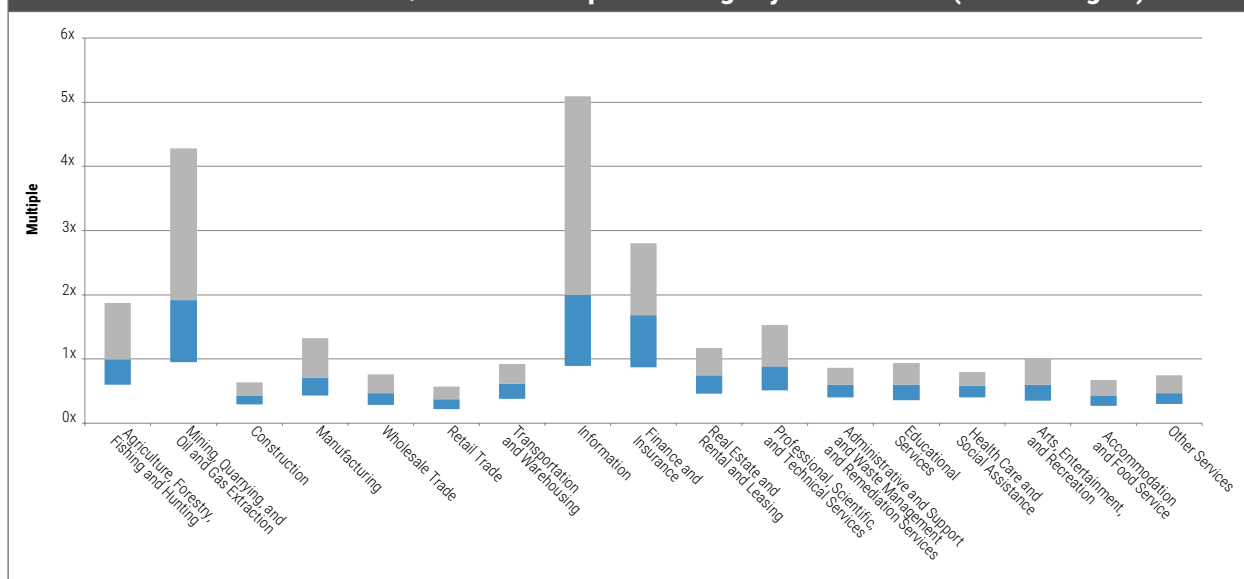


Exhibit 4. DealStats MVIC/Revenue Interquartile Range by NAICS Sector (Private Targets)



It has generally been observed that higher multiples are paid for larger companies when compared with smaller companies.¹³ DealStats contains transactions across a range of sizes. BVR's website publishes a [table that captures the current transactions counts in the database by transaction size](#). Users searching the database will find transactions that are considered "Main Street" or small in nature, transactions of middle-market companies, and transactions of large companies. In determining size, a user can select from a variety of fields, including "Net Sales (Revenues)," "MVIC Price" (the business sale price), "Total Assets" (the book value of the company's assets), among other fields.

¹³ Pratt's Stats Private Deal Update—4Q 2017, Business Valuation Resources, LLC. ©2018. All rights reserved.

A user may also wish to consider profitability when searching for and selecting comparable companies. A user can consider companies that have achieved a positive or negative level of earnings, such as operating profit, net income, EBITDA, or seller's discretionary earnings (e.g., identifying companies with positive operating revenue to facilitate a comparison to a subject company with positive operating profit). A user may also consider margins, including gross profit margin, operating profit margin, net profit margin, EBITDA margin, and seller's discretionary earnings margin.

The date at which the transaction occurred is typically another factor a user considers. The user should determine how far back in time to go when selecting comparable companies. It has been observed that private-company transaction multiples tend to be less volatile over time than multiples in daily public-market trading.¹⁴ An overall general consistency in multiples has been observed in DealStats, such as in the median MVIC price/net sales multiple, which has been between 0.43 and 0.50 each year for the past 19 years when reviewing transactions of private companies by private buyers.¹⁵ The MVIC price/SDE multiple has been between 2.1 and 2.8 for transactions of private companies by private buyers during this same period.

Raymond Miles, the founder and past director of the IBA, has done extensive research into transactions over extended periods and demonstrated that the date of the transaction does not affect most industries. The conclusion reached was that the multiples do not appear to be time-sensitive, since inflation affects not only the sales prices, but also the gross and net earnings of the business. In discussing Miles' research, Gary Truman notes:

Empirical data for all business categories, in aggregate, does not show any significant change in business value as a function for time. This is contrary to the conventional wisdom that only recent sales should be considered when choosing guideline (comparable) companies.¹⁶

Jack Sanders, an M&A specialist, appraiser, and author, has also determined that selling price ratios remain consistent over time. In comparing private-company transaction data within the last 10 years to

Exhibit 5. Number of Private and Public Companies in DealStats by Sale Price		
	DealStats	
Sale Price	Private Companies	Public Companies
\$250,000 and Under	17,913	0
\$250,001-\$500,000	6,403	0
\$500,001-\$1 million	4,380	4
\$1,000,001-\$2 million	2,713	11
\$2,000,001-\$5 million	2,461	80
\$5,000,001-\$10 million	1,547	115
\$10,000,001-\$20 million	1,520	249
\$20,000,001-\$50 million	1,764	593
\$50,000,001-\$100 million	1,069	617
\$100,000,001-\$500 million	1,357	1,575
Over \$500,000,001	638	1,935
Total	41,765	5,179
Note: As of June 8, 2023		

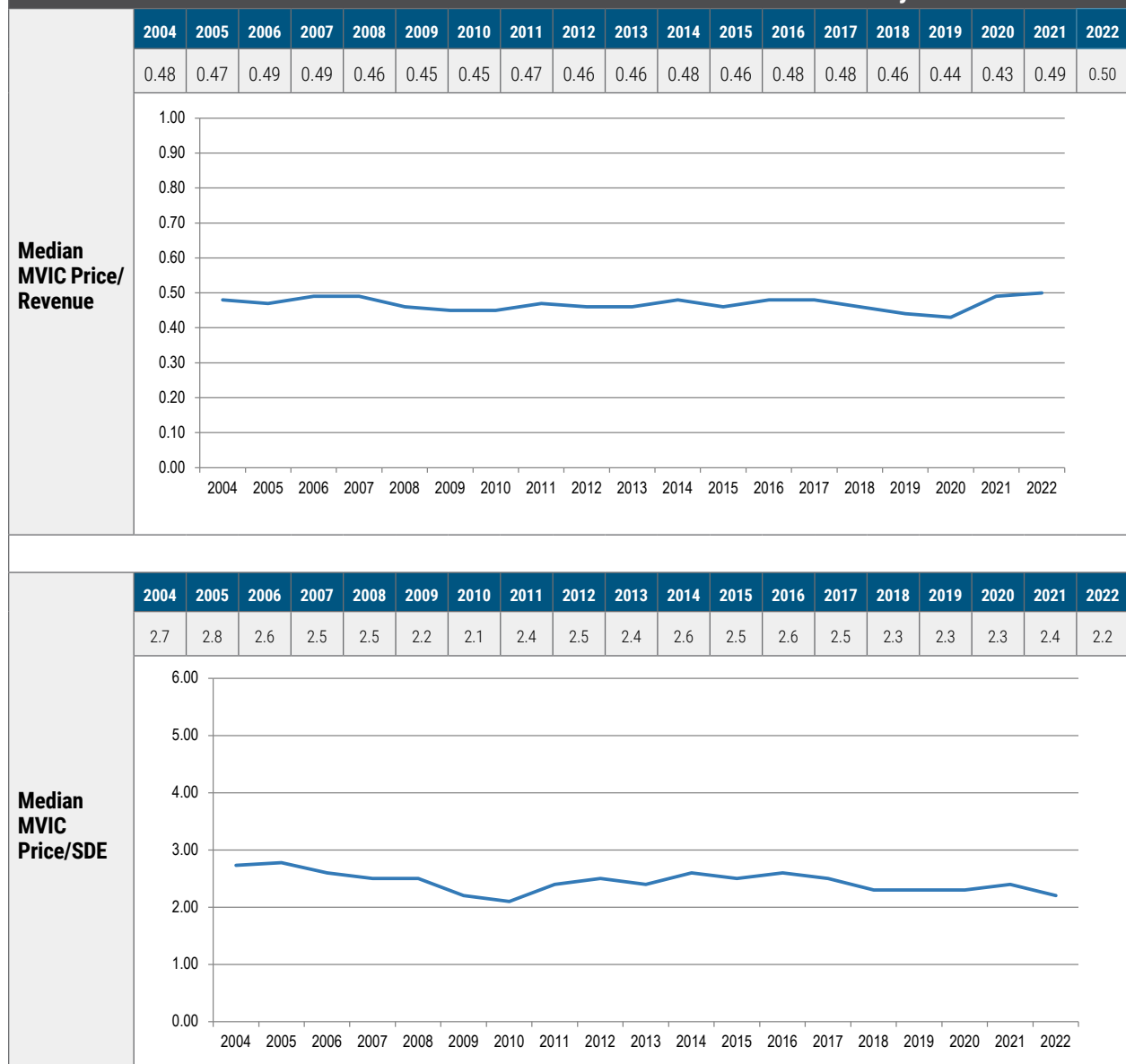
¹⁴ Shannon Pratt, *The Market Approach to Valuing Businesses*, New Jersey, Wiley & Sons, 2005, p. 41.

¹⁵ *Pratt's Stats Private Deal Update—4Q 2017*, Business Valuation Resources, LLC. ©2018. All rights reserved.

¹⁶ Gary Trugman, *Understanding Business Valuation*, 5th edition, 2017, pg. 398, AICPA.




Exhibit 6. Median MVIC Price/Net Sales and Median MVIC Price/SDE by Year



transaction data greater than 10 years old, he has found that there is very little difference in the selling price ratios, specifically with regard to the multiple of sales and the multiple of discretionary earnings.¹⁷

Still, the overall general stability in multiples over time may mask differences in multiples for interim periods over the long term for certain industries. Therefore, it is recommended that a user review transaction multiples and industry-related factors over an extended period. It may become clear that the transaction multiples are consistent across periods, such as for restaurants, or that some industries became hot acquisition targets during certain periods, such as what occurred during the dot-com bubble in the late 1990s.

¹⁷ Jack Sanders, "BIZCOMPS User Guide," available at bvresources.com/products/faqs/bizcomps.



Should your results not yield enough observations for your analysis, you may need to open your search parameters to be more inclusive, such as by expanding your size criteria or your industry criteria.

Gilbert Matthews has stated:

As companies broaden their range of activities, it is often not possible to find other companies with the same mix of businesses. It may be necessary to rely on companies which could be described as “secondary comparables,” i.e., companies with significant similarities but which differ in certain substantive respects from the subject company. Sometimes companies which make different products than the subject company produces, but which serve the same markets, can be useful as comparable companies.¹⁸

Dr. Shannon Pratt writes:

The court accepted the guideline companies for all three experts in the *Estate of Gallo*¹⁹ (wine), even though only one of the comparables was in the same business as the subject company.... All experts chose distilling and brewing companies. In addition to these companies, the IRS expert chose companies in the food processing industry.

Hallmark Cards, Inc., was the subject company in the *Estate of Hall*.²⁰ ... Petitioner’s experts also chose comparable companies, which the court accepted, that “produced brand name consumer goods, were leading companies in their industries, had publicly traded common stock, had financial characteristics similar to Hallmark” and were “highly regarded by the investment community for their quality management, leading market positions, and excellent financial conditions.” Examples of these guideline public companies include Avon, McDonald’s, Anheuser-Busch, IBM and Coca-Cola.

There is no consensus among practitioners as to the appropriate number of comparable companies one needs when employing the guideline transaction method. Dr. Pratt has said that one needs only a couple good comparable companies (and potentially even one can be useful if it were deemed very comparable). Others prefer a larger sample, such as between five and 20 (depending on the degree of precision required), to obtain more confident measures of central tendency (such as the mean and median) or to segment the data into percentiles. Still, others utilize all transactions for which market data are available for a general type of business (e.g., all restaurant transactions).

Recently, Toby Tatum presented a webinar with BVR and described what he referred to as “Tatum’s Law of Market Multiples,” in which he advocates for appraisers to use at least 30 transactions in their set of comparable companies.²¹ Two listeners, Ronald Rudich and Howard Lewis, took issue with this number and wrote an article, “Counterpoint to Tatum’s Law of Market Multiples.”²² In their article, they state that Tatum’s recommendation of 30 transactions is “contrary to what Ray Miles (the founder of The Institute of Business Appraisers) wrote in his treatise on the ‘Direct Market Data Method; the Technical Studies on the IBA Transactional Database,’” which puts the minimum number at five transactions.


18 Gilbert Matthews, Fairness Opinions webinar, April 2, 2001, Business Valuation Resources.

19 *Gallo v. Commissioner*, T.C. Memo 1985-363, 50 T.C.M (CCH) 470, T.C.M. (RIA) 85363 (July 22, 1985).

20 *Hall v. Commissioner*, 92 T.C. 312 (Feb. 14, 1989).

21 Toby Tatum, *Valuing a Business With BIZCOMPS: Considerations, Tips and Advanced Methods* webinar, Aug. 1, 2017, Business Valuation Resources.

22 “Valuation Experts Clash Over Analysis of Transactional Data,” *Business Valuation Update*, April 2018.



