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Reprint of Powerpoint Portion of Audio Webinar:
"Market Approach- The Guideline Transaction Method"
Presented on Behalf of the AICPA Forensic & Valuation
Services Group on September 14, 2011
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and
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Market Approach

The Guideline Transaction Method

(Also called "Merged and Acquired Company Method")

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What Are "Guideline Transactions?"

- **Acquisitions/sales of entire companies or divisions**
- **Companies in the same or similar industry as the subject company being valued**
- **Use information on the deal price and the financial metrics of acquired company (EBIT, EBITDA, annual revenues, etc.) to compute valuation multiples**

Advantages: Guideline Transaction Method

- **Simple to understand**

- **Uses actual market data**

- **Relatively simple to apply**

- **Includes value of all of a business's operating assets (usually)**

- **Does not rely on forecasts**

- **Can capture current market conditions, pricing versus theoretical income approach**

- **If lots of transactions may be able to ID trends driving multiples (will talk about techniques later)**

Disadvantages: Guideline Transaction Method

- Sometimes no good guideline transactions exist

- Most of the important assumptions are hidden- i.e., don't know details about the acquired company, all details of deal, etc.

- Not as flexible or adaptable as other approaches

- Reported financials of acquired companies do not usually have information needed to make income normalization adjustments

Other General Comments Regarding Method

- **Useful in case of contemplated sale/purchase**

- **Can apply in minority valuations, but have to discount for lack of control and marketability**

- **Sometimes difficult to determining whether transaction is truly comparable given limited information available in database**

- **Practice tip- if the name is available, find the website that once existed (of the acquired company) and use the Internet Wayback Machine to see the site when it was acquired to see what it did**

Information Sources

- **BIZCOMPS®**

- **DoneDeals®**

- **Institute of Business Appraisers (IBA) database**

- **MERGERSTAT®**

- *Pratt's Stats™ and Public Stats™*

- **The hard (but sometimes the best) way- search:**
  - Public companies filings with the SEC- Form 8Ks
  - Industry trade journals
  - Follow-up leads from management

Information Sources

- **IBA and BIZCOMPS® - relatively small companies**

- **IBA- considerably more transactions than BIZCOMPS®**

- **In Pratt's and Public Stats™, information provided for each transaction much more detailed than BIZCOMPS® or IBA databases**

- **DoneDeals® and MERGERSTAT data generally includes transactions where one of companies is/was publicly traded**

- ***Pratt's Stats*™ also includes some publicly traded transactions**

- **SEC Form 8Ks or 10Ks may be used to find additional information about these transactions, identify others the databases did not capture**

BIZCOMPS®

- **Jack Sanders, CBA, CBI in 1990**

- **www.bizcomps.com**

- **Over 12,000 transactions**

- **From business brokers and intermediaries**

- **Recent sales defined as within 10 years**

- **All are asset transactions**
    - Excludes cash, A/R, A/P, inventory
    - Inventory is disclosed
    - Value is of fixed assets and goodwill

BIZCOMPS®

- **Median selling price $160,000 (2007)**

- **82% with revenue less than $1 million**

BIZCOMPS®

- **SIC, NAICS codes**
- **Business description**
- **Asking price**
- **Gross sales**
- **SDE**
- **SDE/gross sales**
- **Sales date**
- **Sales price**
- **% down**

- **Terms**
- **Days on market**
- **Franchise royalty**
- **Inventory amount**
- **FF&E amount**
- **Rent % of revenue**
- **Area**
- **Price/SDE**
- **Price/Revenue**

BIZCOMPS®: Application of Multiples

- **Application of multiples results in value of fixed and intangible assets only**
  - No working capital
  - No assumed debt

- **To value equity of closely held company**
  - Apply multiples
  - Add/subtract working capital
  - Subtract any interest debt assumed
  - Add/subtract other assets and liabilities

Pratt's Stats™/Public Stats™

- **Business Valuation Resources**

- **www.BVMarketData.com**

- **Official database of the International Business Brokers Association**

- **Stock and asset deals**

- **From intermediaries and companies (Pratt's Stats™)**

- **From public company filings (Public Stats™)**

- **Between the two sources there are wide variety, from very small to large companies**

- **Publish periodic analyses of trends in multiples**

Pratt's Stats™

- SIC, NAICS code
- Type of company
- (C or S)
- Stock or asset sale
- Sale location
- Sale date
- Financial report date
- Business description
- Cash & equivalents

