SECTION ONE
Questions

Chapter 1

Defining Market Multiples and Market Approach Methods

The essence of the market approach is the use of market value multiples. The multiples are taken from a number of sources, primarily guideline publicly traded companies or acquisitions of controlling interests in similar companies. They may also be taken from past transactions in the subject company, from buy-sell agreements, or from rules of thumb.

The market value multiples fall into two categories:

1. Equity multiples (generally meaning only common equity)
2. Invested capital multiples, meaning the value of all the invested capital, generally referred to as market value of invested capital (MVIC)

The introductory chapter in this book gives explanations of computation of the most widely used equity multiples and the most used invested capital multiples. However, the questions in this workbook chapter deal only with concepts. The actual computation problems are presented later in the workbook in the context of an illustrative case.

MULTIPLE CHOICE QUESTIONS

1. Which of the following is the most accurate statement about net cash flow?

    a. It is used primarily in the income approach.

    b. It is used primarily in the market approach.

    c. It is used about equally in the income and market approaches.

    d. It is used in both approaches, but more often in the market approach.

2. For which of the following time periods is it appropriate to use income variables in the market approach?

    I. Latest 12 months

    II. Latest fiscal year

    III. Average of some number of past years

IV. Weighted average of some number of past years

V. Expected results for the year ahead

a. I, III, IV, and V

b. I, II, III, and IV

c. I, III, and IV

d. Any of the above

3. Which of the following are included in the definition of invested capital?

I. Accounts payable

II. Current portion of long-term debt

III. Long-term debt

IV. Preferred stock

V. Common stock

VI. Retained earnings

a. All (I, II, III, IV, V, VI)

b. II, III, IV, V, and VI

c. III, IV, V, VI

d. III, IV, and V

4. All of the following are valid multiples in the market approach EXCEPT:

a. Equity price/pretax income

b. MVIC/EBITDA

c. MVIC/tangible book value of invested capital

d. MVIC/gross cash flow

5. When MVIC is the numerator in a market multiple, which of the following is an appropriate denominator?

a. Net income

b. Earnings before taxes

c. Earnings before taxes and depreciation

d. EBIT

6. Which of the following is the most valid multiple in the market approach?

   a. Equity price/sales

   b. MVIC/net income

   c. MVIC/sales

   d. Equity price/EBIT

7. Which of the following is the most accurate statement?

   a. All of the components of invested capital should be denominated at book value.

   b. The senior components of invested capital should be denominated at market value, but common equity should be at book value because market value is unknown.

   c. All of the components of invested capital should be denominated at market value.

   d. When using invested capital multiples, they may be calculated either on a total invested capital basis or on a per share basis.

8. Which of the following is the most appropriate statement about the theory and relevance of the market approach?

   a. It provides a more accurate indication of value than either the income approach or the asset approach.

   b. It uses observable factual evidence of actual sales of other properties to derive indications of value.

   c. The transaction method provides a more accurate indication of value than the guideline public company method.

   d. Market transactions provide more accurate evidence than it is possible to get with the income approach.

TRUE OR FALSE QUESTIONS

9. A market multiple is the result of dividing a numerator, which represents dollars of value, by a denominator, which usually represent dollars of a financial variable, but sometimes may be some physical fundamental, such as cases of beer sold or some measure of manufacturing capacity. True False

10. Unlike income data, for which an average of several past periods may be used, for balance sheet data, the balance sheet as close as possible to the valuation date should be used because averages of past asset data are meaningless for valuation purposes in most cases. True False

11. Market multiples and capitalization rates are the inverse of each other. True False

12. The subject company compares very closely with the guideline companies. The median price/earnings multiple for the guideline companies is 10. A very reliable forecast for next year's earnings for the subject company is $1.00 per share. Based on this information, the market approach results in an indication of value of $10.00 per share. True False

Chapter 2

The Guideline Public Company Method

The guideline publicly traded company method utilizes the day-to-day trading prices of publicly traded stocks as the numerator of the market valuation multiple in the equity procedure or the aggregate market value of the common equity plus the market values of senior securities in the invested capital procedure relative to some underlying company fundamental as the denominator. It has been used for decades and is referenced at several points in Revenue Ruling 59-60 (published in 1959).

MULTIPLE CHOICE QUESTIONS

1. Which of the following is NOT a strength of the guideline public company method?

   a. There is daily trading so that market prices can be observed as of the actual effective valuation date.

   b. There are public companies available in almost every SIC and size range.

   c. There is a great deal of analytical information published on most public companies, including projected earnings.

   d. SEC filings are available for all public companies, are verifiable, and generally are very reliable.

2. What is the minimum initial market capitalization (share price times number of shares publicly traded) for the American Stock Exchange?

   a. $3,000,000

   b. $5,000,000

   c. $8,000,000

   d. $10,000,000

3. About how many stocks, in total, were listed on the NYSE, AMEX, and NASDAQ combined as of the end of 2004?

   a. More than 12,000

   b. About 10,000

c. About 8,500

d. Less than 7,000

4. What level of value normally results from the guideline public company method?

   a. Control

   b. Minority marketable

   c. Restricted stock equivalent value

   d. Minority nonmarketable

TRUE OR FALSE QUESTIONS

5. Brokerage house reports are heavily oriented to the "sell side" and therefore have been known to contain some degree of negative bias. True False

6. In the guideline company method, the analyst normalizes the subject company data but not the guideline public company data because they are already normalized. True False

Chapter 3

The Guideline Merged and Acquired Company Method

The "transaction method" (merged and acquired company method) utilizes data from change-of-control transactions in both private and public companies. The usefulness of the transaction method has grown immensely in recent years due to the dramatic increase in available data to implement it, especially with the decline in the number of actively traded public companies, as we saw in the last chapter.

MULTIPLE CHOICE QUESTIONS

1. What level of value normally results from the transaction method?

   a. Control

   b. Minority marketable

   c. Restricted stock equivalent value

   d. Minority nonmarketable

2. An advantage of the transaction method is:

   a. There are many industry groups for which private company transactions are available but for which there are no public companies.

   b. In most cases the specific underlying data are verifiable.

   c. When valuing a controlling interest, neither a control premium nor a minority discount is applicable.

   d. a and c above.

3. Collectively (including all the databases that collect private company transaction data) about how many private transactions are being added to the databases each year?

   a. Under 2,000

   b. 2,000 to 5,000

c. 5,000 to 10,000

d. Over 10,000

4. When a public company acquires a private company that amounts to 10% or more of the value of the public company, on which of the following forms is the transaction reported to the SEC?

   a. 10-K

   b. 10-Q

   c. 8-K

   d. None of the above

5. Which of the following is the approximate number of public company transactions that involve mergers, acquisitions, or going private each year?

   a. Under 1,000

   b. 1,000 to 1,500

   c. 1,500 to 2,000

   d. Over 2,000

6. Which database is a primary source of sales of public companies?

   a. The IBA database

   b. *BIZCOMPS®*

   c. *Mergerstat®Shannon Pratt's Control Premium Study*™

   d. a and c above

7. All of the following are correct statements about the difference between the guideline public company method and the transaction method EXCEPT:

   a. With the guideline public company method, transactions are usually available as of the valuation date, whereas with the merged and acquired company method, transactions are not generally available as of the valuation date.

   b. Guideline public company transactions are minority transactions, whereas transactions in the merged and acquired company method are control transactions.

   c. Public company data are available for hundreds more industry codes than for merged and acquired companies.

d. Forecasts of earnings are generally available for publicly traded companies but not for merged and acquired companies.

8. Which of the following is a correct statement about the guideline merger and acquisition method?

   a. It may be done on an invested capital basis, on an equity basis, or both.

   b. It may be done on either an invested capital basis or an equity basis, but not both for the same valuation assignment.

   c. It may be done on an invested capital basis but not on an equity basis.

   d. It may be done on an equity basis but not on an invested capital basis.

TRUE OR FALSE QUESTIONS

9. Fair market value reflects terms of sale that are common in the industry. True False

10. The *Pratt's Stats*™ database has separate sections for sales of private companies and sales of public companies, but both can be used in the transaction method. True False

11. If a public company issues shares of its restricted stock in an acquisition, then the public trading price of the stock at the acquisition date should be multiplied by the number of shares to compute a cash equivalent value. True False

12. The transaction method may be carried out on either an equity basis or an invested capital basis, or both, but when there are no senior securities, the equity equals the invested capital. True False

Chapter 4

Other Market Methods

Several methods besides the two primary ones (publicly traded guideline company and transaction methods) are also classified under the market approach. This chapter addresses those other methods.

MULTIPLE CHOICE QUESTIONS

1. All of the following characteristics of a buy-sell agreement are necessary for it to be binding for estate tax purposes EXCEPT:

   a. The agreement is binding during life as well as death.

   b. It must provide for a difference in value at death as compared to a value at the time of a voluntary withdrawal from the company while living.

   c. The agreement creates a determinable value as of a specifically determinable date.

   d. The terms must be considered acceptable to an arm's-length party at the time of the agreement.

2. Which, if any, of the following are NOT considered among the methods subsumed under the market approach?

   a. Past transactions involving the subject company, either control or minority

   b. Bona fide offers to buy

   c. Buy-sell agreements

   d. All of the above are subsumed under the market approach.

TRUE OR FALSE QUESTIONS

3. The basic procedure for handling a past control transaction that was on an arm's-length basis is the same as any other merged and acquired company transaction. True False

4. When considering using past minority transactions in the market approach, it is important to do enough research to make a judgment as to whether they were conducted on an arm's-length basis between knowledgeable buyers and sellers. True False

5. Offers to buy can be considered probative of value if they are firm, arm's length, with sufficient detail to estimate a cash equivalent value, and from a source with the financial ability to consummate the offer. True False

6. A good source for rules of thumb is Tom West's annual *Business Reference Guide*, in which the rules-of-thumb section has expanded every year in recent years. True False

Chapter 5

Finding Public Company Market Transaction Data

Public company market data are plentiful and are available from a wide variety of sources, some reasonably priced and some very expensive. The analyst should have a working knowledge of at least the major of these sources and of some of the strengths, weaknesses, and content of each.