Further noted is that Toby's original webinar discussed BIZCOMPS transactions, which include 21 data points per transaction, whereas DealStats includes up to 202 data points per transaction. In [The Comprehensive Guide to the Use and Application of Transaction Databases](#), Nancy Fannon and Heidi Walker write:

The Transaction Method is included within the market approach to business valuation.... This method may also be referred to as the Guideline Merged and Acquired Company Method, the Direct Market Data Method, the Guide Line Transaction Method.... BIZCOMPS is often most appropriately used under the "total market theory."

In terms of their usefulness in a particular valuation assignment, some databases are more appropriately used on a "transaction-by-transaction" basis because they provide a great deal of information on each transaction while 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.

Pratt's Stats [DealStats] covers both small and large deals and can often be used in either context ["transaction-by-transaction" base and "total market theory"].²³

In response to Tatum's webinar, and Rudich and Lewis' response, Gary Trugman wrote a ["Letter to the Editor"](#) in the *Business Valuation Update*. Trugman urges appraisers to run statistics on the data to see how widely dispersed the multiples are. Trugman writes that "[u]sing five transactions makes no sense in most of the databases, but blindly being content with 30 transactions may be almost as bad. The appraiser really needs to analyze the data."²⁴

SELECTING VALUATION MULTIPLES


DealStats provides up to six valuation multiples per transaction. These multiples include:

1. MVIC/Net Sales
2. MVIC/Gross Profit
3. MVIC/EBITDA
4. MVIC/EBIT
5. MVIC/SDE
6. MVIC/Book Value of Invested Capital

DealStats reports MVIC prices and MVIC multiples. Therefore, the application of the multiples results in an invested capital value. DealStats does not report equity prices. Applying equity multiples assumes the same capital structure and proportion of debt between the subject company and the comparable company or companies. Often this is not the case. It is advisable to apply an MVIC multiple to

²³ Nancy Fannon and Heidi Walker, *The Comprehensive Guide to the Use and Application of the Transaction Databases*, 2nd edition, 2010, pg. 17-18, Business Valuation Resources.

²⁴ Gary Trugman, ["Letter to the Editor: Comments on an Article on the Use of Statistics in the Transaction Method,"](#) *Business Valuation Update*, May 2018.



the subject company and then subtract the subject's interest-bearing liabilities (as well as making any other necessary adjustments for liabilities and assets) to arrive at the subject's equity value.

The reported MVIC prices in DealStats represent invested capital prices, even when debt is not assumed (such as when the seller retains it). An analyst does not need to add the acquired company's balance sheet debt to the reported MVIC price when debt is not assumed. Nancy Fannon states, "In order to be an invested capital price, it need not be 'plus debt.' The important thing is that it is not net of debt." She goes on to say, "Resist the urge to 'subtract debt' that was not assumed [from the reported MVIC price] in order to 're-create' an equity multiple when using DealStats."²⁵

Adding unassumed debt to the MVIC price can overstate MVIC and any multiples derived from it. An example is if Company X buys Company Y for \$20 million in cash. Company Y has \$10 million in debt on its books, but Company X does not assume this debt. Because this debt is not assumed, Company Y uses the proceeds of the cash sale to pay off its debt of \$10 million. The MVIC price for this acquisition is \$20 million, not \$30 million. Adding the unassumed debt of \$10 million would overstate the price paid for the assets of the company and cause an overinflated MVIC price. The MVIC price only includes those interest-bearing liabilities that are assumed, not those the seller retained.

When determining which multiples to use, the analyst may wish to consider the size of the company. Dr. Pratt observes that, for very small companies—particularly service companies—price/sales (MVIC/Net Sales) "gets the primary weight"²⁶ because many buyers believe they already know how much they can bring down to the bottom line. Gary Trugman echoes these thoughts, stating that the multiple is appropriate for smaller businesses, particularly cash businesses.²⁷ Trugman also notes that service businesses and those light in tangible assets are "considered to be candidates for the application of an MVIC/Sales multiple."²⁸

The next most commonly used multiple that Dr. Pratt cites for small businesses with one owner is a multiple of discretionary earnings (MVIC/SDE) because, for many very small businesses, any income number beyond that may be negative or too small to have any meaning.

Dr. Pratt finds that, as company size begins to increase, seller's discretionary earnings tend to become meaningless.²⁹ Dr. Pratt says, "[M]ost analysts would not use it for companies valued over \$5 million." Seller's discretionary earnings are a measure of earnings to an owner-operator of a business. It is essentially EBITDA plus the compensation to one owner (the earnings before the owner is compensated), so, to the extent more than one owner exists, the measure becomes less meaningful.

As company size increases, many analysts tend to consider EBITDA (MVIC/EBITDA) and EBIT (MVIC/EBIT) multiples, though there is a tendency to prefer EBITDA multiples because they eliminate the effects of different policies with respect to accounting for noncash charges (depreciation and amortization).


25 Nancy Fannon, [Transaction Databases](#) webinar, Oct. 23, 2008, Business Valuation Resources.

26 Shannon Pratt, *The Market Approach to Valuing Businesses*, New Jersey, Wiley & Sons, 2005, p. 138.

27 Gary Trugman, [Understanding Business Valuation](#), 5th edition, 2017, AICPA, pg. 359.

28 Ibid.

29 Shannon Pratt, *The Market Approach to Valuing Businesses*, New Jersey: Wiley & Sons, 2005, p. 138.



Alternatively, EBIT multiples may be available when EBITDA multiples are not, as a result of depreciation and amortization information not being available or not being reported.

Franz Ross, a practitioner and author who has done extensive research on the DealStats database, has concluded that gross profit is the most reliable fundamental variable determining MVIC, followed closely by discretionary earnings (*Note: Discretionary earnings was a much more significant variable for companies with sales under \$5 million than for companies with sales greater than \$5 million*).³⁰ Ross' work analyzed companies with sales between \$1 million and \$30 million in the DealStats database and segmented the data out by various industries: construction, manufacturing, printing/publishing, wholesale trade, and retail trade (service companies were not analyzed as many do not show a cost of goods sold figure). His research showed a consistently high correlation for gross profits across each industry. While DealStats reported gross profit as a figure in the database at the time, the MVIC/Gross Profit multiple was not calculated and provided to the user. Ross' research led to the creation of the MVIC/Gross Profit multiple in the database.³¹

DealStats provides the coefficient of variation (CV) for each multiple in a user's group of comparable companies. The CV is computed as the standard deviation divided by the mean and is a statistic used to measure dispersion. The belief is that the valuation multiples with the lowest CVs are those with the least dispersion around their respective means and may be the better indicators of value. The value derived using these valuation multiples may be weighted more heavily than those with larger CVs. Also, multiples that display large CVs may alert the analyst to potential outliers in their data set. Should analysts choose, they may revisit their comparable company set and make any revisions they deem necessary, such as eliminating potential outliers.

Dr. Pratt theorizes:

When market value multiples among companies in an industry are tightly clustered, this suggests that these are the multiples that the market pays the most attention to in pricing companies and stocks in the industry. That is, the denominator [e.g., discretionary earnings, EBITDA, etc.] that creates the tightly clustered multiple is the financial variable that tends to drive the market value. Therefore, a tight clustering of market value multiples may suggest that those multiples tend to deserve more weight than other multiples.³²

DealStats reports three measures of central tendency, in addition to various percentiles figures. These measures of central tendency include:

1. Mean
2. Median (also known as the 50th percentile)
3. Harmonic Mean
4. Weighted Harmonic Mean

30 Franz Ross, "[Just One Thing: The Most Reliable Variable for Use in the Market Approach](#)," *Business Valuation Update*, September 2004.

31 Shannon Pratt and Alina Niculita, [Valuing a Business](#), 5th edition, New York, McGraw-Hill, 2008, p. 321.

32 Shannon Pratt, *The Market Approach to Valuing Businesses*, New Jersey, Wiley & Sons, 2005, p. 139.

The percentile figures reported include:

1. Minimum value
2. 10th percentile
3. 25th percentile
4. 75th percentile
5. 90th percentile
6. Maximum value

Many are familiar with the mean and the median, while fewer are familiar with the harmonic mean and weighted harmonic mean. The mean is the arithmetic average and is computed by adding up a set of numbers and dividing by their count. The median is the middle number in an ordered list (when the numbers are sorted numerically, the median is the middle number in the set). If the median is higher than the mean, outliers may be causing a downward bias to the mean. Alternatively, if the mean is higher than the median, outliers may be causing an upward bias. As an example, let's assume the list in Exhibit 7 is the result of search and analysis of comparable companies.

In Exhibit 7, we can see that the median is much more representative of the central tendency of the sample set. Outliers (5.30 and 10.40) can dramatically impact the mean, whereas the median is less affected. The analyst may also want to consider further analysis of the two outliers and the possibility of eliminating them from the sample set.


The harmonic mean, an alternative to the mean or median, can be used to give equal weight to each comparable company in summarizing ratios that have MVIC in the numerator. The harmonic mean is the reciprocal of the average of the reciprocals of the comparable company multiples.

Some sources, such as Investopedia and Wikipedia, state that the weighted harmonic mean is the preferable method for averaging multiples in which price is in the numerator, such as the price-earnings (P/E) ratio.

Analysis from Bob Dohmeyer, Janae Castell, and Dr. Herbert Kierulff has found that, generally, when the analyst's subject company has profit margins that are near the average/median of the industry, or are near the average/median profit margins of the analyst's selected comparable companies, the "best" (unbiased) measure of central tendency is the median multiple.³³ Since the distribution of valuation multiples

Exhibit 7. MVIC/Net Sales for Comparable Companies	
MVIC/Net Sales	
0.45	
0.47	
0.49	
0.49	
0.52	
0.55	
0.55	
0.60	
0.61	Middle of sorted set ←
0.62	
0.70	
0.74	
0.76	
0.80	
0.91	
5.30	
10.40	
0.61	Median ←
1.47	Mean (Average)

33 Bob Dohmeyer, Janae Castell, and Herbert Kierulff, "Mean, Median, Harmonic Mean: Which Is Best?" *Business Valuation Update*, January 2015.



are not normal and are generally skewed, the median will be less than the mean and by definition represents an unbiased estimate due to the fact that the probability of a low value estimate error is equal to the probability of a high value estimate error, thereby making the median the “best” and unbiased estimator. Further, given the skewed distribution of valuation multiples, estimating value using the harmonic mean results in the much greater probability of a low value estimate error than a high value estimate error. Therefore, they conclude that the harmonic mean is, by definition, a biased estimator.

In another article, James Hitchner finds that most analysts prefer the median over the mean as it reduces the effect of outliers.³⁴ Hitchner goes on to note that, if analysts are considering using a mean, in some cases, they may wish to give more weight to specific observations.

Dr. Pratt has noted that the harmonic mean holds a certain amount of appeal, commenting, “Although the harmonic mean is not used frequently, probably because it is unfamiliar to most readers of valuation reports, it is conceptually a very attractive alternative measure to central tendency.”³⁵

When comparing the harmonic mean to the arithmetic mean, Gilbert Matthews finds that the arithmetic mean is biased upward, noting that the arithmetic mean of ratios with prices in the numerator always gives greater weight to higher multiples in the sample than to lower multiples.³⁶ When comparing the harmonic mean to the median, he finds that, although the median is a better measure of central tendency than the arithmetic mean, it effectively eliminates the information in the remaining multiples (because the median uses only one data point, it does not give any consideration to skewness in the data). He concludes that:

In sum, the harmonic mean is statistically more accurate than the arithmetic mean to measure the central tendency of ratios with price in the numerator, and it is more informative than the median. The valuation community should adopt the practice of using the harmonic mean for averaging multiples.

It is also important to note that the value the analyst selects (whether it be the median, mean, harmonic mean, or weighted harmonic mean) is typically considered a starting point. Based on the financial analysis of the subject company compared to the guideline companies, this value may be adjusted up or down. Dr. Pratt notes that an analyst may adjust an observed multiple upward or downward by a percentage or may use a multiple toward the upper or lower end of the range.³⁷ Each multiple may even receive individual attention. Dr. Pratt provides an example:

[A] company with an above-average return on sales usually would be accorded an above-average price/sales or MVIC/sales multiple. The same company could have a below-average return on book value, which may suggest a below-average price/book value or MVIC/book value multiple.