- Trade receivables
- Inventory
- Total current assets
- Fixed assets
- Other noncurrent assets
- Total assets
- Liabilities assumed
- Employment/consulting

Pratt's Stats™

- Non-compete value
- Net sales
- Gross profit
- Noncash charges
- Total operating expenses
- Operating profit
- ROA
- ROE

- Interest expense
- EBT
- Taxes
- Net income
- Discretionary earnings
- Equity price
- MVIC price

Pratt's Stats™

- **MVIC/net sales**

- **MVIC/EBITDA**

- **MVIC /EBIT**

- **MVIC/discretionary earnings**

- **MVIC/gross profit**

- **MVIC/book value of MVIC**

Pratt's Stats™

- **MVIC (Market Value of Invested Capital) = selling price**
  - Includes interest bearing debt assumed
  - Excludes real estate value and employment/consulting agreement
  - Includes non-compete value

- **MVIC = equity price + LT liabilities assumed (but what if a company has a lot of short term debt?)**

- **Discretionary earnings**
  - Net income + taxes + interest expense + one owners compensation + noncash charges

Pratt's Stats™

- **Are "comps" really comparable? Need to screen out those that aren't (true with all databases, not just Pratt's Stats™). Frequently find companies listed in NAICS/SIC code that are really in different businesses**

- **What multiple to use? Statistical tools can help (more later)**

- **Asset vs. stock deals?**

IBA Market Data Base

- **Institute of Business Appraisers: go-iba.org**
- **Available only to IBA members**
- **Largest known source of market transactions of small closely held businesses**
- **Compiled over the years from IBA members and other professionals**
- **Includes over 30,000 transactions in 775 SIC Codes**

IBA Data Breakdown*

Annual Sales	Share
$0 - $500,000	71%
$500,001 - $1,000,000	14%
$1,000,001 - $5,000,000	10%
$5,000,001 - $10,000,000	1%
> $10,000,000	1%

* Approximate

IBA Data and Definitions

Business Type	Principal line of business
SIC Code	Principal Standard Industrial Classification number applicable to the business sold
Annual Gross	Reported annual sales volume of the business sold
Annual Earnings	Reported annual earnings before owner's compensation, interest, and taxes
Owner's Comp.	Reported owner's compensation
Sale Price	Total reported consideration (i.e., cash, liabilities assumed, etc., excluding real estate)
Price/Gross	Ratio of total consideration to reported annual gross
Price/Earnings	Ratio of total consideration to reported annual earnings (SDCF)
Yr/Mo of Sale	Year and month during which the transaction was consummated

IBA

■ **What's this SDCF or SDE?**

- Earnings before interest expenses, income taxes, depreciation and amortization and owners' compensation

- Is this better than net income?

■ **Says SDCF multiples are of "only marginal utility"**

■ **IBA has published studies that show that the age of the transaction does not negate value of the transaction. Opinions could differ on this issue**

DoneDeals®

- **Started in 1996**

- **John Bailey – original creator**

- **Data from company financial reports filed with SEC (GAAP)**

- **New transactions input weekly**

- **All transactions from closed deals**

- **To be included either public buyer or public seller must be involved.**

- **Note- financials used to compute multiples not always annual- sometimes annualized interims**

DoneDeals® Data Components

- Closing Date

- SIC

- Price

- Buyer with address and telephone

- Executive handling the deal & contact info.

- Seller

- Seller Description

- Seller Type (stock, asset)

- Assets

- Stockholder's equity

- Revenue

- Net Income

- Cash flow (since 1996)

- EDITDA (since 2000)

- Price v. Assets

- Price v. stockholders' equity

- Price v. net income

- Price v. revenue

- Price v. cash flow

Transaction, Database, Method Issues

- **Often applied incorrectly**

- **Apply stock sales differently than asset sales**

- **Know how each database defines what is included/ excluded- don't combine the results of each database**

- **Need to know how the information is compiled**

- **Just because transaction is in database for the SIC/ NAICS code does not mean it is correctly categorized. Carefully check each transaction, description, etc.**

- **When is a transaction too old to be useful?**

Transaction, Database, Method Issues (cont.)