MULTIPLE CHOICE QUESTIONS

1. The EDGAR system is sponsored by whom?

   a. SEC

   b. NASDAQ

   c. FASB

   d. None of the above

2. With EDGAR Online Pro, peer comparisons can be made:

   a. Since the companies started filing

   b. Up to 10 years

   c. Up to five years

   d. The latest two years

3. The *Directory of Companies Required to File Annual Reports with the SEC* is published by whom?

   a. Commerce Clearing House

   b. Walker's Manuals

   c. The Government Printing Office

   d. Compustat

4. What is the primary source for publicly registered limited partnership data?

   a. Standard and Poor's

   b. Moody's

   c. NASDAQ

   d. Partnership Profiles

5. What is the most accurate statement about the market in which family limited partnerships (FLPs) trade?

   a. On the NASDAQ national market

   b. On the NASDAQ small-cap market

   c. OTC through a large network of brokerage firms

   d. OTC through a small number of brokerage firms

TRUE OR FALSE QUESTIONS

6. If a public company reports to the SEC, all services using SEC data report the company under the same SIC code. True False

7. *Standard & Poor's Corporation Records* is the most comprehensive source of financial data for nonreporting public companies. True False

8. Secondary sources for SEC reporting companies are available both on CD-ROM and online. True False

Chapter 6

Finding Merger and Acquisition Market Data

Sources of transaction data on mergers and acquisitions have increased significantly in recent years, making the transaction method a much more viable method within the market approach. Transaction data are now available for companies of all sizes, from under \$100,000 to over \$1 billion.

The analyst must be able to find these data to do a comprehensive job of valuation. The good news is that most of the sources (except Securities Data) are relatively inexpensive. More and more court cases these days are relying on the transaction method.

MULTIPLE CHOICE QUESTIONS

1. What is one of the most comprehensive sources of merger and acquisition data for large companies?

    a. Compustat

    b. Securities Data Corporation

    c. Practitioners Publishing Company

    d. Commerce Clearing House

2. About how many transactions were available at *BVMarketData.com* as of early 2005?

    a. More than 25,000

    b. About 18,000

    c. About 15,000

    d. Less than 12,000

3. Which of the following databases collects data only from SEC filings?

    a. *Pratt's Stats*™ *Public Companies*, *Done Deals*, and *Mergerstat®/Shannon Pratt's Control Premium Study*™

    b. *Pratt's Stats*™ *Public Companies* and *Mergerstat®/Shannon Pratt's Control Premium Study*™

c. *Done Deals* and *Pratt's Stats™ Public Companies*

d. *Done Deals* and *Mergerstat®/Shannon Pratt's Control Premium Study™*

4. When a private company sells out to a public company, which of the following databases capture that transaction?

   a. *Pratt's Stats™ Private Companies* and *Mergerstat®/Shannon Pratt's Control Premium Study™*

   b. *Pratt's Stats™ Private Companies* and *Done Deals*

   c. *Pratt's Stats™ Public Companies* and i

   d. i and *Mergerstat®/Shannon Pratt's Control Premium Study™*

5. Which of the following has the smallest companies on average?

   a. IBA Database

   b. *BIZCOMPS®*

   c. *Done Deals*

   d. *Pratt's Stats™ Private Companies*

6. Which of the following is the official database of the International Business Brokers Association?

   a. IBA Database

   b. *BIZCOMPS®*

   c. *Pratt's Stats™ Private Companies*

   d. *Done Deals*

7. Which of the following has the most data points per transaction?

   a. *BIZCOMPS®*

   b. *Done Deals*

   c. *Pratt's Stats™ Private Companies*

   d. *Mergerstat®/Shannon Pratt's Control Premium Study™*

8. Which database contains the largest number of transactions?

   a. IBA Database

   b. *BIZCOMPS®*

c. *Pratt's Stats*™ *Private Companies*

d. *Done Deals*

9. Which of the following has footnotes describing both noncompetition agreements and employment agreements?

   a. *BIZCOMPS*®

   b. *Pratt's Stats*™ *Private Companies*

   c. *Done Deals*

   d. *Mergerstat*®*/Shannon Pratt's Control Premium Study*™

10. Which of the following is a correct statement as to the content of the databases in terms of stock versus asset sales?

    a. *BIZCOMPS*®: both stock and asset

       Pratt's Stats™ *Private Companies*: both stock and asset

       Mergerstat®*/Shannon Pratt's Control Premium Study*™: stock only

    b. *BIZCOMPS*®: stock only

       Pratt's Stats™ *Private Companies*: asset only

       Mergerstat®*/Shannon Pratt's Control Premium Study*™: asset only

    c. *BIZCOMPS*®: asset only

       Pratt's Stats™ *Private Companies*: both stock and asset

       Mergerstat®*/Shannon Pratt's Control Premium Study*™: both stock and asset

    d. *BIZCOMPS*®: asset only

       Pratt's Stats™ *Private Companies*: both stock and asset

       Mergerstat®*/Shannon Pratt's Control Premium Study*™: stock only

11. Which of the following focuses primarily on takeovers of public companies and public companies going private?

    a. Compustat

    b. *Mergerstat*®*/Shannon Pratt's Control Premium Study*™

    c. *Pratt's Stats*™

    d. Commerce Clearing House

12. Which of the following publishes the most market multiples?

    a. *Mergerstat®/Shannon Pratt's Control Premium Study™*

    b. *Done Deals*

    c. *Pratt's Stats™*

    d. *BIZCOMPS®*

Chapter 7

Adjusting Financial Statements

Financial statements should be adjusted for comparable accounting and to be representative of ongoing operations. After making appropriate adjustments to the subject and/or guideline company financial statements, meaningful comparisons can be made, and ratios and market multiples can be computed.

MULTIPLE CHOICE QUESTIONS

1. When analyzing guideline public companies, which of the following adjustments would one be UNLIKELY to make?

   a. Adjust owner's compensation

   b. Adjust FIFO inventory to LIFO

   c. Eliminate nonrecurring items of income and expense

   d. a and b above

2. All of the following may be the basis for adjustments to the financial statements for accounting comparability EXCEPT:

   a. Cash versus actual accounting

   b. Inventory accounting

   c. Intangibles accounting

   d. All of the above may be the basis for adjustments to the financial statements for accounting comparability.

3. When using which of the following market value multiples are adjustments to the financial statements LEAST relevant?

   a. Price/earnings

   b. MVIC/EBIT

   c. MVIC/revenue

   d. Price/gross cash flow

4. Which of the following is the most accurate statement with respect to adjusting the financial statements of pass-through entities such as S corporations?

   a. Earnings should be tax-affected for pass-through entities to put them on a comparable basis with C corporations.

   b. Earnings should not be tax-affected for pass-through entities because they pay no tax at the entity level.

   c. At least for minority interests, each case is fact-driven depending on the facts and circumstances of the case.

   d. There is no guidance available about tax-affecting the earnings of S corporations.

5. Which of the following is a correct statement about financial statement adjustments in the guideline public company method?

   a. Neither the subject company's nor the guideline company's statements should be adjusted for either nonoperating items or accounting changes.

   b. The subject company statements should be adjusted for nonoperating items but the guideline public company statements should not be.

   c. The subject company statements should be adjusted for accounting changes but the guideline public company statements should not be.

   d. Both the subject company and guideline public company statements should be adjusted for both nonoperating items and changes in accounting policies.

TRUE OR FALSE QUESTIONS

6. If using guideline public companies, the analyst usually collects statements for the past five years, but when using private company guideline companies in the transaction method, the analyst usually uses only the latest year's statements. True False

7. The consensus among most analysts is that guideline company data as of the valuation date should be used for comparative purposes even though these data were not published as of the valuation date. True False

8. In deciding how to treat nonoperating assets, excess assets, and asset deficiencies, the treatment may be different depending on whether a minority or a controlling interest is being valued. True False

9. The analyst should adjust for gains or losses on a sale of assets only if the accountants classify them as "extraordinary" on a GAAP basis. True False

Chapter 8

Comparative Financial Analysis

One of the most important tasks in implementing the market approach is deciding where in the range of valuation multiples observed for the guideline companies the multiple to apply to the subject company's fundamentals should fall. Comparative financial analysis can identify strengths and weaknesses of the subject company relative to guideline companies and industry norms to provide some guidance to the analyst as to where the multiple applied to the subject company's fundamentals should fall.

This chapter of the workbook has questions primarily about data sources. Computations of the ratios themselves are presented later in conjunction with a case study.

MULTIPLE CHOICE QUESTIONS

1. Which of the following is the most accurate statement about the impact of the results of comparative financial analysis on the selection of market multiples from among those for the guideline companies?

   a. The higher the indicated growth and the lower the indicated risk, the higher the multiple.

   b. The higher the indicated growth and the higher the indicated risk, the higher the multiple.

   c. The lower the indicated growth and the lower the indicated risk, the higher the multiple.

   d. The lower the indicated growth and the higher the indicated risk, the higher the multiple.

2. Which of the following is an accurate statement about common size statements?

   a. On the balance sheet, all line items are expressed as a percent of equity, and on the income statement, all line items are expressed as a percent of sales.

   b. On the balance sheet, all line items are expressed as a percent of total assets, and on the income statement, all line items are expressed as a percent of sales.

   c. On the balance sheet, all line items are expressed as a percent of assets, and on the income statement, all line items are expressed as a percent of operating profit.

   d. On the balance sheet, all line items are expressed as a percent of equity, and on the income statement, all line items are expressed as a percent of operating profit.

3. From what source does Risk Management Association collect its data for its *Annual Statement Studies*?

    a. Banks and thrift institutions

    b. CPA firms

    c. SEC filings

    d. *Statistics of Income* (*SOI*) compiled from tax returns

4. What is the source of the data compiled by *Financial Studies of the Small Business*?

    a. Banks and thrift institutions

    b. CPA firms

    c. SEC filings

    d. *Statistics of Income* (*SOI*) compiled from tax returns

5. What is the source of the data compiled by the *Almanac of Business and Industrial Financial Ratios*?

    a. Banks and thrift institutions

    b. CPA firms

    c. SEC filings

    d. *Statistics of Income* (*SOI*) compiled from tax returns

6. Which of the following is a correct statement?

    a. *RMA Annual Statement Studies* has the most SIC codes, and the *Almanac of Business and Industrial Financial Ratios* has the most size breakdowns.

    b. The *Almanac of Business and Industrial Financial Ratios* has the most SIC codes, and the *RMA Annual Statement Studies* has the most size breakdowns.

    c. *RMA Annual Statement Studies* has both the most SIC codes and the most size breakdowns.

    d. The *Almanac of Business and Industrial Financial Ratios* has both the most SIC codes and the most size breakdowns.

7. Which of the following does NOT contain data on sales of privately held companies?

    a. *BIZCOMPS®*

    b. *Done Deals*

    c. *Pratt's Stats*™

    d. *Mergerstat®/Shannon Pratt's Control Premium Study*™

Chapter 9

Compiling Useful Market Value Tables

Once the financial statements have been analyzed and adjusted as necessary for the subject and guideline companies, and the comparative trend and ratio analysis has been completed, it is time to do the most important step: compile the market valuation tables. This is where multiples observed in the guideline companies or transactions are applied to the counterpart fundamentals of the subject company to get indications of the possible value of the subject.