Research from Dohmeyer and Kierulff found that multiples derived from comparable transactions should be adjusted for profitability.³⁸ Dohmeyer and Kierulff wanted to test the conventional wisdom

34 James Hitchner, “About When to Use the Mean, Median, or Both,” *CPA Expert*, Winter 2005, p. 10.

35 Shannon Pratt, *The Market Approach to Valuing Businesses*, New Jersey, Wiley & Sons, 2005, p. 140.

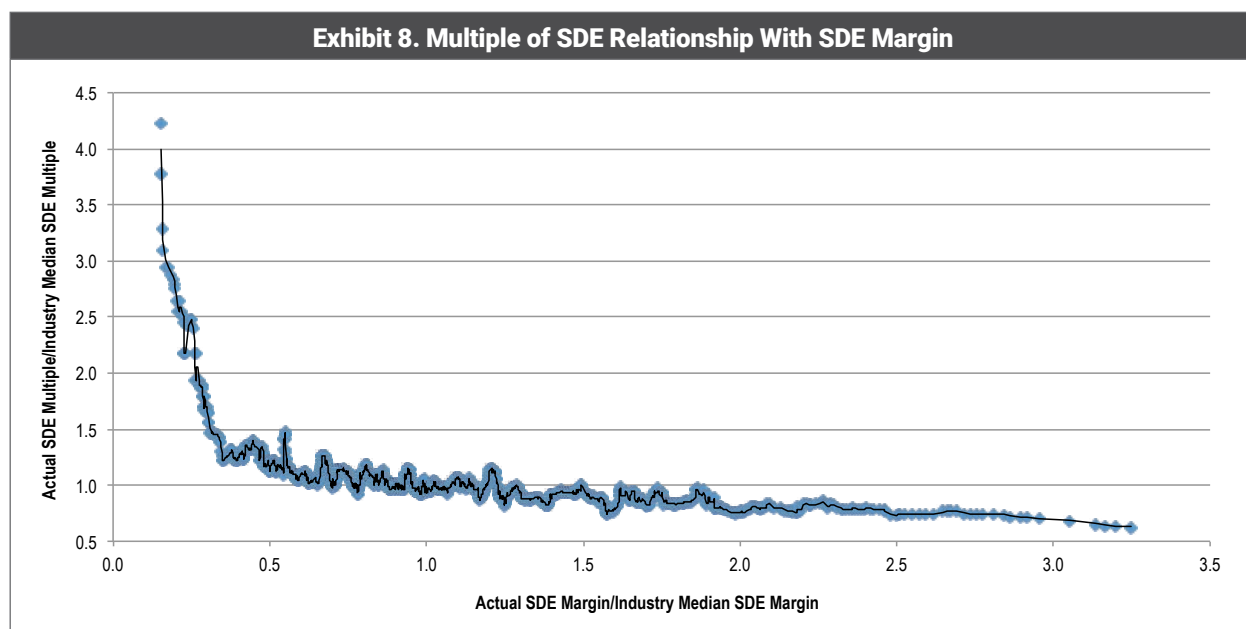
36 Gilbert Matthews, “[When Averaging Multiples, Apply the Harmonic Mean](#),” *Business Valuation Update*, June 2006.

37 Shannon Pratt, *The Market Approach to Valuing Businesses*, New Jersey, Wiley & Sons, 2005, p. 141.

38 Bob Dohmeyer and Herbert Kierulff, “[A Forgotten Statistical Concept Tells Why Your Multiple May Be Wrong](#),” *Business Valuation Update*, November 2014.

that states: “[C]ompanies with superior margins deserve a premium multiple, and companies with inferior margins deserve an inferior multiple.” Their research covering thousands of small-business transactions found that the price/revenue multiple was highly correlated with profit margins (such as SDE margin)—the higher the profit margin, the higher the price/revenue multiple. While this was in line with common thought, their research also discovered that the multiples based on profit (such as price/SDE or price to EBITDA) were highly correlated with profit margins (such as SDE margin or EBITDA margin), but the higher the margin, the lower multiple.

Their analysis of private-company transaction data finds that companies with higher profit margins compared with the industry norm should be matched via regression analysis with lower multiples of profit compared with the industry norm, and vice versa. Further, they demonstrate that the data show that using a central tendency measure such as median or harmonic mean results in value estimation errors as demonstrated in Exhibit 8. They go on to demonstrate that using regression analysis is a superior and flexible measure of central tendency that adjusts for relative profitability.



Others have advocated for using regression analysis on transaction data instead of a measure of central tendency. Fred Hall’s research shows that price/revenue is positively correlated with profit margin (SDE margin) and finds that price/SDE is inversely correlated with profit margin.³⁹ Hall finds that the regression calculations of the independent variable (SDE margin) regressed against the dependent variables (the revenue multiple and the SDE multiple) to be superior to harmonic means and medians.⁴⁰ This matches the findings of Dohmeyer and Kierulff, who also noted that regression of the revenue multiple

39 Fred Hall, “[How Regression Analysis Makes the Market Approach More Valuable](#),” *Business Valuation Update*, April 2012.

40 Fred Hall, [The Use of Regression Analysis in the Market Approach](#) webinar, May 14, 2015, Business Valuation Resources.

and SDE multiple against SDE margins was an objectively superior estimator of the revenue multiple and SDE multiple than measures of central tendency.⁴¹

Ultimately, whichever multiple(s) the analyst selects are based on the analyst's reasoned judgement and analysis of the guideline companies in comparison with the subject company being valued.

APPLYING VALUATION MULTIPLES

The DealStats database contains both stock transactions and asset transactions. While both can be used to develop a value indication for a subject company, the user should be mindful of the differences between the two types of transactions. Understanding the differences between asset sales and stock sales will help the analyst determine how to proceed when using the multiples. An analyst may separate the stock and asset sales and apply the multiples separately (with the appropriate assets and liabilities added and subtracted from the results of each to determine the subject's equity value).

Alternatively, the analyst may choose to restate the selling prices and multiples among their comparable transactions. This could include making the selling prices in the asset sale transactions comparable to those in stock sale transactions by adding net working capital to the asset sale prices (though, if inventory did transfer, which is common among assets sales, it should be subtracted from the addition of the net working capital, so it is not double counted). The analyst may decide to convert the stock sale prices to an asset sale equivalent price. The below example (Exhibit 9) from Fred Hall demonstrates this.⁴²

Exhibit 9. Stock Sale Conversion Sample	
MVIC (cash, stock, notes, debt assumed)	\$13,994,000
Plus: assumed non-interest-bearing liabilities	\$625,000
Plus: employment/consulting agreement	\$0
Less: cash	(\$0)
Less: accounts receivable	(\$856,000)
Less: other assets (prepaids and for-sale assets)	(\$1,572,000)
= Asset value equivalent	\$12,191,000
(The value of inventory, fixtures, and goodwill)	

41 Bob Dohmeyer and Herbert Kierulff, "A Forgotten Statistical Concept Tells Why Your Multiple May Be Wrong," *Business Valuation Update*, November 2014.

42 Fred Hall, "Compare Apples to Apples: Investigating the Differences in Transactional Databases," *Business Valuation Update*, March 2013.



The analyst could also consider restating the multiples to include a common set of assets, which includes intangible value plus the most common tangible assets found in the group of comparable companies. This may be the most direct method to restate the selling prices among the comparable companies. This is sometimes done by adding the total intangible asset value from the provided purchase price allocation to the FF&E value from the provided purchase price allocation (the value of inventory could also be added, should the analyst wish).

In a stock sale, it is generally assumed that all assets and liabilities transfer (if the target had debt and that debt transferred to the buyer, it is noted in the “Debt Assumed” field). In an asset sale, inventory, fixed assets, leasehold improvements, identifiable intangibles (e.g., trade names, customer lists), and goodwill usually transfer. In an asset sale, generally neither cash and accounts receivable transfer nor do liabilities. If real estate is acquired in a transaction and DealStats is able to determine its value, that value is removed from the reported selling price.⁴³

When available, a purchase price allocation is reported for the transaction that details which assets and liabilities transferred, along with their corresponding values. It is important to look at the purchase price allocation and additional notes sections of the DealStats transaction report to see whether a purchase price allocation is given for the sale. This allocation will show definitively which assets transferred as well as their agreed-upon values by the buyer and the seller. A user can also review a group of transactions in the database by NAICS or SIC code to see what typically transfers. For more information, visit the [DealStats FAQ page](#).

Exhibit 10 depicts the general application of asset sale multiples and stock sale multiples from the DealStats database. Note that these are just general examples and are based on the typical assumptions for asset and stock sales. A user should carefully review each transaction to see exactly what assets transferred and which liabilities, if any, were assumed. These assumptions may be useful when no purchase price allocation is available and it cannot be determined exactly what assets transferred. Alternatively, the analyst could review other transactions within the industry for guidance on what assets commonly transfer.

⁴³ The exception to this are certain industries, such as oil and gas, where the predominant asset of the acquired business is land and removing the value of land creates a negative net asset value and therefore a negative selling price. DealStats reports the value of any acquired land and buildings in the “Deal Terms,” “Additional Notes,” and “Real Estate” fields.



Exhibit 10. Asset Sale Multiples and Stock Sale Multiples From DealStats

Asset Multiples

Subject company revenue or earnings

- × Valuation multiple (as selected by user)
- = Indicated market value of invested capital
- + Assets not included in the multiple (usually AR and cash)
- Liabilities excluded from the multiple (usually all) and interest-bearing debt
- + Real estate
- + Nonoperating assets
- Nonoperating liabilities
- = Indicated value of equity

Stock Multiples

Subject company revenue or earnings

- × Valuation multiple (as selected by user)
- = Indicated market value of invested capital
- Interest-bearing debt
- + Real estate
- + Nonoperating assets
- Nonoperating liabilities
- = Indicated value of equity

Note: These are just general examples. A user should review each transaction individually to see exactly what assets transferred.

When using asset sale transactions in DealStats, the typical application of the valuation multiple looks like what is shown in Exhibit 11.

**Exhibit 11. Application of the Valuation Multiple
When Using Asset Sale Transactions**

Subject company net sales		\$7,000,000
MVIC/net sales	×	0.3
Value indication		\$2,100,000
Assets not included in multiple ¹	+	\$600,000
Liabilities not included in multiple ² and debt	-	\$1,100,000
Real estate ³	+	\$650,000
Net nonoperating assets and liabilities ⁴	+	\$100,000
Value of equity		\$2,350,000

¹ Such as cash and accounts receivable

² Usually all

³ Generally removed from the DealStats selling price

⁴ May be negative value if nonoperating liabilities are greater than nonoperating assets

When using stock sale transactions in DealStats, the typical application of the valuation multiple looks like what is shown in Exhibit 12.

Exhibit 12. Application of the Valuation Multiple When Using Stock Sale Transactions		
Subject company net sales		\$7,000,000
MVIC/net sales	x	0.4
Value indication ¹		\$2,800,000
Interest-bearing debt	-	\$1,000,000
Value of equity before other items		\$1,800,000
Real estate ²	+	\$650,000
Net nonoperating assets and liabilities ³	+	\$100,000
Value of equity		\$2,550,000
¹ Generally includes all operating assets and non-interest-bearing liabilities		
² Generally removed from the DealStats selling price		
³ May be negative value if nonoperating liabilities are greater than nonoperating assets		

When using DealsStats, the analyst may wish to consider whether minority discounts (discounts for lack of control) and marketability discounts (discounts for lack of marketability) are applicable. All of the transactions in DealStats are 100% transactions—there are no partial interest purchase transactions. As a result, analysts may wish to apply a minority discount to their pro rata minority equity value. Practitioners have debated whether marketability discounts are applicable or not. Dr. Shannon Pratt has written:

Because the indicated value is a control value, it normally would not be appropriate to add a control premium. One or more discounts may be appropriate.

If valuing a controlling interest, a discount for lack of marketability *may* be appropriate in limited circumstances. There could be significant time and costs that would need to be incurred in order to make the subject company salable, which could be the basis for a lack of marketability discount. Also, there may be considerable risk as to whether the estimate value can actually be attained.

If valuing a minority interest in a privately held company, a discount for lack of control usually would be warranted, and frequently a discount for lack of marketability as well. Most analysts (and most courts) prefer to deal with the marketability and minority discounts separately because, although related, they are separate concepts and lend themselves to being quantified by different types of market evidence and analysis. It is quite common for a minority interest in a closely held company to be worth less than half its proportionate share of value of a controlling interest.⁴⁴

44 Shannon Pratt, *The Market Approach to Valuing Businesses*, New Jersey, Wiley & Sons, 2005, p. 41-42.



Ultimately practitioners need to decide which discounts to apply, if any, based on their knowledge, experience, and the facts pertaining to their specific engagement. A common source of minority discounts is the [FactSet/BVR Control Premium Study](#). Common sources for marketability discounts are the [Stout Restricted Stock Study](#) and the [Valuation Advisors Discount for Lack of Marketability Study](#).

USING DEALSTATS

Please visit our [video tutorial page](#) to view a series of helpful videos that demonstrate how to use the various sections and functions available in DealStats.

QUICK SEARCH

The “Quick Search” tab allows users to quickly filter their transactions based on the most commonly searched items, including industry (SIC code, NAICS code, and business description), sale date, net sales, and more. You can add additional search items that are not included in the Quick Search by default by clicking on the “Add Search Field” button.

The screenshot displays the DealStats web application interface. At the top, the navigation bar includes the BVR logo and links to DEAL & MARKET DATA, NEWS & RESEARCH, GUIDES & BOOKS, TRAINING, and VALUATION TOPICS. The main content area is titled 'Private & Public Company Transaction Comparables'. Below this, a blue bar contains the 'Screen, Display & Export' tab. The 'Quick Search' tab is active, showing a search bar and a list of search fields: SIC, NAICS, Sale Date, Net Sales, Target Type, and Acquirer Type. The 'SIC' field is selected. To the right of the search fields, there is a list of industry codes with checkboxes: 01. Agriculture, Forestry & Fishing, 10. Mining, 15. Construction, 20. Manufacturing, 40. Transportation & Public Utilities, 50. Wholesale Trade, 52. Retail Trade, 60. Finance, Insurance & Real Estate, 70. Services, and 90. Public Administration. The 'Search' button is at the bottom right of the search area.

Typing text into the “Search All Text Fields” box on the “Quick Search” tab will conduct a search in every available text field across the database. In the example below, typing “semiconductor” into the “Search All Text Fields” box returns all transactions that have the term “semiconductor” present in any field, such as in the “Business Description” field, “Additional Notes” field, “Deal Terms” field, and more.