- **Do not apply marketability discount after applying multiples to subject company- already embedded in the reported price**

- **Fair market value vs. strategic/investment value**
  - Which do sales represent?
  - Too much nonsense made of this issue

- **Valuators hide behind the strategic value argument to dismiss transactions.**
  - If an industry is rapidly consolidating and there are lots of acquisitions by strategic buyers fair market value rises so that it and strategic value are one and the same

- **An isolated strategic transaction might be different!**

Transaction, Database, Method Issues (cont.)

- **Careful- same transactions sometimes appear in multiple databases**

- **Impacts of key factors on the multiples:**

  - size (e.g., annual revenues)

  - profit margins

  - age of transaction

  - can get results in spreadsheet and sort on above to attempt to uncover relationships

  - Statistical tools such as regression (more later) can sometimes provide answers given a large enough sample

Transaction, Database, Method Issues (cont.)

- Impact of growth of acquired companies on their multiples?

- The problem- the data available often only shows one year of results so growth is often unknown.

- Sometimes, if it is a public company that is acquired (or an acquisition of a private company by a public one) historic financials can be identified through SEC filings to examine growth and other attributes

Transaction, Database, Method Issues (cont.)

- **Watch out for distress transactions**

- **If valuing a profitable, financially sound company may want to throw out unprofitable acquired companies or ones with negative shareholders' equity, etc.**

- **Only use information on or before the valuation date**

- **Don't step past the valuation date and use transactions after that date. A buyer of a business cannot time travel- neither should you!**

Transaction, Database, Method Issues (cont.)

- **What if the value by the guideline transaction method is far higher or lower than by other methods?**

  - It could be the real market at that time! What we think it "ought to be" worth by the theoretical income approach may not be what people are actually willing to pay- even if we think it is crazy. Example- dotcom bubble

  - Are there other reasons that explain the difference? Unusual company specific factors at work?

  - Are the transactions really similar?

  - Is there an error?

Sample Size Considerations

- A larger group of transactions may reduce the importance of any single transaction

- Larger group reduces the effect of anomalies

- Having a larger group of transactions increases likelihood that more of subject's characteristics can be captured

- In a perfect world there are lots of transactions, but we often have what we have…

- Sometimes only one or several transactions are the most similar, so having a large sample size is not always used

Statistical Techniques in Multiple Selection-Measures of Relative Dispersion

- **The assumption- the less disperse the more reliable**
- **Coefficient of variation = Standard deviation of sample / mean of the sample**
- **Easy in Excel®:**
  - Use Stdev function to calculate the standard deviation of the variable (e.g., MVIC/revenue multiple)
  - Calculate the mean (avg.) of the variable
  - Divide standard deviation by the mean
- **Results:**
  - MVIC/Revenue multiple: coefficient of variation: 0.5
  - MVIC/EBIT multiple: coefficient of variation: 2.5
- **Which multiple might be better and why?**
- **Reliability of coeff. of var. depends on sample size!**

Statistical Techniques in Selecting Multiples: Regression Analysis

- **Your nightmare from college statistics class!**
- **Powerful technique enabling analyst to:**
  - test relationships between variables
  - determine if those relationships are statistically significant (i.e., other than by random chance).
- **Method attempts to fit a number of data points to a line to measure the relationship between a dependent variable and an independent variable**
- **Beware!**
  - relationships may appear strong, but that does not mean causality
  - use commonsense

Statistical Techniques in Selecting Multiples: Regression Analysis- An Example

- **Assignment- to value a retail liquor store**
- **BIZCOMPS®- after discarding non-useful transactions 103 are left**
  - 98 reported an price to SDE multiple
  - 103 reporting a price to revenue multiple
- **Median multiples**
  - price to revenues is 0.27
  - price to SDE is 2.39
- **Which multiple(s) is better and should be used?**
- **Use the regression function in the Excel® Analysis Toolpak to explore the issue. Simple to use**

Statistical Techniques in Selecting Multiples: Regression Analysis- An Example (cont)

- **$Y = a + bx$, where y is dependent variable, a is the slope intercept, and b is the independent variable**

- **Regression 1 test: Price paid = a + revenues x**

- **Regression 2 test: Price paid = a + SDE x**

- **Regression output**
  - look for high R square.
  - R square measures the amount of variation in y can be explained by variations in x

- **Relationship other than by random chance?**
  - Look at F significance, p values (same in one dependent variable model). If testing at 95% confidence level, the F statistic must <0.05 to say relationship is by other than chance

Statistical Techniques in Selecting Multiples-Regression Analysis- An Example (cont)

Summary Results, Price as Dependent Variable and Annual Revenues as Independent Variable