This is the step in which the analyst's experience and judgment are critically challenged. The analyst must:

1. Decide which multiples are applicable.
2. Decide where within (or even outside of) the range of observed multiples the subject company should fall.
3. Decide what weight should be accorded to each of the indicated values so derived.

This chapter in the workbook poses certain questions about the creation of meaningful market value tables. The actual creation of the tables is part of the subject of the case study presented later in the workbook.

MULTIPLE CHOICE QUESTIONS

1. Which of the following is the LEAST likely to appear on guideline public company comparative income statements?

   a. Gross margin

   b. Noncash charges (depreciation, etc.)

   c. Selling, general, and administrative expenses

   d. Owners' compensation

2. Which of the following measures of dispersion gives the best comparison when choosing among market multiples such as price/earnings and price/sales?

   a. Range

   b. Standard deviation

  c. Coefficient of variation

  d. Harmonic mean

3. The coefficient of variation is:

  a. The mean divided by the standard deviation

  b. The standard deviation divided by the mean

  c. The median divided by the standard deviation

  d. The standard deviation divided by the median

4. What is the most widely used invested capital multiple?

  a. MVIC/EBITDA

  b. MVIC/EBIT

  c. MVIC/DFNI (debt-free net income)

  d. MVIC/book value of invested capital

5. For smaller companies (say, under $1 million value), which of the following multiples are most frequently used?

  a. MVIC/sales and MVIC/discretionary earnings

  b. MVIC/sales and MVIC/EBITDA

  c. MVIC/EBITDA and MVIC/discretionary earnings

  d. MVIC/sales and MVIC/DFCF (debt-free cash flow)

TRUE OR FALSE QUESTIONS

6. A low coefficient of variation is a good criterion to select which market multiples to use or to accord the most weight. True False

7. The invested capital procedure tends to be favored over the equity procedure when valuing controlling interests because of the controlling owner's ability to directly impact the capital structure. True False

Chapter 10

Selecting, Weighting, and Adjusting Market Value Multiples

The analyst's expertise really comes into play at the stage of selecting, adjusting, and assigning relative weights to various market multiples that lead to various indications of value. Although as much objective data as possible should be used, the final decisions are necessarily somewhat subjective.

MULTIPLE CHOICE QUESTIONS

1. In selecting multiples from a range based on either the guideline public company or the transaction method, which of the following considerations is important?

   I. Inventory turnover

   II. Dispersion of multiples in the range

   III. Relative expected growth

   IV. Relative size

      a. I, II, and III

      b. II, III, and IV

      c. I, III, and IV

      d. III and IV

2. For which type of company would the price/sales multiple be most likely to be accorded the most weight?

   a. A service company

   b. A retail distribution company

   c. A manufacturing company

   d. A financial institution

3. With respect to dispersion of market multiples among guideline companies, which of the following statistics is most important in choosing the multiple that the market tends to accord the most weight?

   a. Mean

   b. Range

   c. Standard deviation

   d. Coefficient of variation

4. When valuing very small companies, which of the following market value multiples are most likely to be used?

   a. Price/sales and price/pretax earnings

   b. Price/sales and price/discretionary earnings

   c. Price/pretax earnings and price/discretionary earnings

   d. Price/sales and price/gross cash flow

5. When adjusting the market multiples of guideline companies to decide what multiple to apply to the subject company's fundamentals, which of the following is the best statement?

   a. Each multiple should be adjusted upward or downward by the same percentage.

   b. The analyst should be consistent in adjusting each multiple either upward or downward, but not necessarily by the same magnitude of adjustment.

   c. Each multiple should be accorded individual attention, because in some cases it is appropriate to have one multiple above the median while another is below the median.

   d. The multiples of the company most comparable to the subject should be applied to the subject.

6. When selecting a multiple to apply to the subject company's fundamentals from a range of multiples for the guideline companies, which factors influence the selection the most?

   a. Relative growth prospects and relative profit margins

   b. Relative growth prospects and relative risk

   c. Relative earnings and relative risk

   d. Relative profit margins and relative earnings

7. Which of the following is a correct statement?

   a. Analysts consistently use equity multiples when valuing controlling interests and invested capital multiples when valuing minority interests.

b. Analysts consistently use equity multiples when valuing minority interests and invested capital multiples when valuing controlling interests.

c. Analysts lean toward using equity multiples when valuing controlling interests and invested capital multiples when valuing minority interests.

d. Analysts lean toward equity multiples when valuing minority interests and invested capital multiples when valuing controlling interests.

TRUE OR FALSE QUESTIONS

8. For many industries, the market value metric price/gross profit has the lowest coefficient of variation. True False

9. Although Revenue Ruling 59-60 indicates a preference for mathematical weighting of the indications of value derived from different approaches, courts have accepted both mathematical and subjective weighting. True False

Chapter 11

Control Premiums and Minority Discounts

In many disputed valuations, the difference in discounts and/or premiums is greater than the difference between the underlying value to which they are applied. This chapter presents a brief overview of this important subject. For a more in-depth coverage, see Pratt, *Business Valuation Discounts and Premiums* (Hoboken, NJ: John Wiley & Sons, 2001).

MULTIPLE CHOICE QUESTIONS

1. The control premium as shown in *Mergerstat®/Shannon Pratt's Control Premium Study*™ indicates the value of

   a. Prerogatives of control

   b. Synergies

   c. Both a and b

   d. Neither a nor b

2. Control values are usually indicated from which of the following methods?

   a. Guideline merged and acquired company method

   b. Buy/sell agreements

   c. Both a and b

   d. Neither a nor b

TRUE OR FALSE QUESTIONS

3. Some states still have no precedential case law as to whether minority discounts may be applicable in dissenting stockholder suits. True False

4. The incidence of synergistic acquisitions is much higher among public company acquisitions than sales of small businesses. True False

EXERCISE

5. If the control premium is 25%, what is the corresponding minority discount?

Chapter 12

Discounts for Lack of Marketability

Among the discount and premium issues, the magnitude of the discount for lack of marketability is usually the largest. Too many analysts do not have an adequate grip on this important subject. As with Chapter 11, this chapter gives only an overview of the subject. For an in-depth treatment, see Pratt, *Business Valuation Discounts and Premiums* (Hoboken, NJ: John Wiley & Sons, 2001).

MULTIPLE CHOICE QUESTIONS

1. Which of the following is a pre-IPO transaction database?

   I. Valuation Advisors' Lack of Marketability Discount Study™

   II. Mergerstat®/Shannon Pratt's Control Premium Study™

   III. The Emory Studies

   IV. The FMV Restricted Stock Study™

   V. BIZCOMPS®

   a. I and V

   b. III and IV

   c. I and III

   d. II and III

2. What is the current settlement time (time from sale of stock to receipt of cash) for most of the U.S. stock market?

   a. One business day

   b. Two business days

   c. Three business days

   d. Five business days

3. Which Revenue Ruling addresses discounts for lack of marketability?

   a. RR 59-60

   b. RR 68-609

   c. RR 77-287

   d. RR 93-12

4. Which of the following is a correct statement about court recognition of the lack of marketability studies?

   a. Courts have recognized neither restricted stock nor pre-IPO studies.

   b. Courts have recognized restricted stock studies but not pre-IPO studies.

   c. Courts have recognized pre-IPO studies but not restricted stock studies.

   d. Courts have recognized both restricted stock and pre-IPO studies.

TRUE OR FALSE QUESTIONS

5. Restricted stocks may be either registered or unregistered. True False

6. The SEC started relaxing the restrictions on restricted stock in 1990. Since then, the average discounts on trades in blocks of restricted stock compared to the freely traded counterparts have diminished from the 1967 to 1989 levels. True False

EXERCISE

7. If the control value is $10, the discount for lack of control is 20%, and the discount for lack of marketability is 40%, calculate the nonmarketable minority value.

   ___

   ___

   ___

Chapters 13 and 14

Sample Case Questions

Most professional exams today include one or more case problems. Also, most formal business valuation reports today contain one or more sets of market value tables.

This chapter presents exhibits for both the guideline public company method and the guideline transaction method, as well as a final exhibit reconciling the values indicated from the two methods.

The reader need not be concerned with whether the results from the two methods appear reasonable or not; the intent of the exercise is to make the reader comfortable with the mechanics of creating market value tables. For example, the market multiples from the guideline public companies are not adjusted; however, in most cases they would be adjusted. Similarly, the weights to various indications of value are assigned arbitrarily and not necessarily realistically in light of the data presented.

Note: This case uses * for the multiplication sign, while the rest of the text uses X for the multiplication sign.

Exhibit 1
Subject, Inc.
Historical and Common Size Balance Sheets

	As of December 31, 2005	2004	2003	2002	2001	5-year Avg.	As of December 31, 2005	2004	2003	2002	2001	Compound Growth
	$	$	$	$	$	$	%	%	%	%	%	%
Cash and equivalents	450,580	720,590	267,150	350,415	372,515	432,250	7.9	18.1	11.1	14.0	16.9	4.9
Receivables	4,237,025	2,386,020	1,378,650	1,487,980	1,025,960	2,103,127	74.1	60.1	57.3	59.5	46.6	42.6
Prepaid expenses	253,630	194,025	167,505	79,040	62,985	151,437	4.4	4.9	7.0	3.2	2.9	41.7
Other receivables	370,370	255,060	78,585	122,265	98,930	185,042	6.5	6.4	3.3	4.9	4.5	39.1
Current Assets	5,311,605	3,555,695	1,891,890	2,039,700	1,560,390	2,871,856	92.9	89.6	78.6	81.5	70.9	35.8
Property and equipment (net)	210,730	246,350	257,075	234,065	181,220	225,888	3.7	6.2	10.7	9.4	8.2	3.8
Investments in affiliates	126,230	95,355	194,740	159,510	416,650	198,497	2.2	2.4	8.1	6.4	18.9	(25.8)
Other	71,760	73,190	61,880	69,290	42,055	63,635	1.3	1.8	2.6	2.8	1.9	14.3
Total Assets	5,720,325	3,970,590	2,405,585	2,502,565	2,200,315	3,359,876	100.0	100.0	100.0	100.0	100.0	Q2
Current Liabilities	3,316,300	2,450,825	1,444,950	1,655,615	1,164,475	2,006,433	58.0	61.7	60.1	66.2	52.9	29.9
Long-term debt	151,970	151,970	145,665	192,985	165,165	161,551	2.7	3.8	6.1	7.7	7.5	(2.1)
Total liabilities	3,468,270	2,602,795	1,590,615	1,848,600	1,329,640	2,167,984	60.6	65.6	66.1	73.9	60.4	27.1
Total equity	2,252,055	1,367,795	814,970	653,965	870,675	1,191,892	39.4	34.4	33.9	26.1	39.6	26.8
Total Liabilities and Equity	5,720,325	3,970,590	2,405,585	2,502,565	2,200,315	3,359,876	100.0	100.0	100.0	100.0	100.0	27.0
Working Capital	Q1	*1,104,870*	*446,940*	*384,085*	*395,915*	*865,423*	*34.9*	*27.8*	*18.6*	*15.3*	*18.0*	*49.8*

Questions 1 and 2 Refer to Exhibit 1

Using the data presented in Exhibit 1, please compute and fill in the blanks with the following missing data points.