The screenshot shows the DealStats interface with the 'Quick Search' tab selected. A search box contains the text 'semiconductor'. Below the search box, there is a list of search criteria including SIC, NAICS, Sale Date, Net Sales, Target Type, and Acquirer Type. To the right, there is a list of industry categories with checkboxes, such as '01. Agriculture, Forestry & Fishing', '10. Mining', '15. Construction', '20. Manufacturing', '40. Transportation & Public Utilities', '50. Wholesale Trade', '52. Retail Trade', '60. Finance, Insurance & Real Estate', '70. Services', and '90. Public Administration'. The 'Primary' search option is selected.

SEARCH

The “Search” tab allows the user to conduct a search using any field available in DealStats. Users can specify as many pieces of search criteria as they wish on the “Search” tab.

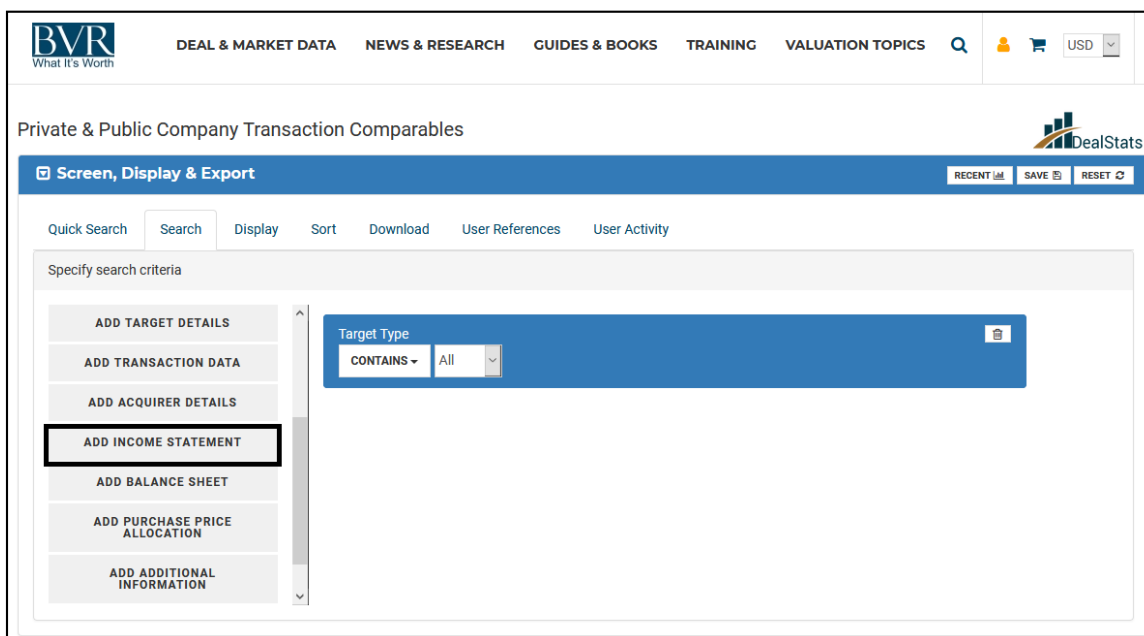
The screenshot shows the DealStats interface with the 'Search' tab selected. The 'Specify search criteria' section is visible, showing options to 'Apply All Criteria Selected (AND)' or 'Apply Any Criteria Selected (OR)'. Below these options, there is a search box labeled 'Search available columns' and a list of buttons for adding search criteria: 'ADD TARGET DETAILS', 'ADD TRANSACTION DATA', 'ADD ACQUIRER DETAILS', and 'ADD INCOME STATEMENT'.

The “Search” tab includes both “AND” and “OR” logic to link the various pieces of criteria together. One example is “TargetType” is “Private AND Revenues are between \$100,000 and \$1 million.” Another example is “Target Country” is “United States OR Canada.” The selected “AND” and “OR” logic applies to all specified criteria on the “Search” tab.

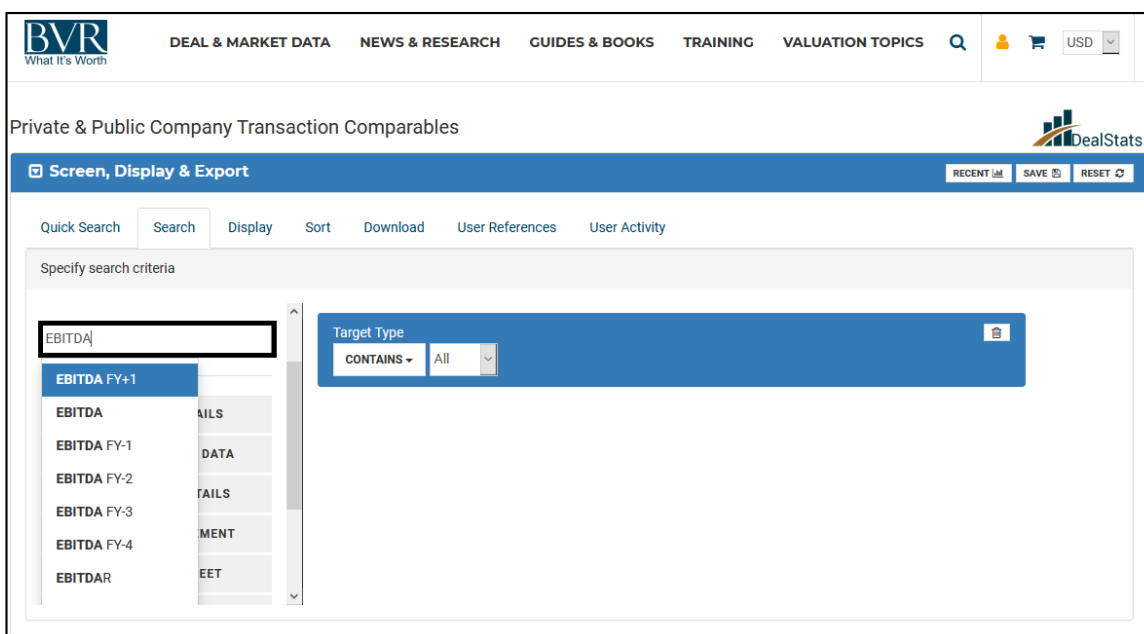
Important note: All search criteria specified on the “Search” tab are conjoined with “AND” logic to the search criteria specified on the “Quick Search” tab.

The screenshot displays the DealStats web application interface. At the top, the navigation bar includes the BVR logo and links for DEAL & MARKET DATA, NEWS & RESEARCH, GUIDES & BOOKS, TRAINING, and VALUATION TOPICS. The main header reads "Private & Public Company Transaction Comparables". Below this is a blue bar with "Screen, Display & Export" and buttons for RECENT, SAVE, and RESET. The "Search" tab is active, showing options for Quick Search, Display, Sort, Download, User References, and User Activity. The "Specify search criteria" section has two radio buttons: "Apply All Criteria Selected (AND)" (selected) and "Apply Any Criteria Selected (OR)". To the right, a "Target Type" dropdown is set to "CONTAINS" and "All". On the left, a list of criteria to add is shown: ADD TARGET DETAILS, ADD TRANSACTION DATA, ADD ACQUIRER DETAILS, and ADD INCOME STATEMENT.

When searching for an available field in the database, users can either begin typing into the available search box (in this example, fields with “EBITDA” in their name), or they can select the category of fields they wish to select from (in this example, a full list of fields in the “Income Statement” category).



The screenshot shows the DealStats web application interface. At the top, there is a navigation bar with the BVR logo and links for DEAL & MARKET DATA, NEWS & RESEARCH, GUIDES & BOOKS, TRAINING, and VALUATION TOPICS. Below this, the page title is "Private & Public Company Transaction Comparables". The main section is titled "Screen, Display & Export" and includes buttons for RECENT, SAVE, and RESET. A sub-section titled "Specify search criteria" contains a list of buttons: ADD TARGET DETAILS, ADD TRANSACTION DATA, ADD ACQUIRER DETAILS, ADD INCOME STATEMENT (highlighted with a black box), ADD BALANCE SHEET, ADD PURCHASE PRICE ALLOCATION, and ADD ADDITIONAL INFORMATION. To the right of this list is a "Target Type" dropdown menu set to "CONTAINS" and "All".



This screenshot shows the same DealStats interface, but with the search criteria section expanded. The search box now contains the text "EBITDA". A dropdown menu is visible below the search box, listing several fields: EBITDA FY+1, EBITDA, EBITDA FY-1, EBITDA FY-2, EBITDA FY-3, EBITDA FY-4, and EBITDAR. The "Target Type" dropdown menu remains set to "CONTAINS" and "All".

To remove any specified piece of criteria, click the trash can icon in the right corner of the criteria box.

The screenshot displays the DealStats web application interface. At the top, the BVR logo is on the left, and navigation links for DEAL & MARKET DATA, NEWS & RESEARCH, GUIDES & BOOKS, TRAINING, and VALUATION TOPICS are in the center. On the right, there are icons for user profile, shopping cart, and a currency selector set to USD. Below the navigation bar, the page title is "Private & Public Company Transaction Comparables". A blue header bar contains the text "Screen, Display & Export" and buttons for "RECENT", "SAVE", and "RESET". Below this, a sub-header bar includes tabs for "Quick Search", "Search", "Display", "Sort", "Download", "User References", and "User Activity". The main section is titled "Specify search criteria". On the left, there is a search bar labeled "Search available columns" and a list of buttons: "ADD TARGET DETAILS", "ADD TRANSACTION DATA", "ADD ACQUIRER DETAILS", "ADD INCOME STATEMENT", and "ADD BALANCE SHEET". On the right, there are two criteria boxes. The first box is titled "Target Type" and contains a dropdown menu set to "CONTAINS" and another dropdown set to "All". A red arrow points to a trash can icon in the top right corner of this box. The second box is titled "EBITDA" and contains a dropdown menu set to "SELECT CONDITION" and a text input field labeled "Enter value". A trash can icon is also present in the top right corner of this box.

DATA

After criteria have been selected in the “Quick Search” tab or “Search” tab (or both), transactions will begin to filter out and the remaining transactions that meet the specified criteria will be displayed below in a grid. The results in this grid are paginated. The default number of transactions displayed per page is 10, though a maximum of 100 transactions per page can be displayed. On the right, the total number of transactions and the total number of pages are displayed. A user can use the page navigation menu to advance pages or jump to a specified page.

Data

Statistics

Insights

Summary

Multiples

Equity

HIDE UNSELECTED

View 10

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Go to page

GO

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	SIC	NAICS	Target Type	Sale Date	Target Business Description	Net Sales	Operating Profit	EBITDA	SDE	MVIC Price	MVIC/Sales	MVIC/Discretionary Earnings	MVIC/EBITDA
<input checked="" type="checkbox"/>	Sea	Search	All		Search								
<input checked="" type="checkbox"/> 	7011	721110	Private	01/31/2021	Motel	\$242,136	\$47,262	\$115,927	\$175,297	\$80,000	0.33x	0.5x	0.7x
<input checked="" type="checkbox"/> 	5999	453910	Private	01/15/2021	Raw Pet Food Retail Store	\$706,896	\$65,998	\$67,519	\$69,919	\$165,000	0.23x	2.4x	2.4x
<input checked="" type="checkbox"/> 	7033	721211	Private	01/15/2021	Campground and RV park	\$238,000	\$97,906	\$105,153	\$105,153	\$485,000	2.04x	4.6x	4.6x
<input checked="" type="checkbox"/> 	1796	238220	Private	01/11/2021	Fire Sprinklers Installation	\$413,126	\$122,246	\$255,140	\$312,340	\$465,000	1.13x	1.5x	1.8x
<input checked="" type="checkbox"/> 	2834	325412	Private	01/08/2021	Develops Therapies for the Treatment of Cancers	\$5,214,101	(\$3,935,443)	(\$3,930,739)		\$85,726,000	16.44x		
<input checked="" type="checkbox"/> 	6531	531311	Private	01/06/2021	Property Management Company	\$447,126	\$32,842	\$44,107	\$131,372	\$300,000	0.67x	2.3x	6.8x

To open a transaction report for a specific deal, click the orange paper icon that appears in the row of that transaction report. To generate one file that contains all transactions that meet the specified criteria, click the orange paper icon that appears in the top-right box (in this example, the icon next to the "SIC" column heading). After opening a transaction report, or a batch of transaction reports, right click on the page and select "Print" to either print to PDF or paper.