Regression Statistics	
Multiple R	0.9247421
R Square	0.8551479
Adjusted R Square	0.8537137
Standard Error	125.76843
Observations	103

ANOVA

	df	SS	MS	F	Significance F
Regression	1	9431504.914	9E+06	596.26	3.6197E-44
Residual	101	1597587.474	15818		
Total	102	11029092.39			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	69.957185	14.78193836	4.7326	7E-06	40.6337963	99.280574	40.633796	99.28057351
AnnualRevs ($000s)	0.2102865	0.008611771	24.418	4E-44	0.19320303	0.2273699	0.193203	0.227369906

- **R square- 85.5% of the variation in selling prices of the companies (y) can be explained by variations in their annual revenues (x).**

- **F significance is less than 0.05 so the relationship is not by chance.**

- **Does it make commonsense that the relationship would exist? Statistical significance alone does not necessarily mean x causes y!**

Statistical Techniques in Selecting Multiples- Regression Analysis- An Example (cont)

Summary Output- Regression of Price as Dependent Variable Versus SDE (Independent Variable)

Regression Statistics	
Multiple R	0.912236
R Square	0.832174
Adjusted R Square	0.830426
Standard Error	138.199
Observations	98

ANOVA

	df	SS	MS	F	Significance F
Regression	1	9091509.178	9091509	476.0212	5.5197E-39
Residual	96	1833500.169	19098.96		
Total	97	10925009.35			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-27.7457	19.58395693	-1.41676	0.159791	-66.6195343	11.128158	-66.6195343	11.12815829
SDE	2.804075	0.12852171	21.81791	5.52E-39	2.548961424	3.0591886	2.54896142	3.059188567

- **R square- 83.2% of variation in selling prices of the companies (y) can be explained by variations in their annual SDE (x).**

- **F significance is less than 0.05 so the relationship is not by chance.**

- **Does it make commonsense that the relationship would exist?**

What Does the Regression Data Tell Us?

- Both annual revenues and SDE are statistically significant in explaining the prices paid for liquor stores

- It could have been that one was not significant. Might then warrant throwing out that measure

- Very powerful way to uncover relationships and rely less on guesswork, median multiples, etc.

Might Use Regression Formula to Predict Company Value

■ **Based on annual SDE:**

$y = a + bx$

$y = (27.7) + 2.8\,x$

where y = Company value (in thousands)—This is the price we are trying to predict (before later adjustments)

x = annual SDE (in thousands)—This is the earnings before interest, taxes, depreciation and amortization, and owner compensation expense

a = slope intercept

■ **Based on annual revenues:**

$y = a + bx$

$y = 70.0 + 0.21\,x$

where y = Company value (in thousands)—This is the price we are trying to predict (before later adjustments)

x = annual SDE (in thousands)

a = slope intercept

Applying Regression Formula from BIZCOMPS® to Value the Subject Company

	SDE	Revenues
Applying Merger and Acquisition Data Regression Formula to Estimate Company 100% Control Value ($000s)		
Multiple applied (b)	2.8	0.21
Times: Company Result, Year 20XX	$200.0	$2,000.0
Equals:	$560.0	$420.0
Plus: Intercept (a)	-27.7	70.0
Equals: Preliminary Total Value of Invested Capital (TIC)	$532.3	$490.0
Adjustment for Assets/Liabilities Not Included Above (at 12/31/XX):		
Cash	$5.0	$5.0
Inventories	$550.0	$550.0
Less: Total Liabilities	($500.0)	($500.0)
Equals: 100% Control Value of Company Equity ($000s)	**$587.3**	**$545.0**

Final Comments on Regression Analysis

- **Highly simplified examples- other statistical tests could be done to further test the relationships.**
- **Some criticism of how Excel® does regression. More powerful alternatives, e.g., Minitab®, SPSS®**
- **Incredibly powerful:**
  - Testing relationships to make better DCF forecasts
  - Active-passive appreciation impacts on value in divorce valuations (chapter covers this in "The CCH Business Valuation Guide," expanded in the new edition)
  - Other aspects of business valuation
- **For more:**
  - *"A Second Course in Statistics: Regression Analysis,"* by William Mendenhall and Terry Sinich (Pearson Prentice Hall)

Concluding Comments

- **Used properly, the guideline transaction can be very useful and powerful**

- **What something sells for- where the rubber meets the road…**

- **Cross check to findings by other methods**

Questions

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