1. The working capital in 2005
2. The assets 5-year compound growth

Exhibit 2
Subject, Inc.
Historical and Common Size Income Statements

	TME December 31,						TME December 31,					Compound
	2005	**2004**	**2003**	**2002**	**2001**	**5-year Avg.**	**2005**	**2004**	**2003**	**2002**	**2001**	**Growth**
	$	$	$	$	$	$	%	%	%	%	%	%
Sales	34,961,231	26,954,769	20,040,769	15,136,769	15,434,308	Q5	100.0	100.0	100.0	100.0	100.0	22.7
Cost of goods sold	30,104,769	23,159,077	17,115,692	12,997,231	13,542,308	19,383,815	86.1	85.9	85.4	85.9	87.7	22.1
Gross Margin	4,856,462	3,795,692	2,925,077	2,139,538	1,892,000	3,121,754	Q6	14.1	14.6	14.1	12.3	26.6
SG&A	(982,615)	(790,308)	(748,000)	(729,538)	(680,154)	-786,123	(2.8)	(2.9)	(3.7)	(4.8)	(4.4)	9.6
Depreciation and amortization	(275,846)	(324,000)	(215,692)	(147,538)	(153,538)	-223,323	(0.8)	(1.2)	(1.1)	(1.0)	(1.0)	15.8
Operating expenses	(1,258,462)	(1,114,308)	(963,692)	(877,077)	(833,692)	-1,009,446	(3.6)	(4.1)	(4.8)	(5.8)	(5.4)	10.8
Operating Income	2,339,538	1,567,077	997,692	385,385	224,615	1,102,862	Q7	5.8	5.0	2.5	1.5	79.6
Interest expense	(89,538)	(92,000)	(98,615)	(121,077)	(93,077)	-98,861	(0.3)	(0.3)	(0.5)	(0.8)	(0.6)	(1.0)
Other income (expense) net	53,692	75,385	(16,615)	16,308	(40,154)	17,723	0.2	0.3	(0.1)	0.1	(0.3)	nm
Income (Loss) before Taxes	2,303,692	1,550,462	882,462	280,615	91,385	1,021,723	Q8	5.8	4.4	1.9	0.6	124.1
Provision for income taxes	(650,769)	(522,000)	(357,077)	(178,000)	(77,385)	-357,046	(1.9)	(1.9)	(1.8)	(1.2)	(0.5)	70.3
Other expenses	(23,385)	(190,462)	(144,615)	(13,846)	(24,923)	-79,446	(0.1)	(0.7)	(0.7)	(0.1)	(0.2)	(1.6)
Other income	25,385	64,615	119,231	207,077	68,462	96,954	0.1	0.2	0.6	1.4	0.4	(22.0)
Net Income	*1,654,923*	902,615	500,000	295,846	57,538	682,185	Q9	3.3	2.5	2.0	0.4	131.6
Depreciation	*275,846*	*324,000*	*215,692*	*147,538*	*153,538*	223,323	*0.8*	*1.2*	*1.1*	*1.0*	*1.0*	*15.8*
EBIT	Q3	*1,516,615*	*955,692*	*594,923*	*228,000*	1,138,092	*6.9*	*5.6*	*4.8*	*3.9*	*1.5*	*80.0*
EBITDA	Q4	*1,840,615*	*1,171,385*	*742,462*	*381,538*	1,361,415	*7.6*	*6.8*	*5.8*	*4.9*	*2.5*	*62.7*
Shares Outstanding	*1,000,000*											

Notes:
nm = Not meaningful
TME = Twelve months ended

Questions 3 to 9 Refer to Exhibit 2

Using the data presented in Exhibit 2, please compute and fill in the blanks with the following missing data points.

3. Starting from net income, interest expense, and taxes for 2005, compute EBIT for 2005
4. Starting from net income, interest expense, taxes, and depreciation for 2005, compute EBITDA for 2005
5. The 5-year average sales
6. The 2005 gross margin (as a % of 2005 sales)
7. The 2005 operating income margin (as a % of 2005 sales)
8. The 2005 income before taxes margin (as a % of 2005 sales)
9. The 2005 net income margin (as a % of 2005 sales)

Exhibit 3
Subject, Inc.
Historical Financial and Operating Ratio Analysis

		As of December 31,			
	2005	2004	2003	2002	2001
Liquidity/Solvency					
Quick ratio	Q10	1.3	1.1	1.1	1.2
Current ratio	Q11	1.5	1.3	1.2	1.3
Accounts receivables to sales	Q12	8.9%	6.9%	9.8%	6.6%
Current liabilities to net worth	Q13	179.2%	177.3%	253.2%	133.7%
Turnover/Activity					
Sales/average receivables	Q14	14.3	14.0	12.0	na
Sales/average working capital	Q15	34.7	48.2	38.8	na
Sales/average fixed assets	Q16	107.1	81.6	72.9	na
Sales/total assets	Q17	6.8	8.3	6.0	7.0
Debt/Risk					
EBIT/interest expense	Q18	17.0	10.1	3.2	2.4
Current liabilities to total debt	Q19	94.2%	90.8%	89.6%	87.6%
Long-term debt to total assets	Q20	3.8%	6.1%	7.7%	7.5%
Total debt to total assets	Q21	65.6%	66.1%	73.9%	60.4%
Total debt to net worth	Q22	190.3%	195.2%	282.7%	152.7%
Fixed assets to net worth	Q23	18.0%	31.5%	35.8%	20.8%
Assets to net worth	Q24	2.9	3.0	3.8	2.5
Profitability					
Gross margin	Q25	14.1%	14.6%	14.1%	12.3%
EBITDA to sales	Q26	6.8%	5.8%	4.9%	2.5%
Operating margin	Q27	5.8%	5.0%	2.5%	1.5%
Pretax return on assets	Q28	39.0%	36.7%	11.2%	4.2%
After-tax return on assets	Q29	22.7%	20.8%	11.8%	2.6%
Pretax return on net worth	Q30	113.4%	108.3%	42.9%	10.5%
After-tax return on net worth	Q31	66.0%	61.4%	45.2%	6.6%
Pretax return on sales	Q32	5.8%	4.4%	1.9%	0.6%
After-tax return on sales	Q33	3.3%	2.5%	2.0%	0.4%
Working Capital					
Working capital to sales	Q34	4.1%	2.2%	2.5%	2.6%
Net income to working capital	Q35	81.7%	111.9%	77.0%	14.5%
Current liabilities to working capital	Q36	221.8%	323.3%	431.1%	294.1%
Long-term debt to working capital	Q37	13.8%	32.6%	50.2%	41.7%
Operating Efficiency					
Operating expenses to gross margin	Q38	29.4%	32.9%	41.0%	44.1%
Operating expenses to sales	Q39	4.1%	4.8%	5.8%	5.4%
Depreciation to sales	Q40	1.2%	1.1%	1.0%	1.0%
Total assets to sales	Q41	14.7%	12.0%	16.5%	14.3%
Sales to net worth	Q42	19.7	24.6	23.1	17.7
Sales to fixed assets	Q43	109.4	78.0	64.7	85.2

Notes:
na = Not available because turnover ratios are based on average asset data

Questions 10 to 43 refer to Exhibit 3

Using the data presented in Exhibit 5 and 2 please compute and fill in the blanks with the following missing data points in Exhibit 3.

LIQUIDITY/SOLVENCY RATIOS

10. Quick ratio
11. Current ratio
12. Accounts receivables to sales
13. Current liabilities to net worth

TURNOVER/ACTIVITY RATIOS

14. Sales/average receivables
15. Sales/average working capital
16. Sales/average fixed assets
17. Sales/total assets

DEBT/RISK RATIOS

18. EBIT/interest expense
19. Current liabilities to total debt
20. Long-term debt to total assets
21. Total debt to total assets
22. Total debt to net worth
23. Fixed assets to net worth
24. Assets to net worth

PROFITABILITY RATIOS

25. Gross margin
26. EBITDA to sales
27. Operating margin
28. Pretax return on assets
29. After-tax return on assets
30. Pretax return on net worth
31. After-tax return on net worth
32. Pretax return on sales
33. After-tax return on sales

WORKING CAPITAL RATIOS

34. Working capital to sales
35. Net income to working capital
36. Current liabilities to working capital
37. Long-term debt to working capital

OPERATING EFFICIENCY RATIOS

38. Operating expenses to gross margin
39. Operating expenses to sales
40. Depreciation to sales
41. Total assets to sales
42. Sales to net worth
43. Sales to fixed assets

Exhibit 4
Subject, Inc.
Public Guideline Companies Comparable Financial Statements