Data

Statistics

Insights

Summary

Multiples

Equity

HIDE UNSE

View 10

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
Go to page

GO

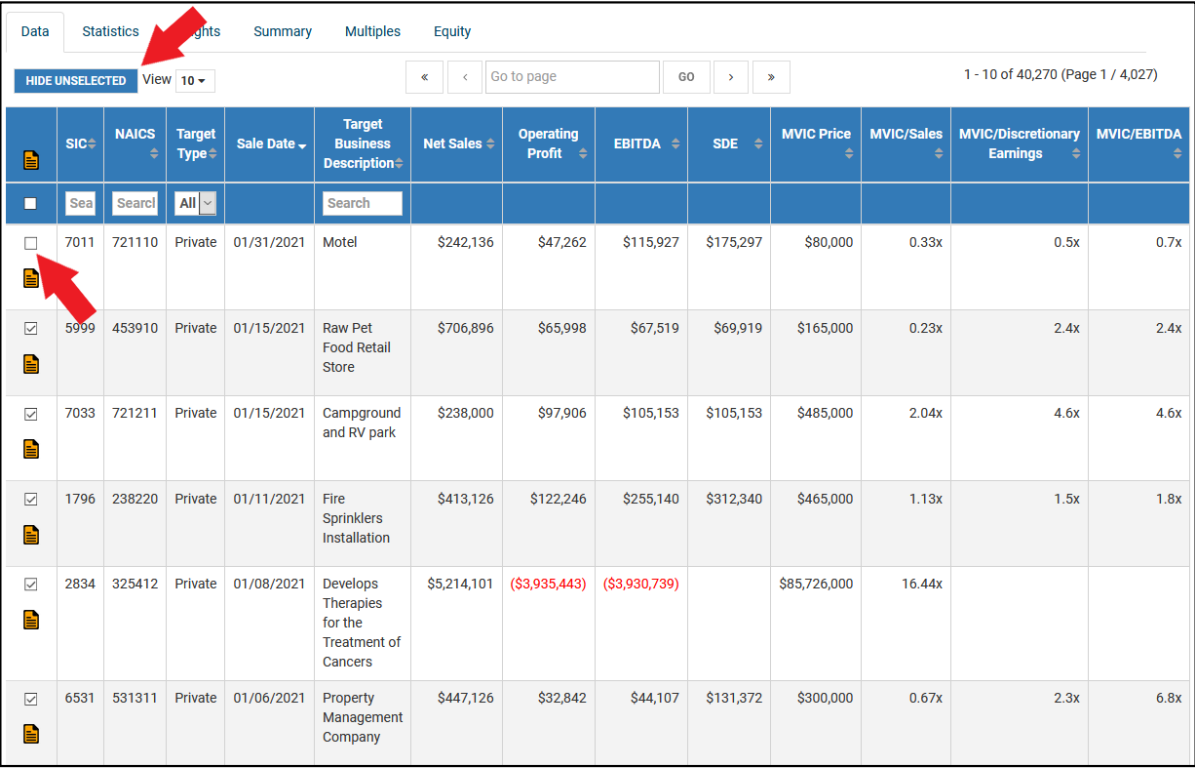
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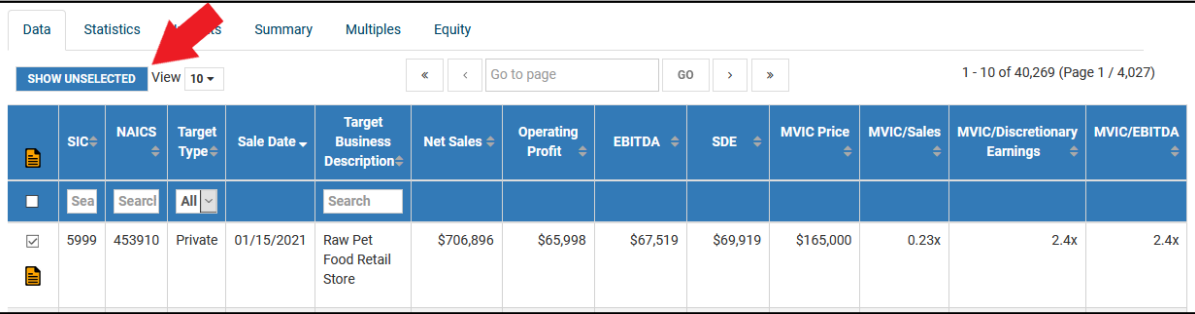
1 - 10 of 40,270 (Page 1 / 4,027)

	SIC	NAICS	Target Type	Sale Date	Target Business Description	Net Sales	Operating Profit	EBITDA	SDE	MVIC Price	MVIC/Sales	MVIC/Discretionary Earnings	MVIC/EBITDA	
<input checked="" type="checkbox"/>		Search	All		Search									
<input checked="" type="checkbox"/>		11	721110	Private	01/31/2021	Motel	\$242,136	\$47,262	\$115,927	\$175,297	\$80,000	0.33x	0.5x	0.7x
<input checked="" type="checkbox"/>		5999	453910	Private	01/15/2021	Raw Pet Food Retail Store	\$706,896	\$65,998	\$67,519	\$69,919	\$165,000	0.23x	2.4x	2.4x
<input checked="" type="checkbox"/>		7033	721211	Private	01/15/2021	Campground and RV park	\$238,000	\$97,906	\$105,153	\$105,153	\$485,000	2.04x	4.6x	4.6x
<input checked="" type="checkbox"/>		1796	238220	Private	01/11/2021	Fire Sprinklers Installation	\$413,126	\$122,246	\$255,140	\$312,340	\$465,000	1.13x	1.5x	1.8x
<input checked="" type="checkbox"/>		2834	325412	Private	01/08/2021	Develops Therapies for the Treatment of Cancers	\$5,214,101	(\$3,935,443)	(\$3,930,739)		\$85,726,000	16.44x		
<input checked="" type="checkbox"/>		6531	531311	Private	01/06/2021	Property Management Company	\$447,126	\$32,842	\$44,107	\$131,372	\$300,000	0.67x	2.3x	6.8x

On the “Data” tab, transactions can be removed by unchecking the corresponding box that appears in the row of each transaction. The unchecked transactions can be hidden by clicking on the “Hide Unselected” button. The button will then change to the “Show Unselected” option, where you can select to view the previously unselected transactions so they can be read later, if necessary. When the transactions are unchecked, regardless of whether the “Hide Selected” or “Show Unselected” options have been specified, the data from the unchecked transactions will not be included in any of the summary statistics and graphs that are created.



	SIC	NAICS	Target Type	Sale Date	Target Business Description	Net Sales	Operating Profit	EBITDA	SDE	MVIC Price	MVIC/Sales	MVIC/Discretionary Earnings	MVIC/EBITDA
<input type="checkbox"/>	7011	721110	Private	01/31/2021	Motel	\$242,136	\$47,262	\$115,927	\$175,297	\$80,000	0.33x	0.5x	0.7x
<input checked="" type="checkbox"/>	5999	453910	Private	01/15/2021	Raw Pet Food Retail Store	\$706,896	\$65,998	\$67,519	\$69,919	\$165,000	0.23x	2.4x	2.4x
<input checked="" type="checkbox"/>	7033	721211	Private	01/15/2021	Campground and RV park	\$238,000	\$97,906	\$105,153	\$105,153	\$485,000	2.04x	4.6x	4.6x
<input checked="" type="checkbox"/>	1796	238220	Private	01/11/2021	Fire Sprinklers Installation	\$413,126	\$122,246	\$255,140	\$312,340	\$465,000	1.13x	1.5x	1.8x
<input checked="" type="checkbox"/>	2834	325412	Private	01/08/2021	Develops Therapies for the Treatment of Cancers	\$5,214,101	(\$3,935,443)	(\$3,930,739)		\$85,726,000	16.44x		
<input checked="" type="checkbox"/>	6531	531311	Private	01/06/2021	Property Management Company	\$447,126	\$32,842	\$44,107	\$131,372	\$300,000	0.67x	2.3x	6.8x



	SIC	NAICS	Target Type	Sale Date	Target Business Description	Net Sales	Operating Profit	EBITDA	SDE	MVIC Price	MVIC/Sales	MVIC/Discretionary Earnings	MVIC/EBITDA
<input checked="" type="checkbox"/>	5999	453910	Private	01/15/2021	Raw Pet Food Retail Store	\$706,896	\$65,998	\$67,519	\$69,919	\$165,000	0.23x	2.4x	2.4x

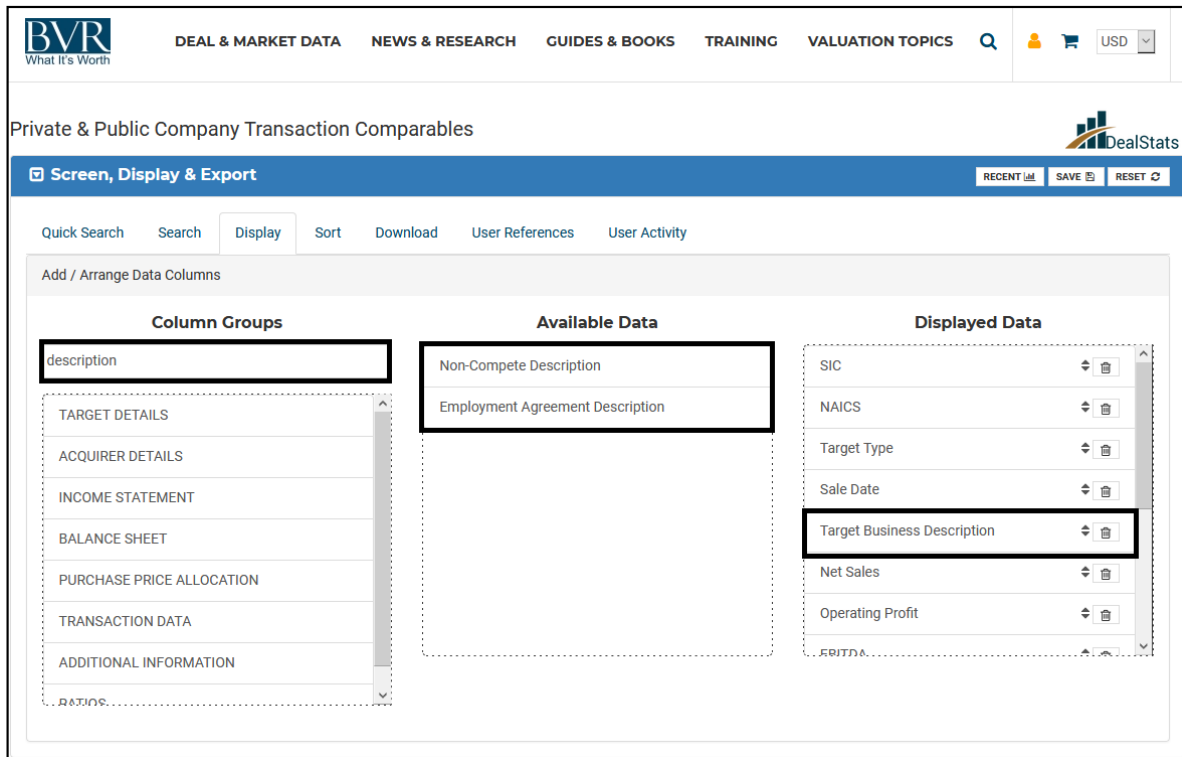
Also, the transactions the “Data” tab can be sorted by any of the displayed columns by clicking on the column header title (for example, clicking on “Sale Date” will sort by the “Sale Date” field). Clicking the column header title once will sort the transactions by that field in ascending ordering. Clicking the same column header a second time will then sort the transactions by that field in descending order.

DISPLAY

The “Display” tab allows users to select which fields (columns of data) appear in their display grid. First, click on an item under the “Column Groups” section on the left. In the middle, under the “Available Data” section, a list of available fields that correspond with the selected column group will appear. Now, any item from the “Available Data” list can be dragged over to the “Displayed Data” list on the right. The order of the fields can be changed by dragging and moving the fields in the “Displayed Data” list. The selected fields, and their order, will now be updated in the data grid that displays the transactions that have met the user’s search criteria. To remove a field, click on the trash can icon next to the field.

The screenshot shows the DealStats web application interface. At the top, there is a navigation bar with the BVR logo and various menu items: DEAL & MARKET DATA, NEWS & RESEARCH, GUIDES & BOOKS, TRAINING, and VALUATION TOPICS. A search icon and a currency selector (USD) are also present. Below the navigation bar, the page title is "Private & Public Company Transaction Comparables". The main content area has a blue header with the text "Screen, Display & Export" and buttons for "RECENT VIEW", "SAVE", and "RESET". Below this header, there are tabs for "Quick Search", "Search", "Display" (which is highlighted with a red box), "Sort", "Download", "User References", and "User Activity". The "Display" tab is active, showing a section titled "Add / Arrange Data Columns". This section is divided into three columns: "Column Groups", "Available Data", and "Displayed Data". The "Column Groups" column has a search bar and a list of categories: TARGET DETAILS, ACQUIRER DETAILS, INCOME STATEMENT, BALANCE SHEET, PURCHASE PRICE ALLOCATION, TRANSACTION DATA, and ADDITIONAL INFORMATION. The "Available Data" column is currently empty. The "Displayed Data" column contains a list of fields: SIC, NAICS, Target Type, Sale Date, Target Business Description, Net Sales, and Operating Profit. Each field in the "Displayed Data" column has a trash can icon next to it for removal.

A user can type a term into the text search field under “Column Groups” to identify all available fields that contain that term. In the example below, typing “description” displays the “Non-Compete Description” and “Employment Agreement Description” fields in the “Available Data” fields. Note that, because the “Target Business Description” field is already included under “Displayed Data,” it will not also appear in the “Available Data” list.



The screenshot displays the DealStats interface for "Private & Public Company Transaction Comparables". The top navigation bar includes links for DEAL & MARKET DATA, NEWS & RESEARCH, GUIDES & BOOKS, TRAINING, and VALUATION TOPICS. The main section is titled "Screen, Display & Export" and features tabs for Quick Search, Search, Display, Sort, Download, User References, and User Activity. The "Display" tab is active, showing a section for "Add / Arrange Data Columns". This section is divided into three columns: "Column Groups", "Available Data", and "Displayed Data". In the "Column Groups" column, a search bar contains the text "description". Below the search bar, a list of categories is shown, including TARGET DETAILS, ACQUIRER DETAILS, INCOME STATEMENT, BALANCE SHEET, PURCHASE PRICE ALLOCATION, TRANSACTION DATA, and ADDITIONAL INFORMATION. In the "Available Data" column, two fields are listed: "Non-Compete Description" and "Employment Agreement Description". In the "Displayed Data" column, a list of fields is shown, including SIC, NAICS, Target Type, Sale Date, Target Business Description, Net Sales, and Operating Profit. The "Target Business Description" field is highlighted with a red box, indicating it is already included in the displayed data and therefore not available for selection in the "Available Data" column.

The text search field also identifies calculations that utilize the specified term. Here, typing “sales” returns the fields that use “sales” in their calculation (e.g., the “Net Profit Margin” field is displayed in the “Available Data” list because the “Net Sales” field is used as the denominator: Net Income/Net Sales). Note that, because Net Sales is already included under “Displayed Data,” it will not also appear in the “Available Data” list.

The screenshot shows the DealStats web application interface. At the top, there is a navigation bar with the BVR logo and various menu items: DEAL & MARKET DATA, NEWS & RESEARCH, GUIDES & BOOKS, TRAINING, VALUATION TOPICS, a search icon, a user icon, a shopping cart icon, and a currency dropdown set to USD. Below the navigation bar, the page title is "Private & Public Company Transaction Comparables". A blue bar contains the text "Screen, Display & Export" and buttons for "RECENT", "SAVE", and "RESET". Below this bar, there are tabs for "Quick Search", "Search", "Display" (which is active), "Sort", "Download", "User References", and "User Activity". The main content area is titled "Add / Arrange Data Columns" and is divided into three panels: "Column Groups", "Available Data", and "Displayed Data". In the "Column Groups" panel, a search box contains the text "sales". Below the search box is a list of categories: TARGET DETAILS, ACQUIRER DETAILS, INCOME STATEMENT, BALANCE SHEET, PURCHASE PRICE ALLOCATION, TRANSACTION DATA, and ADDITIONAL INFORMATION. In the "Available Data" panel, a list of financial metrics is shown, including Net Sales FY-2, Net Sales FY-3, Net Sales FY-4, Rent/Sales, Sales Per Square Foot, Sales Growth FY+1, Sales Growth, and Sales Growth FY-1. The "Net Sales" field is highlighted with a red box. In the "Displayed Data" panel, a list of metrics is shown, including SIC, NAICS, Target Type, Sale Date, Target Business Description, Net Sales (highlighted with a red box), and Operating Profit.

SORT

The “Sort” tab allows users to conduct multifield sorts in the displayed data grid. Typing a term into the box under “Column Groups” will return all the fields that contain that term or utilize that field in a calculation. Categories under “Column Groups” can be selected, and the available fields will be displayed in the “Sortable Data” column. Fields available in the “Sortable Data” column can be dragged and moved over to the “Sorting Selection” column. Here, select the first field in the “Sorting Selection” column, then choose “ASC” for ascending, “DESC” for descending, or “Unsorted.” Then, select the next field and specify a sort. The fields in “Sorting Selection” can be dragged and moved to change their sort order.

The screenshot shows the DealStats web application interface. At the top, there is a navigation bar with the BVR logo and links for DEAL & MARKET DATA, NEWS & RESEARCH, GUIDES & BOOKS, TRAINING, and VALUATION TOPICS. A search icon and a currency dropdown (USD) are also present. Below the navigation bar, the page title is "Private & Public Company Transaction Comparables". The main content area has a blue header with the text "Screen, Display & Export" and buttons for "RECENT", "SAVE", and "RESET". Below this header, there are tabs for "Quick Search", "Search", "Display", "Sort" (which is highlighted with a black box), "Download", "User References", and "User Activity". The "Sort" tab is active, showing a "Sort Columns" section. This section is divided into three columns: "Column Groups", "Sortable Data", and "Sorting Selection". The "Column Groups" column has a search box and a list of categories: TARGET DETAILS, ACQUIRER DETAILS, INCOME STATEMENT, BALANCE SHEET, PURCHASE PRICE ALLOCATION, TRANSACTION DATA, ADDITIONAL INFORMATION, and RATIOS. The "Sortable Data" column lists fields: Transaction ID, Secondary SIC, Tertiary SIC, NAICS, Target Type, Secondary NAICS, Tertiary NAICS, and General SIC. The "Sorting Selection" column shows two fields: SIC and Sale Date, each with a dropdown arrow and a trash icon.

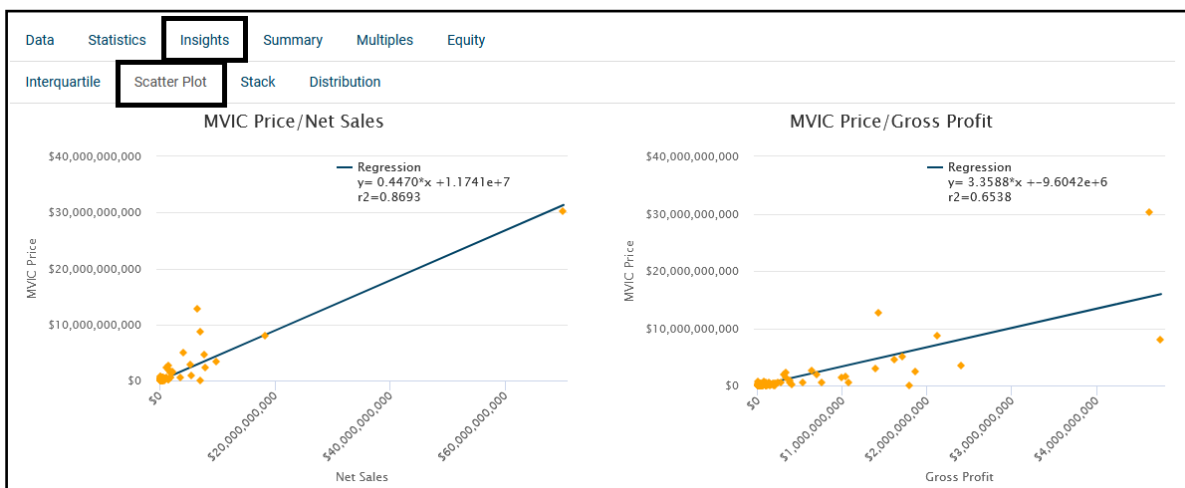
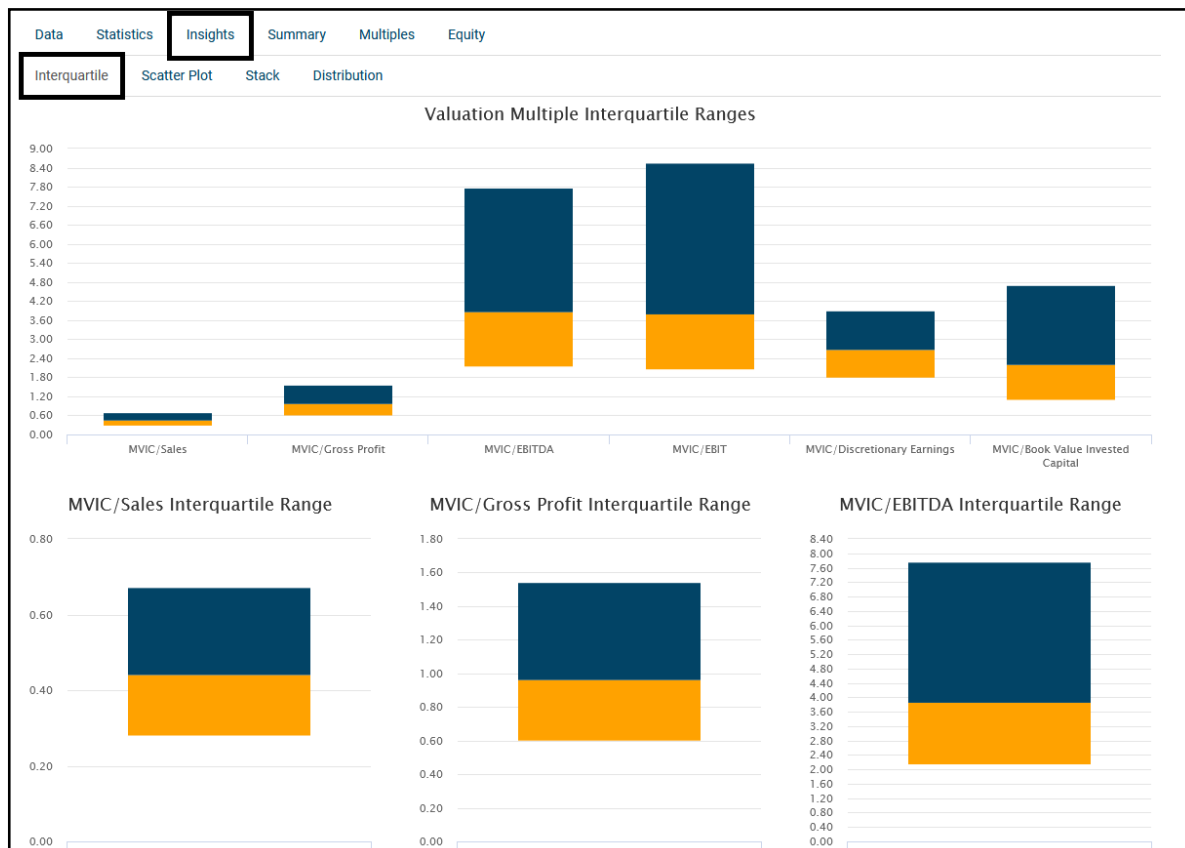
STATISTICS

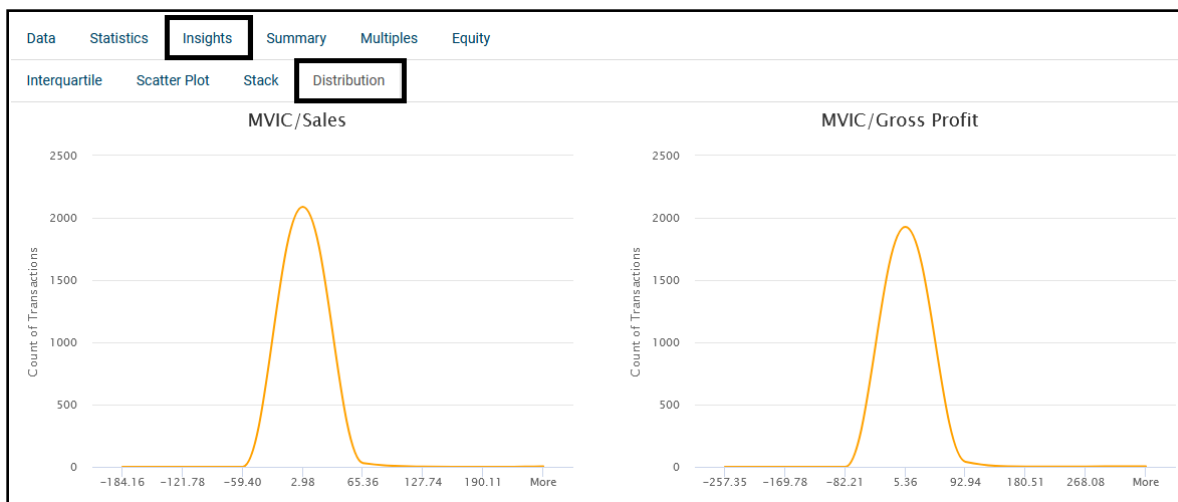
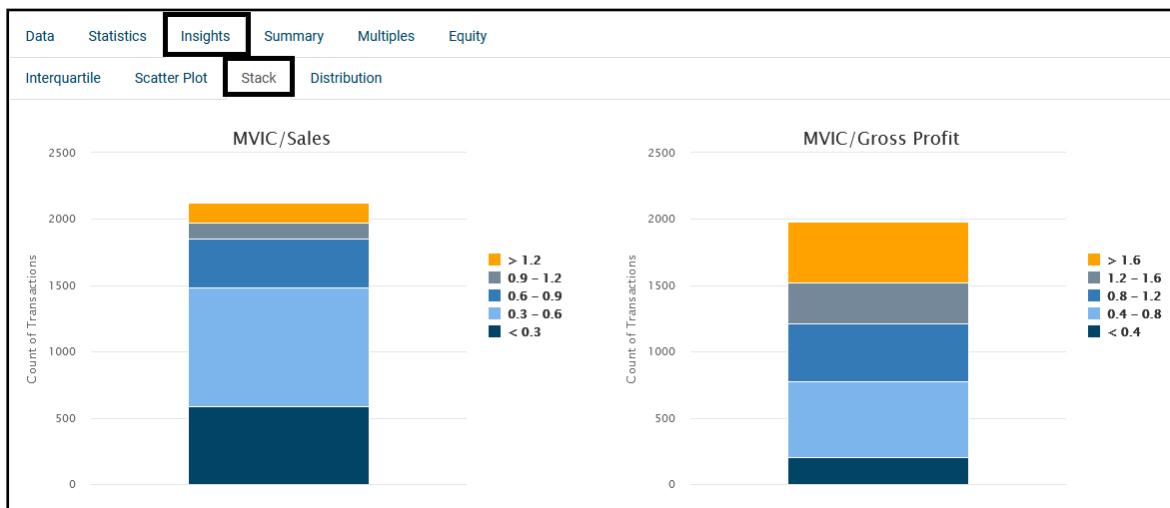
The “Statistics” tab presents all the summary statistics for the transactions that are displayed in the data grid of transactions (not including those transactions that have been unchecked). This includes the transactions that met all the user-selected criteria in the “Quick Search” and “Search” tabs.