	Public Guideline Companies						
	A	**B**	**C**	**D**	**E**	**Median**	**Subject**
Fiscal Year Ended	**9/28/05**	**10/31/05**	**12/31/05**	**12/31/05**	**12/31/05**		**12/31/05**
	$	**$**	**$**	**$**	**$**	**$**	**$**
Balance Sheets							
Cash and equivalents	3,316,400	1,550,800	984,300	2,427,700	315,600	1,550,800	450,580
Receivables	33,253,500	88,860,100	2,183,500	1,984,400	3,504,200	3,504,200	4,237,025
Other current assets	5,114,800	3,555,600	219,800	1,606,500	878,400	1,606,500	624,000
Current assets	41,684,700	93,966,500	3,387,600	6,018,600	7,248,600	7,248,600	5,311,605
Fixed Assets (net)	4,078,700	15,055,300	303,800	406,700	2,594,100	2,594,100	210,730
Goodwill and Intangibles (net)	23,584,600	101,607,100	105,400	2,305,900	21,700	2,305,900	0
Other assets	0	6,132,300	280,800	22,400	677,800	280,800	197,990
Total Assets	69,348,000	216,761,200	4,077,600	8,753,600	10,542,200	10,542,200	5,720,325
Accounts payable	9,326,500	17,250,000	1,463,400	164,000	854,500	1,463,400	3,200,000
Current portion of notes payable	1,159,700	2,388,500	0	0	125,500	125,500	0
Accrued liabilities	4,674,300	21,264,800	576,000	711,500	1,830,200	1,830,200	0
Other current liabilities	7,186,100	8,300,200	8,800	401,500	1,629,100	1,629,100	116,000
Current liabilities	22,346,600	49,203,500	2,048,200	1,277,000	4,439,300	4,439,300	3,316,300
Long-term debt	10,746,300	78,870,800	0	0	2,029,900	2,029,900	151,970
Other liabilities	0	0	123,600	280,400	1,775,500	123,600	0
Total Liabilities	33,092,900	140,253,900	2,171,800	1,557,400	8,244,700	8,244,700	3,468,270
Common equity	1,378,000	33,600	11,000	800	100	11,000	100,000
Additional paid-in capital	21,690,800	48,782,400	392,800	4,529,500	1,007,700	4,529,500	1,000,000
Retained earnings	13,225,000	27,810,600	1,503,700	2,665,900	3,850,400	3,850,400	1,152,000
Shareholders' equity	36,255,100	76,507,300	1,905,800	7,196,200	2,297,500	7,196,200	2,252,055
Total Liabilities and Equity	69,348,000	216,761,200	4,077,600	8,753,600	10,542,200	10,542,200	5,720,325
Working Capital	19,338,100	44,763,000	1,339,400	4,741,600	2,809,300	*4,741,600*	*1,995,305*
Tangible Assets	45,763,400	115,154,100	3,972,200	6,447,700	10,520,500	*10,520,500*	*5,720,325*
Tangible Equity	12,670,500	-25,099,800	1,800,400	4,890,300	2,275,800	*2,275,800*	*2,252,055*
Income Statements							
Sales	113,205,000	318,671,400	13,445,900	9,995,000	19,037,600	19,037,600	34,961,231
Cost of goods sold	95,143,600	200,533,900	13,089,800	6,804,300	14,806,700	14,806,700	30,104,769
Gross margin	18,061,400	118,137,500	356,100	3,190,700	4,230,900	4,230,900	4,856,462
SG&A	8,746,200	100,097,000	35,200	2,059,200	2,608,400	2,608,400	982,615
Total operating expenses	8,746,200	100,097,000	35,200	2,059,200	2,608,400	2,608,400	2,516,923
Income (loss) from operations	9,315,200	18,040,500	320,900	1,131,500	1,622,500	1,622,500	2,339,539
Other income or (expense)	88,800	0	6,900	53,800	52,700	52,700	55,692
Interest expense	1,016,200	8,357,100	0	1,500	90,900	90,900	89,538
Income (loss) before taxes	8,387,800	9,683,400	327,800	1,183,800	1,584,300	1,584,300	2,305,693
Provision for income taxes	3,376,900	3,873,000	126,700	461,700	585,900	585,900	650,769
Net Income (from continuing ops)	5,010,900	5,810,400	201,100	722,100	998,400	998,400	1,654,924
Depreciation and Amorization	*1,672,700*	*4,234,900*	*115,800*	*223,100*	*376,800*	*376,800*	*275,846*
EBIT	*9,315,200*	*18,040,500*	*320,900*	*1,131,500*	*1,622,500*	*1,622,500*	*2,395,231*
EBITDA	*10,987,900*	*22,275,400*	*436,700*	*1,354,600*	*1,999,300*	*1,999,300*	*2,671,077*
Shares Outstanding	*5,353,100*	*3,268,800*	*218,920*	*761,526*	*404,200*	*4,042,000*	*1,000,000*

Exhibit 5
Subject, Inc.
Public Guideline Companies Comparable Common Size Financial Statements

	Public Guideline Companies						
	A	B	C	D	E	Median	Subject
Fiscal Year Ended	**9/28/05**	**10/31/05**	**12/31/05**	**12/31/05**	**12/31/05**		**12/31/05**
Balance Sheets							
Cash and equivalents	4.8%	0.7%	24.1%	27.7%	3.0%	4.8%	7.9%
Receivables	48.0%	41.0%	53.5%	22.7%	33.2%	41.0%	74.1%
Current assets	60.1%	43.4%	83.1%	68.8%	68.8%	68.8%	92.9%
Fixed assets (net)	5.9%	6.9%	7.5%	4.6%	24.6%	6.9%	3.7%
Intangibles (net)	34.0%	46.9%	2.6%	26.3%	0.2%	26.3%	0.0%
Total Assets	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Accounts payable	13.4%	8.0%	35.9%	1.9%	8.1%	8.1%	55.9%
Current portion of notes payable	1.7%	1.1%	0.0%	0.0%	1.2%	1.1%	0.0%
Accrued liabilities	6.7%	9.8%	14.1%	8.1%	17.4%	9.8%	0.0%
Other current liabilities	10.4%	3.8%	0.2%	4.6%	15.5%	4.6%	2.0%
Current liabilities	32.2%	22.7%	50.2%	14.6%	42.1%	32.2%	58.0%
Long-term debt	15.5%	36.4%	0.0%	0.0%	19.3%	15.5%	2.7%
Total liabilities	47.7%	64.7%	53.3%	17.8%	78.2%	53.3%	60.6%
Common equity	2.0%	0.0%	0.3%	0.0%	0.0%	0.0%	1.7%
Additional paid-in capital	31.3%	22.5%	9.6%	51.7%	9.6%	22.5%	17.5%
Retained earnings	19.1%	12.8%	36.9%	30.5%	36.5%	30.5%	20.1%
Shareholders' equity	52.3%	35.3%	46.7%	82.2%	21.8%	46.7%	39.4%
Total Liabilities and Equity	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Income Statements							
Sales	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Cost of goods sold	84.0%	62.9%	97.4%	68.1%	77.8%	77.8%	86.1%
Gross margin	16.0%	37.1%	2.6%	31.9%	22.2%	22.2%	13.9%
SG&A	7.7%	31.4%	0.3%	20.6%	13.7%	13.7%	2.8%
Depreciation and amortization	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%
Total operating expenses	7.7%	31.4%	0.3%	20.6%	13.7%	13.7%	7.2%
Income (loss) from operations	8.2%	5.7%	2.4%	11.3%	8.5%	8.2%	6.7%
Other income or (expense)	0.1%	0.0%	0.1%	0.5%	0.3%	0.1%	0.2%
Interest expense	0.9%	2.6%	0.0%	0.0%	0.5%	0.5%	0.3%
Income (loss) before taxes	7.4%	3.0%	2.4%	11.8%	8.3%	7.4%	6.6%
Provision for income taxes	3.0%	1.2%	0.9%	4.6%	3.1%	3.0%	1.9%
Net Income (from continuing ops)	4.4%	1.8%	1.5%	7.2%	5.2%	4.4%	4.7%

Exhibit 6
Subject, Inc.
Public Guideline Companies Comparable Financial and Operating Ratios

	Public Guideline Companies A	B	C	D	E	Median	Subject
Fiscal Year Ended	9/28/05	10/31/05	12/31/05	12/31/05	12/31/05		12/31/05
Liquidity/Solvency Ratios							
Quick ratio	1.6	1.8	1.5	3.5	0.9	1.6	1.4
Current ratio	1.9	1.9	1.7	4.7	1.6	1.9	1.6
AR to sales	29.4%	27.9%	16.2%	19.9%	18.4%	19.9%	12.1%
AP to sales	8.2%	5.4%	10.9%	1.6%	4.5%	5.4%	9.2%
Cr liabilities to net worth	61.6%	64.3%	107.5%	17.7%	193.2%	64.3%	147.3%
Turnover							
Sales/receivables	3.4	3.6	6.2	5.0	5.4	5.0	8.3
Sales/working capital	5.9	7.1	10.0	2.1	6.8	6.8	17.5
Sales/fixed assets	27.8	21.2	44.3	24.6	7.3	24.6	165.9
Sales/total assets	1.6	1.5	3.3	1.1	1.8	1.6	6.1
Sales/net worth	3.1	4.2	7.1	1.4	8.3	4.2	15.5
Debt/Risk							
EBIT/annual Int. expense	9.2	2.2	NA	754.3	17.8	13.5	26.1
Cr liab to total liabilities	67.5%	35.1%	94.3%	82.0%	53.8%	67.5%	95.6%
LT debt to total assets	15.5%	36.4%	0.0%	0.0%	19.3%	15.5%	2.7%
Total liabilities to total assets	47.7%	64.7%	53.3%	17.8%	78.2%	53.3%	60.6%
Total liabilities to net worth	91.3%	183.3%	114.0%	21.6%	358.9%	114.0%	154.0%
Fixed/worth	11.3%	19.7%	15.9%	5.7%	112.9%	15.9%	9.4%
Profitability							
Gross margin	16.0%	37.1%	2.6%	31.9%	22.2%	22.2%	13.9%
EBITDA to sales	9.7%	7.0%	3.2%	13.6%	10.5%	9.7%	7.6%
Operating margin	8.2%	5.7%	2.4%	11.3%	8.5%	8.2%	6.7%
Pretax return on assets	12.1%	4.5%	8.0%	13.5%	15.0%	12.1%	40.3%
After-tax return on assets	7.2%	2.7%	4.9%	8.2%	9.5%	7.2%	28.9%
Pretax return on net worth	23.1%	12.7%	17.2%	16.5%	69.0%	17.2%	102.4%
After-tax return on net worth	13.8%	7.6%	10.6%	10.0%	43.5%	10.6%	73.5%
Pretax return on sales	7.4%	3.0%	2.4%	11.8%	8.3%	7.4%	6.6%
After-tax return on sales	4.4%	1.8%	1.5%	7.2%	5.2%	4.4%	4.7%
Working Capital							
Working capital to sales	17.1%	14.0%	10.0%	47.4%	14.8%	14.8%	5.7%
Net income to working capital	25.9%	13.0%	15.0%	15.2%	35.5%	15.2%	82.9%
Current liabilities to working capital	115.6%	109.9%	152.9%	26.9%	158.0%	115.6%	166.2%
Long term debt to working capital	55.6%	176.2%	0.0%	0.0%	72.3%	55.6%	7.6%
Operating Efficiency							
Operating expenses to gross margin	48.4%	84.7%	9.9%	64.5%	61.7%	61.7%	51.8%
Operating expenses to sales	7.7%	31.4%	0.3%	20.6%	13.7%	13.7%	7.2%
Depreciation to sales	1.5%	1.3%	0.9%	2.2%	2.0%	1.5%	0.8%
Total assets to sales	61.3%	68.0%	30.3%	87.6%	55.4%	61.3%	16.4%

Exhibit 7
Subject, Inc.
Public Guideline Companies Equity and Market Value of Invested Capital

Public Guideline Company	Symbol	Market	Stock Price	Number of Shares	Maket Value of Equity	Long-term Debt	Preferred Stock	Maket Value of Invested Capital	% Long-term Debt
			$		$	$	$	$	%
A	AAA	NASDAQ	24.86	5,353,100	133,078,066	10,746,300	0	143,824,366	7
B	BBB	NYSE	25.01	3,268,800	**Q44**	78,870,800	0	**Q45**	**Q46**
C	CCC	NASDAQ	13.35	218,920	2,922,578	0	0	2,922,578	0
D	DDD	NASDAQ	13.62	761,526	10,371,990	0	0	10,371,990	0
E	EEE	NASDAQ	34.50	404,200	13,944,900	2,029,900	0	15,974,800	13

Questions 44 to 46 Refer to Exhibit 7

Using the data presented in Exhibit 7, please compute and fill in the blanks with the following missing data points.