Data Statistics Insights Summary Multiples Equity											
											COPY
Statistic	Count	Range	10th Percentile	25th Percentile	Median	75th Percentile	90th Percentile	H Mean	WH Mean	Mean	Coefficient of Variation
Sale Date	2,130	01/15/1993 – 01/15/2021									
Net Sales	2,130	\$0 – \$70,063,300,000	\$126,182	\$240,000	\$492,663	\$1,153,995	\$6,005,956			\$91,206,337	
MVIC Price	2,130	\$3,000 – \$30,200,000,000	\$50,000	\$92,166	\$200,000	\$550,000	\$3,597,813			\$52,512,344	
EBITDA	1,553	(\$170,173,000) – \$928,749,000	(\$9,640)	\$14,554	\$50,407	\$115,547	\$346,074			\$2,796,066	
Seller's Discretionary Earnings (SDE)	1,117	(\$181,000) – \$3,096,000	\$17,099	\$42,896	\$84,233	\$150,000	\$250,035			\$132,939	
Gross Profit Margin	1,981	(471.6%) – 100.0%	22.5%	33.0%	48.7%	62.1%	77.4%			49.1%	
SDE Margin	1,117	(39.8%) – 96.4%	4.5%	9.7%	16.0%	24.8%	34.5%			18.1%	
EBITDA Margin	1,549	(8,661.9%) – 93.3%	(1.8%)	3.0%	9.9%	18.9%	30.6%			(4.1%)	
Operating Profit Margin	2,078	(47,588.5%) – 93.3%	(2.6%)	2.0%	9.3%	19.4%	31.1%			(23.7%)	
Net Profit Margin	1,994	(49,984.6%) – 93.3%	(3.1%)	1.6%	8.8%	19.0%	31.1%			(26.7%)	
MVIC/Net Sales	2,126	0.00x – 2,566.66x	0.18x	0.28x	0.44x	0.67x	1.01x	0.00x	0.60x	2.98x	20.94
MVIC/Gross Profit	1,978	0.00x – 2,708.28x	0.39x	0.60x	0.96x	1.54x	2.36x	0.00x	3.00x	5.36x	16.33
MVIC/EBIT	1,739	0.1x – 2,647.5x	1.3x	2.1x	3.8x	8.5x	18.5x	2.6x	15.6x	16.6x	6.4
MVIC/EBITDA	1,325	0.2x – 6,111.1x	1.3x	2.1x	3.9x	7.7x	16.4x	2.7x	13.2x	19.8x	9.4
MVIC/SDE	1,071	0.2x – 433.9x	1.2x	1.8x	2.7x	3.9x	6.0x	2.1x	3.6x	4.5x	3.7
MVIC/Book Value of Invested Capital	511	0.0x – 7,354.4x	0.8x	1.1x	2.2x	4.7x	12.3x	0.0x	2.2x	28.8x	12.6

INSIGHTS

The “Insights” tab displays four different types of graphs: interquartile ranges (which display the 25th percentile, the median, and the 75th percentile), scatter plots, stacked bar charts, and distribution/frequency graphs. These graphs are created using the transactions that are displayed in the data grid of transactions (not including those transactions that have been unchecked). This includes the transactions that met all the user-selected criteria in the “Quick Search” and “Search” tabs.





SUMMARY

The “Summary” tab provides a summary of the user’s search criteria, as well as a summary of the valuation multiples, margins, and ratios from the group of transactions that met the user-selected criteria. In the top-right corner of the “Summary” tab, there is a button to “Copy” the available information. Clicking this button copies all of the information for the user. From there, the information can be pasted into the user’s valuation report or other document.

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COPY

DealStats contained 2130 selected transactions with the following criteria:

- SIC was among 5900, 5912, 5921, 5932, 5940, 5941, 5942, 5943, 5944, 5945, 5946, 5947, 5948, 5949, 5960, 5961, 5962, 5963, 5983, 5984, 5989, 5990, 5992, 5993, 5994, 5995, 5999
- Deselected transactions included 51297-1

This group of transactions displayed the following valuation multiples:

Valuation Multiple	Count	Median	H Mean	WH Mean	Mean
MVIC/Net Sales	2126	0.44x		0.60x	2.98x
MVIC/Gross Profit	1978	0.96x		3.00x	5.36x
MVIC/EBITDA	1325	3.8x	2.7x	13.2x	19.8x
MVIC/EBIT	1739	3.8x	2.6x	15.6x	16.6x
MVIC/Discretionary Earnings	1071	2.7x	2.1x	3.6x	4.5x
MVIC/Book Value of Invested Capital	511	2.2x		2.2x	28.8x

This group of transactions displayed the following ratios:

Profitability Ratios	Count	Median	Mean
Gross Profit Margin	1981	48.7%	49.1%
SDE Margin	1117	16.0%	18.1%
EBITDA Margin	1549	9.9%	(4.1%)
Operating Profit Margin	2078	9.3%	(23.7%)
Net Profit Margin	1994	8.8%	(26.7%)
Return on Assets	1060	16.6%	23.8%
Return on Equity	581	22.5%	78.4%

Liquidity Ratios	Count	Median	Mean
Current Ratio	454	1.85	5.33

MULTIPLES

The “Multiples” tab allows the user to enter information about their subject company and apply the DealStats multiples to that company. The multiples the user applies will come from those present on the “Statistics” tab, which contains the summary statistics for the user’s filtered transaction data set.

On the “Multiples” tab, the user can apply the multiples for the median, mean, harmonic mean, and other percentile measures from their selected data set. The first section allows the user to weight the results of the application of the multiples, while the second section allows the user to select percentages where the total contribution from each multiple is summed up.

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Below are two methods of calculating a value using the Weighted Multiples Application section or the Contribution Multiples Application section - with one section using weights, the other using percentages. The analyst can use one or the other or both in their analysis. On this page, the grey cells are input cells (fields that accept inputs from the analyst).

INSTRUCTIONS: Enter your subject company information in the "Subject Company Information" section. Leave any fields blank that you do not wish to use. Do not enter any financial information that is negative (if you do, it will not be considered). Enter dollar figures in whole numbers. Do not enter numbers in thousands or millions (example: for \$10 million, you would enter \$10,000,000). Next, select which type of valuation multiples you want to use from the "Select Statistical Measure to Use" section (example: "Median"). In the "Weighted Multiples Application" section, select your desired weights (the higher the number selected, the greater the weight given). Select "N/A" if you do not wish to use that valuation multiple. In the "Contribution Multiples Application" section, select your desired percentage to allocate towards the indicated value. Select "0%" if you do not wish to use that value.

Subject Company Information		Valuation Multiple	Count of Multiples	Coefficient of Variation
Net Sales	\$10,000,000	MVIC/Net Sales	80	0.76
Gross Profit	\$7,000,000	MVIC/Gross Profit	78	0.73
EBIT		MVIC/EBIT	71	0.96
EBITDA	\$500,000	MVIC/EBITDA	58	1.13
Discretionary Earnings	\$650,000	MVIC/SDE	41	0.83
Book Value of Invested Capital		MVIC/BVIC	22	0.86

Weighted Multiple Application				
Select Statistical Measure to Use	Valuation Multiple	Valuation Multiple	Select Weights	Value from Multiples
Median	MVIC/Net Sales	0.40	2	\$4,000,000
	MVIC/Gross Profit	0.79	1	\$5,495,000
	MVIC/EBIT	3.68	N/A	N/A
	MVIC/EBITDA	3.85	1	\$1,922,500
	MVIC/SDE	2.53	1	\$1,644,500

EQUITY

The “Equity” tab provides a general template when using stock sale and asset sale transactions. The provided template depicts the general application of asset sale and stock sale multiples from the DealStats database. Note that these are general examples and are based on the typical assumptions for asset and stock sales. A user should carefully review each transaction to see exactly what assets transferred and ensure that these templates should be used. These assumptions may be useful when no purchase price allocation is available and it cannot be determined exactly what assets transferred.

The values calculated from the “Multiples” tab are carried over to the “Equity” tab. Where relevant, the user can add back assets not included in the multiple, subtract liabilities not included in the multiple, and subtract debt to reach an equity value. The user can also calculate a pro-rate share for non-100% equity interests, apply a discount for lack of control, and apply a discount for lack of marketability.

Data
Statistics
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Multiples
Equity

Below is a general template to help assist the analyst in reaching a 100% equity value or an equity value less than 100%. This is a general template for asset sales and stock sales, and may not be representative of all asset and stock sales. Depending on your analysis, various fields may not be relevant to you. All grey cells are input cells. You may choose to enter \$0 into an input cell or "N/A" into a dropdown menu. Enter all numeric values as a positive number. Your values from the "Multiples" tab have been brought over.

Equity Value and Minority Interest Analysis			
Using Asset Sales		Using Stock Sales	
Value using Weighted Average	\$3,412,400	Value using Weighted Average	\$3,412,400
Value using Percentage Contributions	N/A	Value using Percentage Contributions	N/A
Selected Value	\$3,400,000	Selected Value	
+ Assets not included in the multiple	\$30,000	- Interest bearing debt	
- Liabilities and debt	\$120,000	+ Real estate	
+ Real estate	\$0	+ Non-operating assets	
+ Non-operating assets	\$0	- Non-operating Liabilities	
- Non-operating Liabilities	\$0		
= Indicated Value of Equity	\$3,310,000	= Indicated Value of Equity	
Pro Rata Interest?	20%	Pro Rata Interest?	
= Pro Rata Equity Value	\$662,000	= Pro Rata Equity Value	
Lack of control discount	25%	Lack of control discount	
Marketable Minority Value	\$496,500	Marketable Minority Value	
Lack of marketability discount	30%	Lack of marketability discount	
= Non-Marketable Minority Value	\$347,550	= Non-Marketable Minority Value	

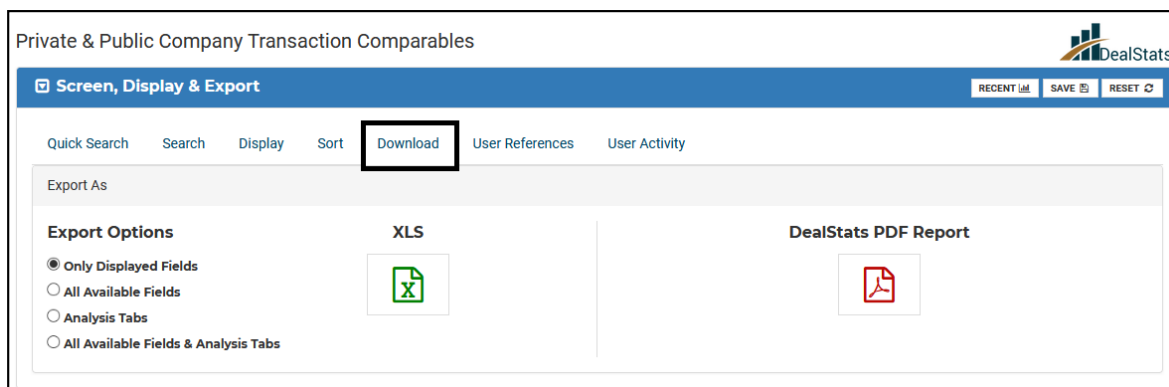
DOWNLOAD

The “Download” tab is used to export the data to Excel or PDF.

There are three Excel download options:

- *Only Displayed Fields*: This option only exports those columns that have been selected for the data grid (this grid can be altered to fit each user’s needs under the “Display” tab);
- *All Available Fields*: This option exports all fields associated with the user’s selected group of transactions; and
- *Analysis Tabs*: This option exports all the information from the “Statistics,” “Insights,” “Summary,” “Multiples,” and “Equity” tabs.

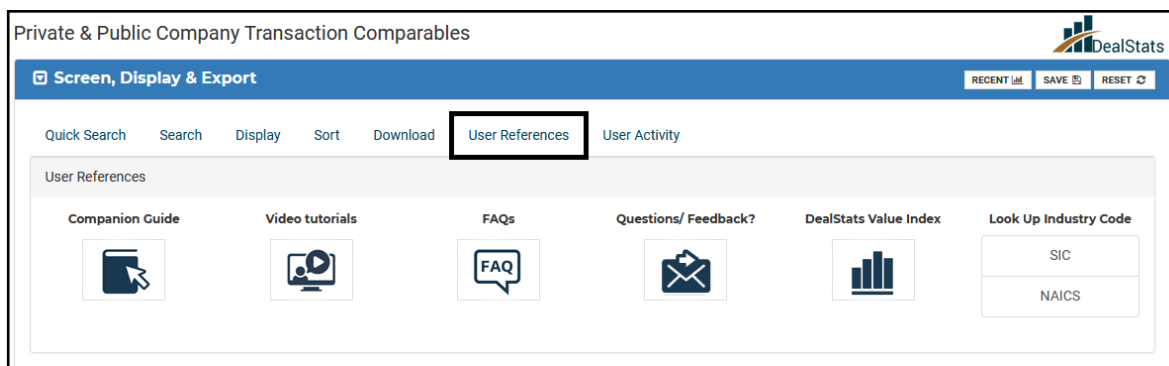
The “DealStats PDF Report” download option will generate a single PDF report that displays the user’s search criteria, the “Statistics” tab, as well as the displayed fields in the “Data” tab.