44. Market value of equity for public guideline company B
45. Market value of invested capital for public guideline company B
46. Long-term debt as a percentage of invested capital for public guideline company B

Exhibit 8
Subject, Inc.
Guideline Public Company Equity/Sales
$ thousands

Public Guideline Company	LTM Dec 31 2005	Fiscal Year Ended (fye)	2005	2004	2003	2002	2001	Compound Growth (%)	5-year Avg. Sales	Equity	Equity/5-year Avg.Sales	Equity/LTM Sales
A	123,607	9/28/05	113,205	96,622	97,394	79,458	56,649	18.90	88,666	133,078	Q47	Q51
B	318,671	10/31/05	318,671	242,783	231,935	220,558	141,852	22.43	231,160	81,753	0.35	0.26
C	13,446	12/31/05	13,446	13,438	11,157	12,227	15,735	(3.85)	13,201	2,923	0.22	0.22
D	9,995	12/31/05	9,995	10,649	7,431	5,784	4,308	23.41	7,633	10,372	1.36	1.04
E	19,038	12/31/05	19,038	16,286	16,546	16,166	16,927	2.98	16,993	13,945	0.82	0.73
Mean								12.77			Q48	Q52
Median								18.90			Q49	Q53
Standard Deviation								12.41			0.58	0.41
Coef?cent of Variation								0.97			Q50	Q54
Subject	34,961	12/31/05	34,961	26,955	20,041	15,137	15,434	23	22,506			

QUESTIONS 47 TO 54 REFER TO EXHIBIT 8

Using the data presented in Exhibit 8, please compute and fill in the blanks with the following missing data points.

47. For public guideline company A, the equity/5-year average sales multiple
48. The mean value of the equity/5-year average sales multiple (after computing the equity/5-year average sales multiple for company A)
49. The median value of the equity/5-year average sales multiple (after computing the equity/5-year average sales multiple for company A)
50. The coefficient of variation for the equity/5-year average sales multiple
51. For public guideline company A, the equity/LTM sales multiple
52. The mean value of the equity/LTM sales multiple (after computing the equity/LTM sales multiple for company A)
53. The median value of the equity/LTM sales multiple (after computing the equity/LTM sales multiple for company A)
54. The coefficient of variation for the equity/LTM sales multiple

Exhibit 9
Subject, Inc.
Guideline Public Company Equity/Pretax Earnings
$ thousands

Public Guideline Company	LTM Dec 31 2005	FYE	2005	2004	2003	2002	2001	Compound Growth (%)	5-year Avg. Pretax Earnings	Equity	Equity/5-year Avg. Pretax Earnings	Equity/LTM Pretax Earnings
A	8,768	9/28/05	8,388	5,497	4,070	6,722	5,229	12.54	5,981	133,078	22.25	15.18
B	9,683	10/31/05	9,683	9,111	10,415	9,160	6,628	9.94	9,000	81,753	9.08	8.44
C	328	12/31/05	328	115	130	219	390	(4.24)	236	2,923	12.37	8.92
D	1,184	12/31/05	1,184	1,383	1,009	792	348	35.78	943	10,372	10.99	8.76
E	1,584	12/31/05	1,584	1,426	1,477	769	350	45.85	1,121	13,945	12.44	8.80
Mean								19.97			13.43	10.02
Median								12.54			12.37	8.80
Standard Deviation								20.38			5.12	2.89
Coef?cent of Variation								1.02			0.38	0.29
Subject	2,304	12/31/05	2,304	1,550	882	281	91	124.07	1,022			

Exhibit 10
Subject, Inc.
Guideline Public Company Equity/Net Earnings
$ thousands

Public Guideline Company	LTM Dec 31 2005	FYE	2005	2004	2003	2002	2001	Compound Growth (%)	5-year Avg. Net Earnings	Equity	Equity/5-year Avg. Net Earnings	Equity/LTM Net Earnings
A	5,391	9/28/05	5,011	3,191	3,083	4,042	2,912	14.54	3,648	133,078	36.48	24.68
B	5,810	10/31/05	5,810	4,923	4,862	4,156	3,325	14.98	4,615	81,753	17.71	14.07
C	201	12/31/05	201	65	86	139	236	(3.96)	145	2,923	20.11	14.53
D	722	12/31/05	722	844	618	472	202	37.55	571	10,372	18.15	14.36
E	998	12/31/05	998	884	1,486	945	618	12.75	986	13,945	14.14	13.97
Mean								15.17			21.32	16.32
Median								14.54			18.15	14.36
Standard Deviation								14.78			8.75	4.68
Coef?cent of Variation								0.97			0.41	0.29
Subject	1,655	12/31/05	1,655	903	500	296	58	131.58	682			

Exhibit 11
Subject, Inc.
Guideline Public Company Equity/Forecasted EPS
$

Public Guideline Company	LTM Dec 31 2005	FYE	2006 EPS	2007 EPS	Growth rate 2006 EPS	Growth Rate 2007 EPS	Stock Price	Equity/2006 EPS	Equity/2007 EPS
A	1.01	9/28/05	0.85	1.15	**Q55**	**Q56**	24.86	**Q57**	**Q58**
B	1.78	10/31/05	1.53	2.20	-13.9%	43.8%	25.01	16.35	11.37
C	0.92	12/31/05	na	na	na	na	13.35	na	na
D	0.95	12/31/05	0.98	1.13	3.4%	15.3%	13.62	13.90	12.05
E	2.47	12/31/05	na	na	na	na	34.50	na	na
Mean					-8.8%	31.5%		19.83	15.01
Median					-13.9%	35.3%		16.35	12.05
Standard Deviation					10.6%	14.6%		8.25	5.73
Coefficent of Variation					-120.1%	46.5%		0.42	0.38
Subject	1.65	12/31/05	2.00	3.00	20.9%	50.0%			

Questions 55 to 58 Refer to Exhibit 11

Using the data presented in Exhibit 11, please compute and fill in the blanks with the following missing data points.

55. For public guideline company A, the growth rate in forecasted EPS for 2006 versus EPS for LTM ended December 31, 2005
56. For public guideline company A, the growth rate in forecasted EPS for 2007 versus EPS for 2006
57. For public guideline company A, the equity/2006 EPS multiple
58. For public guideline company A, the equity/2007 EPS multiple

Exhibit 12
Subject, Inc.
Guideline Public Company MVIC/Sales
$ Thousands

Public Guideline Company	LTM Dec 31 2005	FYE	2005	2004	2003	2002	2001	Compound Growth (%)	MVIC	5-year Avg. Sales	MVIC/ 5-year Avg. Sales	MVIC/LTM Sales
A	123,607	9/28/05	113,205	96,622	97,394	79,458	56,649	18.90	143,824	88,666	Q59	Q63
B	318,671	10/31/05	318,671	242,783	231,935	220,558	141,852	22.43	160,623	231,160	0.69	0.50
C	13,446	12/31/05	13,446	13,438	11,157	12,227	15,735	(3.85)	2,923	13,201	0.22	0.22
D	9,995	12/31/05	9,995	10,649	7,431	5,784	4,308	23.41	10,372	7,633	1.36	1.04
E	19,038	12/31/05	19,038	16,286	16,546	16,166	16,927	2.98	15,975	16,993	0.94	0.84
Mean											Q60	Q64
Median											Q61	Q65
Standard Deviation											0.55	0.39
Coefficent of Variation											Q62	Q66
Subject	34,961	12/31/05	34,961	26,955	20,041	15,137	15,434	22.68		22,506		

Questions 59 to 66 Refer to Exhibit 12

Using the data presented in Exhibit 12, please compute and fill in the blanks with the following missing data points.

59. For public guideline company A, the MVIC/5-year average sales multiple
60. The mean value of the MVIC /5-year average sales multiple (after computing the MVIC /5-year average sales multiple for company A)
61. The median value of the MVIC /5-year average sales multiple (after computing the MVIC /5-year average sales multiple for company A)
62. The coefficient of variation for the MVIC /5-year average sales multiple
63. For public guideline company A, the MVIC /LTM sales multiple
64. The mean value of the MVIC/LTM sales multiple (after computing the MVIC /LTM sales multiple for company A)
65. The median value of the MVIC /LTM sales multiple (after computing the MVIC/LTM sales multiple for company A)
66. The coefficient of variation for the MVIC /LTM sales multiple

Exhibit 13
Subject, Inc.
Guideline Public Company MVIC/EBITDA
$ Thousands

Public Guideline Company	LTM Dec 31 2005	FYE	2005	2004	2003	2002	2001	Compound Growth (%)	MVIC	5-year Avg. EBITDA	MVIC/ 5-year Avg. EBITDA	MVIC/LTM EBITDA
A	11,784	9/28/05	10,988	8,378	7,060	8,795	6,813	12.69	143,824	8,407	17.11	12.21
B	22,275	10/31/05	22,275	17,962	21,188	20,529	13,305	13.75	160,623	19,052	8.43	7.21
C	437	12/31/05	437	316	272	555	582	(6.91)	2,923	432	6.76	6.69
D	1,355	12/31/05	1,355	1,506	1,221	974	534	26.18	10,372	1,118	9.28	7.66
E	1,999	12/31/05	1,999	1,884	1,942	1,383	940	20.75	15,975	1,630	9.80	7.99
Mean											10.28	8.35
Median											9.28	7.66
Standard Deviation											3.99	2.21
Coefficent of Variation											0.39	0.26
Subject	2,671	12/31/05	2,671	1,841	1,171	742	382	62.66		1,361		