USER REFERENCES

The “User References” tab provides shortcuts to information users may find useful.

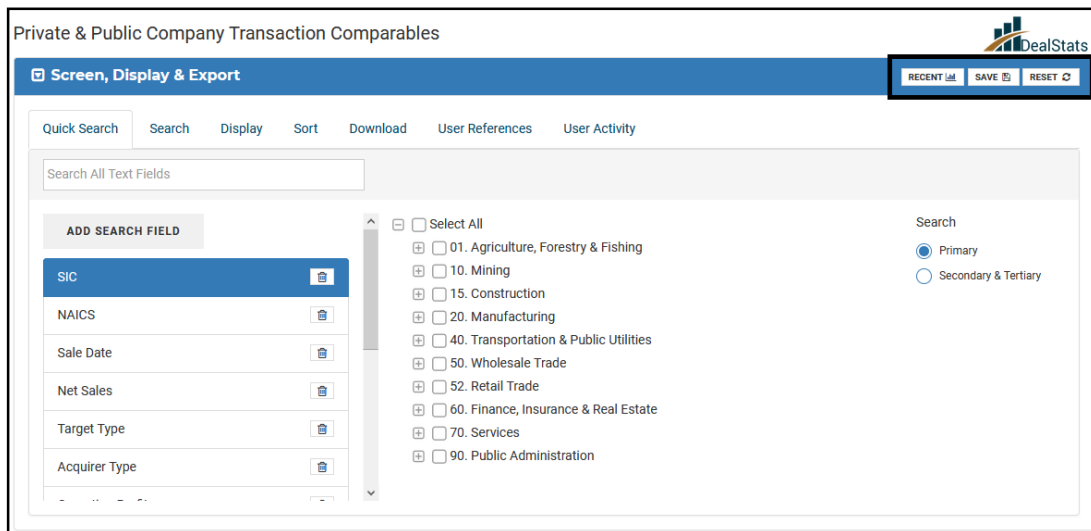
- *Companion Guide*: The *DealStats Companion Guide*, which can help with understanding different aspect of the DealStats data, including how it can be used.
- *Video tutorials*: DealStats provides a series of videos that can be helpful when learning how to navigate and use DealStats.
- *FAQ*: The FAQ page for DealStats is where you can find definitions of terms, formulas for calculations, and answers to frequently asked questions.
- *Questions/feedback*: Use this link to email BVR with any questions or feedback you have relating to DealStats.
- *DealStats Value Index*: The *DealStats Value Index* is a quarterly report that provides trend information on valuation multiples and profit margins for private-company transactions in DealStats. This link will provide the current *DealStats Value Index* report, as well as access to all historical reports.
- *Look Up Industry Code*: If you wish to search DealStats by a SIC or NAICS code but are not sure which code to use, this option allows you to look up a SIC code at the United States Department of Labor or a NAICS code at the United States Census Bureau using keyword searches.



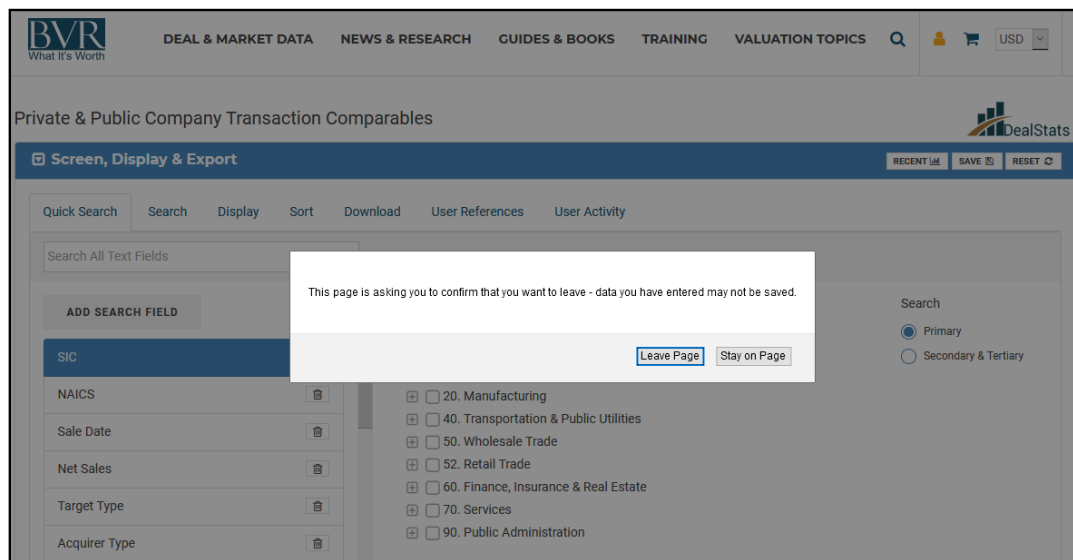
RECENT, SAVE, AND RESET

At the top-right corner of the screen, there are several options:

- **Recent:** This will take you to your previously saves (your search criteria, displayed fields, and any inputs);
- **Save:** This will save your current screen (your search criteria, displayed fields, and any inputs) so that you may revisit it later using the “Recent” option; and
- **Reset:** This will remove all specified search criteria and user selections and return DealStats back its default.



The “Reset” option removes all of the user’s selected criteria, returning DealStats to its initial state upon visiting the platform. Choosing this option brings up a prompt—selecting “Confirm” will reset all of the specified search criteria.



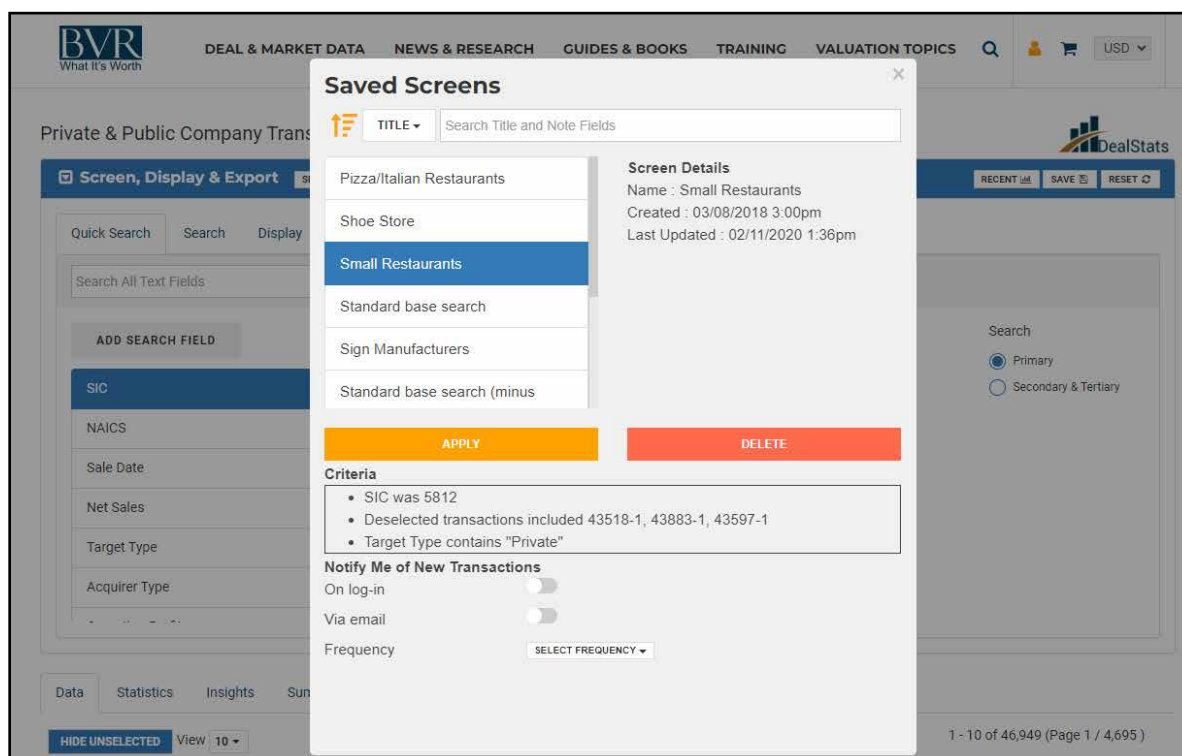
The “Save” option saves all of the user-specified criteria. There is an option to name the set of saved criteria (such as “Small Restaurants”), as well as a box to type any necessary notes that describe the criteria (such as “All transactions where the SIC code is 5812 and Net Sales were fewer than \$300,000”). When you select the “Save” option, as well as anytime that you return to your save, you have the option to be notified of any new transactions that meet your saved criteria. You can select how you are notified, either by email or when you login, and at what frequency.

The screenshot shows the BVR DealStats interface with a 'Save Screen' modal dialog box open. The dialog box contains the following fields and options:

- Save as:** A text input field labeled 'Enter Screen Name'.
- Notes:** A text input field labeled 'Enter Screen Notes'.
- Notify Me of New Transactions:** A section with two toggle switches: 'On log-in' and 'Via email', both currently turned off.
- Frequency:** A dropdown menu labeled 'SELECT FREQUENCY'.
- SAVE SCREEN:** A button at the bottom of the dialog.

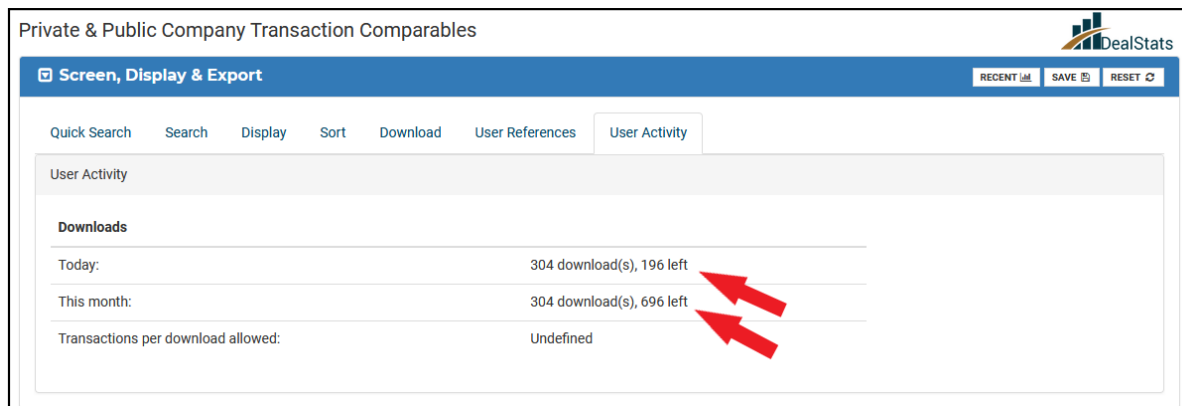
The background interface shows the 'Screen, Display & Export' section with a search bar and a list of search fields including SIC, NAICS, Sale Date, Net Sales, Target Type, and Acquirer Type. A 'DealStats' logo is visible in the top right corner of the background interface.

The “Recent” option is used to recall saved sets of screening criteria, displayed fields, and user inputs. Clicking on “Recent” will bring up all of the user’s saves along with any accompanying notes that were specified when saving. Choosing this option brings up a prompt that provides the option to “Apply” the saved screen or “Delete” the saved screen. Please note that deleting the saved screen will remove it from your “Recent” list—do not select “Delete” unless you intend to delete this saved screen.



USER ACTIVITY

The “User Activity” tab is where users can see their remaining downloads available for the day and for the month. In the image below, the user can see that he or she has downloaded 32 unique transactions from DealStats on the current day and that he or she has downloaded 856 unique transactions during the current month.



The screenshot shows the 'Private & Public Company Transaction Comparables' interface. The 'User Activity' tab is selected, displaying download statistics. Two red arrows point to the '196 left' and '696 left' values.

Downloads	
Today:	304 download(s), 196 left
This month:	304 download(s), 696 left
Transactions per download allowed:	Undefined

Please note that the User Activity download counts only apply to the “Only Displayed Fields” and “All Available Fields” Excel download options on the “Download” tab—there are no download limits on the “Analysis Tabs” or “DealStats PDF Report” download options.

Both subscribers and day pass purchasers receive access to the full DealStats platform, including unlimited searches, comparable company statistics, summarized results, transaction reports, PDF exports, and all current and historical issues of the DealStats *Value Index*.

Subscribers to the database are limited to 500 unique transactions that can be exported to Excel in a day and 1,000 unique transactions that can be exported to Excel in a month. Day pass purchasers are limited to 200 unique transactions that can be exported to Excel in a day.

Only unique exported transactions within a 24-hour period will be deducted from the daily limit, and only unique exported transactions during the month will be deducted from the monthly limit. In other words, once a particular transaction is exported to Excel, exporting that same transaction again during the 24-hour period will not count against the daily export total, and exporting that same transaction again any time during the month will not count against the monthly export total.

If you are a subscriber and would like to increase your daily and/or monthly export limits, there are several upgrade options. For more information, please contact us at 503-479-8200, ext. 2, or sales@bvresources.com.



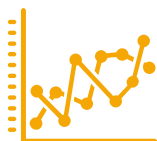
QUESTIONS?

The [DealStats FAQ page](#) provides answers to most frequently asked questions and is a great resource to learn more about DealStats. You can also email us at dataquestions@bvresources.com or call 503-479-8200.



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