Exhibit 14
Subject, Inc.
Guideline Public Company MVIC/EBIT
$ Thousands

Public Guideline Company	LTM Dec 31 2005	FYE	2005	2004	2003	2002	2001	Compound Growth (%)	MVIC	5-year Avg. EBIT	MVIC/5-year Avg. EBIT	MVIC/LTM EBIT
A	9,997	9/28/05	9,315	6,042	4,924	7,425	5,542	13.86	143,824	6,650	21.63	14.39
B	18,041	10/31/05	18,041	14,682	16,974	16,346	10,087	15.64	160,623	15,226	10.55	8.90
C	321	12/31/05	321	175	135	209	399	(5.28)	2,923	248	11.81	9.11
D	1,132	12/31/05	1,132	1,278	986	819	431	27.32	10,372	929	11.17	9.17
E	1,623	12/31/05	1,623	1,427	1,611	1,050	677	24.44	15,975	1,278	12.50	9.85
Mean								15.20			13.53	10.28
Median								15.64			11.81	9.17
Standard Deviation								12.78			4.58	2.32
Coefficent of Variation								0.84			0.34	0.23
Subject	2,395	12/31/05	2,395	1,517	956	595	228	80.03		1,138		

Exhibit 15
Subject, Inc.
Guideline Public Company Method—Equity Multiple Adjustments

Selected Pricing Multiple	Median Pricing Multiple	Adjustment Factor	Adjusted Pricing Multiple	Subject Fundamental	Indicated Value	Coefficient of Variation	Multiple Weight	Weighted Value
Equity/avg. sales	0.82	0.0%	0.82	**Q67**	**Q68**	0.62	20%	**Q69**
Equity/avg. pretax earnings	12.37	0.0%	12.37	$1,021,723	$12,643,176	0.34	40%	$5,057,271
Equity/avg. net earnings	18.15	0.0%	18.15	$682,185	$12,382,073	0.37	40%	$4,952,829
Equity/LTM sales	0.73	0.0%	0.73	**Q70**	**Q71**	0.62	0%	**Q72**
Equity/LTM pretax earnings	8.80	0.0%	8.80	$2,303,692	$20,276,942	0.29	0%	$0
Equity/LTM net earnings	14.36	0.0%	14.36	$1,654,923	$23,770,730	0.29	0%	$0
Equity/2006 forecasted earnings	16.35	0.0%	16.35	$2,000,000	$32,692,810	0.42	0%	$0
Equity/2007 forecasted earnings	12.05	0.0%	12.05	$3,000,000	$36,159,292	0.38	0%	$0
Guideline public company common equity value							100%	**Q73**
Plus: Control premium								**0%**
Equals: Control value based on guideline public company common equity								**Q74**

Notes:
Subject management is the source of forecasts for 2006 and 2007 EPS.
For the computation of the equity pricing multiples, see Exhibits 8 through 11.

Questions 67 to 74 Refer to Exhibit 15

Using the data presented in Exhibit 15 as well as in previous exhibits, please compute and fill in the blanks with the following missing data points.

67. The subject's historical 5-year average sales (Fill under Subject Fundamental.)
68. The subject's indicated value using the equity/average sales median valuation multiple (assuming no further adjustment to the median multiple)
69. The subject's weighted value using the equity/average sales median valuation multiple (assuming a weight of 20% for the equity/average sales multiple)
70. The subject's LTM sales
71. The subject's indicated value using the equity/LTM sales median valuation multiple (assuming no further adjustment to the median multiple)
72. The subject's weighted value using the equity/LTM sales median valuation multiple (assuming a weight of 0% for the equity/average sales multiple)
73. The subject's equity value using the guideline public company equity method (Fill in the cell to the right of the row labeled "Guideline public company common equity value.")
74. Control value for the subject using the guideline public company equity method (Assume the control premium is 0% and fill in the cell to the right of the row labeled "Equals: Control value based on guideline public company common equity.")

Exhibit 16
Subject, Inc.
Guideline Public Company Method—MVIC Multiple Adjustments

Selected Pricing Multiple	Median Pricing Multiple	Adjustment Factor	Adjusted Pricing Multiple	Subject Fundamental	Indicated Value	Coefficient of Variation	Multiple Weight	Weighted Value
MVIC/ Avg. Sales	0.94	0.0%	0.94	Q75	Q76	0.51	10%	Q77
MVIC/Avg. EBITDA	9.28	0.0%	9.28	$1,361,415	$12,630,218	0.38	40%	$5,052,087
MVIC/Avg. EBIT	11.81	0.0%	11.81	$1,138,092	$13,435,786	0.30	50%	$6,717,893
MVIC/ LTM Sales	0.84	0.0%	0.84	Q78	Q79	0.52	0%	Q80
MVIC/LTM EBITDA	7.66	0.0%	7.66	$2,671,076	$20,452,069	0.26	0%	$0
MVIC/LTM EBIT	9.17	0.0%	9.17	$2,395,230	$21,956,077	0.23	0%	$0
Guideline public company MVIC							100%	Q81
Less: Market value of interest-bearing debt 2005								Q82
Equals: Indicated value of common equity								Q83
Plus: Control premium								0%
Equals: Control value based on guideline public company common equity								Q84

Notes:
For the computation of the MVIC pricing multiples, see Exhibits 12 through 14.

Questions 75 to 84 Refer to Exhibit 16

Using the data presented in Exhibit 16 as well as in previous exhibits, please compute and fill in the blanks with the following missing data points.

75. The subject's historical 5-year average sales (Fill under Subject Fundamental.)
76. The subject's indicated value using the MVIC/5-Year average sales median valuation multiple (assuming no further adjustment to the median multiple)
77. The subject's weighted value using the MVIC /5-year average sales median valuation multiple (assuming a weight of 10% for the MVIC/average sales multiple)
78. The subject's LTM sales (Fill under Subject Fundamental.)
79. The subject's indicated value using the MVIC/LTM sales median valuation multiple (assuming no further adjustment to the median multiple)
80. The subject's weighted value using the MVIC/LTM sales median valuation multiple (assuming a weight of 0% for the MVIC /LTM sales multiple)
81. The subject's MVIC value using the guideline public company MVIC method (Fill in the cell to the right of the row labeled "Guideline public company MVIC.")
82. The subject's market value of the interest-bearing debt as of the valuation date, December 31, 2005 (Assume that the book value approximates the market value and fill in the cell to the right of the row labeled "Less: Market value of interest-bearing debt 2005.")
83. The subject's indicated value of the equity after the subtraction of the interest bearing debt from MVIC (Fill in the cell to the right of the row labeled "Equals: Indicated value of common equity.")
84. The subject's control value using the guideline public company MVIC method (Assume the control premium is 0% and fill in the cell to the right of the row labeled "Equals: Control value based on guideline public company common equity.")

Exhibit 17
Subject, Inc.
Guideline Transactions Comparable Financial Statements

	Guideline Transactions					
	X	**Y**	**Z**	**W**	**Median**	**Subject**
Fiscal Year Ended	**12/31/03**	**5/31/04**	**12/31/03**	**12/31/03**		**12/31/05**
Transaction Date (Sale Date)	**5/15/04**	**7/31/04**	**5/23/04**	**11/2/04**		
Balance Sheets						
Cash and equivalents	$50,000	$412,284	$106,988	$601,665	$259,636	$450,580
Receivables	$13,752,991	$7,028,322	$5,736,644	$3,453,610	$6,382,483	$4,237,025
Inventories	$0	$0	$0	$0	$0	$0
Current assets	$17,602,848	$7,640,014	$5,995,419	$4,454,820	$6,817,717	$5,311,605
Fixed assets (net)	$2,525,507	$1,954,924	$233,680	$31,918	$1,094,302	$210,730
Total assets	$21,022,616	$9,599,701	$6,235,721	$5,631,197	$7,917,711	$5,720,325
Current liabilities	$10,314,588	$4,577,282	$1,335,789	$5,159,003	$4,868,143	$3,316,300
Long-term liabilities	$2,157,484	$0	$673,574	$2,082,894	$1,378,234	$88,465
Total liabilities	$12,472,072	$4,577,282	$2,009,363	$7,241,897	$5,909,590	$3,468,270
Shareholders' equity	$8,550,544	$5,022,419	$4,226,358	-$1,610,700	$4,624,389	$2,252,055
Total liabilities and equity	$21,022,616	$9,599,701	$6,235,721	$5,631,197	$7,917,711	$5,720,325
Working Capital	*$7,288,260*	*$3,062,732*	*$4,659,630*	*-$704,183*	*$3,861,181*	*$1,995,305*
Book Value of Invested Capital	*$10,708,028*	*$5,022,419*	*$4,899,932*	*$472,194*	*$4,961,176*	*$2,340,520*
Income Statements						
Sales	$32,110,758	$35,543,255	$17,005,778	$31,302,012	$31,706,385	$34,961,231
Cost of goods sold	$13,314,008	$22,873,960	$11,548,399	$0	$12,431,204	$30,104,769
Gross margin	$18,796,750	$12,669,295	$5,457,379	$31,302,012	$15,733,023	$4,856,462
Noncash charges	$910,978	$0	$90,000	$22,162	$56,081	$275,846
Total operating expenses	$14,967,815	$10,772,582	$2,797,790	$30,142,517	$12,870,199	$2,516,923
Income (loss) from operations	$3,828,935	$1,896,713	$2,659,589	$1,159,495	$2,278,151	$2,339,538
Interest expense	$471,445	$4,197	$19,400	$212,033	$115,717	$89,538
Income (loss) before taxes	$3,417,799	$1,990,467	$3,640,199	$854,969	$2,704,133	$2,303,692
Provision for income taxes	$0	$0	$1,200,000	$426,480	$213,240	$650,769
Net income	$3,417,799	$1,990,467	$2,440,199	$428,489	$2,215,333	$1,654,923

Exhibit 18
Subject, Inc.
Guideline Transactions Comparable Common Size Financial Statements

	Guideline Transactions					
	X	**Y**	**Z**	**W**	**Median**	**Subject**
Fiscal Year Ended	**12/31/03**	**5/31/04**	**12/31/03**	**12/31/03**		**12/31/05**
Transaction Date (Sale Date)	**5/15/04**	**7/31/04**	**5/23/04**	**11/2/04**		
Balance Sheets						
Cash and equivalents	0.2%	4.3%	1.7%	10.7%	3.0%	7.9%
Receivables	65.4%	73.2%	92.0%	61.3%	69.3%	74.1%
Current assets	83.7%	79.6%	96.1%	79.1%	81.7%	92.9%
Fixed assets (net)	12.0%	20.4%	3.7%	0.6%	7.9%	3.7%
Total assets	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Current liabilities	49.1%	47.7%	21.4%	91.6%	48.4%	58.0%
Long-term liabilities	10.3%	0.0%	10.8%	37.0%	10.5%	1.5%
Total liabilities	59.3%	47.7%	32.2%	128.6%	53.5%	60.6%
Shareholders' equity	40.7%	52.3%	67.8%	-28.6%	46.5%	39.4%
Total liabilities and equity	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Working Capital	*34.7%*	*31.9%*	*74.7%*	*-12.5%*	*33.3%*	*22.7%*
Book Value of Invested Capital	*50.9%*	*52.3%*	*78.6%*	*8.4%*	*51.6%*	*26.6%*
Income Statements						
Sales	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of goods sold	41.5%	64.4%	67.9%	0.0%	52.9%	86.1%
Gross margin	58.5%	35.6%	32.1%	100.0%	47.1%	13.9%
Noncash charges	2.8%	0.0%	0.5%	0.1%	0.5%	0.8%
Total operating expenses	46.6%	30.3%	16.5%	96.3%	38.5%	7.2%
Income (loss) from operations	11.9%	5.3%	15.6%	3.7%	8.6%	6.7%
Interest expense	1.5%	0.0%	0.1%	0.7%	0.4%	0.3%
Income (loss) before taxes	10.6%	5.6%	21.4%	2.7%	8.1%	6.6%
Provision for income taxes	0.0%	0.0%	7.1%	1.4%	0.7%	1.9%
Net income	10.6%	5.6%	14.3%	1.4%	8.1%	4.7%

Exhibit 19
Subject, Inc.
Guideline Transactions Comparable Financial and Operating Ratios

	Guideline Transactions				
	X	Y	Z	W	Subject
Fiscal Year Ended	12/31/03	5/31/04	12/31/03	12/31/03	12/31/05
Transaction Date (Sale Date)	5/15/04	7/31/04	5/23/04	11/2/04	
Liquidity/Solvency					
Quick ratio	1.7	1.7	4.5	0.9	0.1
Current ratio	1.7	1.7	4.5	0.9	1.6
AR to sales	42.8%	19.8%	33.7%	11.0%	12.1%
Current liabilities to net worth	120.6%	91.1%	31.6%	-320.3%	147.3%
Turnover					
Sales/receivables	2.3	5.1	3.0	9.1	8.3
Sales/working capital	4.4	11.6	3.6	-44.5	17.5
Sales/fixed assets	12.7	18.2	72.8	980.7	165.9
Sales/total assets	1.5	3.7	2.7	5.6	6.1
Debt/Risk					
EBIT/annual Interest expense	8.1	451.9	137.1	5.5	26.1
Current liabilities to total debt	82.7%	100.0%	66.5%	71.2%	95.6%
Long-term debt to total assets	10.3%	0.0%	10.8%	37.0%	1.5%
Total debt to total assets	59.3%	47.7%	32.2%	128.6%	60.6%
Total debt to net worth	145.9%	91.1%	47.5%	-449.6%	154.0%
Fixed assets to net worth	29.5%	38.9%	5.5%	-2.0%	9.4%
Profitability					
Gross margin	58.5%	35.6%	32.1%	100.0%	13.9%
EBITDA to sales	14.8%	5.3%	16.2%	3.8%	7.5%
Operating margin	11.9%	5.3%	15.6%	3.7%	6.7%
Pretax return on assets	16.3%	20.7%	58.4%	15.2%	40.3%
After-tax return on assets	16.3%	20.7%	39.1%	7.6%	28.9%
Pretax return on net worth	40.0%	39.6%	86.1%	-53.1%	102.3%
After-tax return on net worth	40.0%	39.6%	57.7%	-26.6%	73.5%
Pretax return on sales	10.6%	5.6%	21.4%	2.7%	6.6%
After-tax return on sales	10.6%	5.6%	14.3%	1.4%	4.7%
Working Capital					
Working capital to sales	22.7%	8.6%	27.4%	-2.2%	5.7%
Net income to working capital	46.9%	65.0%	52.4%	-60.8%	82.9%
Current liabilities to working capital	141.5%	149.5%	28.7%	-732.6%	166.2%
Long-term debt to working capital	29.6%	0.0%	14.5%	-295.8%	4.4%
Operating Efficiency					
Operating expenses to gross margin	79.6%	85.0%	51.3%	96.3%	51.8%
Operating expenses to sales	46.6%	30.3%	16.5%	96.3%	7.2%
Depreciation to sales	2.8%	0.0%	0.5%	0.1%	0.8%
Total assets to sales	65.5%	27.0%	36.7%	18.0%	16.4%
Sales to net worth	3.8	7.1	4.0	-19.4	15.5
Sales to fixed assets	12.7	18.2	72.8	980.7	165.9

Exhibit 20A

Pratts Stats™ Transaction Report

Transaction Details			
Intermediary Name	N/A		
Firm Name	N/A	Company Name	**X**
SIC	8711 Engineering Services	Sale Location	NJ, United States
NAICS	54133 Engineering Services	Years in Business	N/A
Business Description	Engineering Services	Number of Employees	N/A
		Report Date	5/15/2004

Income Data		**Asset Data**		**Transaction Data**	
Data is "Latest Full Year" Reported	Yes	Data is Latest Reported	Yes	Date Sale Initiated	N/A
Data is Restated (see Notes for any explanation)	No	Data is "Purchase Price Allocation agreed upon by Buyer"	No	Date of Sale	5/15/2004
Income Statement Date	12/31/2003	Balance Sheet Date	12/31/2003	Asking Price	N/A
Net Sales	$32,110,758	Cash Equivalents	$50,000	Equity Price*	$21,500,000
COGS	$13,314,008	Trade Receivables	$13,752,991	Market Value of Invested Capital*	$21,500,000
Gross Profit	$18,796,750	Inventory	$0	Liabilities Assumed	N/A
Yearly Rent	$1,165,000	Other Current Assets	$3,799,857	Employment Agreement Value	N/A
Owner's Compensation	N/A	Total Current Assets	$17,602,848	Noncompete Value	N/A
Other Operating Expenses	N/A	Fixed Assets	$2,525,507	Amount of Down Payment	$21,500,000
Noncash Charges	$910,978	Real Estate	$0	Stock or Asset Sale	Stock
Total Operating Expenses	$14,967,815	Intangibles	$0	Company Type	S Corporation
Operating Profit	$3,828,935	Other Noncurrent Assets	$894,261	Was there an Employment/Consulting Agreement?	Yes
Interest Expenses	$471,445	Total Assets	$21,022,616	Was there an Assumed Lease in the sale?	Yes
EBT	$3,417,799	Long-term Liabilities	$2,157,484	Was there a Renewal Option with the Lease?	No
Taxes	$0	Total Liabilities	$12,472,072	*Includes noncompete value; excludes real estate, employment/consulting agreement values, and all contingent payments.	
Net Income	$3,417,799				

Additional Transaction Information	
Was there a Note in the consideration paid?	No
Was there a personal guarantee on the Note?	No
Terms	Consideration: 557,802 shares of the buyer's public company common stock.
Balance of Assumed Lease (Months)	108
Terms of Lease	Future Minimum Lease Payments total $5,618,087.
Noncompete Length (Months)	N/A
Noncompete Description	N/A
Employment/Consulting Agreement Description	
Additional Notes	EBT includes interest income of $60,309

Valuation Multiples		**Financial Ratios**	
Equity Price/Net Sales	0.670	Net Income/Sales	0.106
Equity Price/Gross Cash Flow	4.967	EBIT/Sales	0.121
Equity Price/EBT	6.291	Sales/Total Assets	1.527
Equity Price/Net Income	6.291	Sales/Fixed Assets	12.715
Equity Price/Book Value of Equity	2.514	EBIT/Interest Expense	8.250
MVIC/Net Sales	0.670	Long-term Debt/Total Assets	0.103
MVIC/EBITDA	4.479	Return on Assets	0.163
MVIC/EBITDA	5.528	Return on Equity	0.400
MVIC/Discretionary Earnings	N/A		
MVIC/Book Value of Invested Capital	2.008		

Note: Several fields in this transaction report have been altered for the puposes of this case study.

N/A = not available

Exhibit 20B

***Pratts Stats™* Transaction Report**

Transaction Details			
Intermediary Name	N/A		
Firm Name	N/A	Company Name	**Y**
SIC	8711 Engineering Services	Sale Location	VA, United States
NAICS	54133 Engineering Services	Years in Business	N/A
Business Description	Engineering Service	Number of Employees	N/A
		Report Date	8/15/2004

Income Data		Asset Data		Transaction Data	
Data is "Latest Full Year" Reported	Yes	Data is Latest Reported	Yes	Date Sale Initiated	N/A
Data is Restated (see Notes for any explanation)	No	Data is "Purchase Price Allocation agreed upon by Buyer and Seller"	No	Date of Sale	7/31/2004
Income Statement Date	5/31/2004	Balance Sheet Date	5/31/2004	Asking Price	N/A
Net Sales	$35,543,255	Cash Equivalents	$412,284	Equity Price*	$16,500,000
COGS	$22,873,960	Trade Receivables	$7,028,322	Market Value of Invested Capital*	$16,500,000
Gross Profit	$12,669,295	Inventory	N/A	Liabilities Assumed	N/A
Yearly Rent	N/A	Other Current Assets	$199,408	Employment Agreement Value	N/A
Owner's Compensation	N/A	Total Current Assets	$7,640,014	Noncompete Value	N/A
Other Operating Expenses	N/A	Fixed Assets	$1,954,924	Amount of Down Payment	$16,500,000
Noncash Charges	N/A	Real Estate	N/A	Stock or Asset Sale	Stock
Total Operating Expenses	$10,772,582	Intangibles	N/A	Company Type	S Corporation
Operating Profit	$1,896,713	Other Noncurrent Assets	$4,763	Was there an Employment/Consulting Agreement	No
Interest Expenses	$4,197	Total Assets	$9,599,701	Was there an Assumed Lease in the sale?	No
EBT	$1,990,467	Long-term Liabilities	$0	Was there a Renewal Option with the Lease?	No
Taxes	$0	Total Liabilities	$4,577,282	*Includes noncompete value; excludes real estate, employment/consulting agreement values, and all contingent payments.	
Net Income	$1,990,467	Stockholder's Equity	$5,022,419		

Additional Transaction Information	
Was there a Note in the consideration paid?	No
Was there a personal guarantee on the Note?	No
Terms	
Balance of Assumed Lease (Months)	N/A
Terms of Lease	N/A
Noncompete Length (Months)	N/A
Noncompete Description	N/A
Employment/Consulting Agreement Description	
Additional Notes	EBT includes interest income of $97,951, other income develops and supports analytical software systems, modeling and simulation services and simulator systems to the Navy and other customers.

Valuation Multiples		Financial Ratios	
Equity Price/Net Sales	0.464	Net Income/Sales	0.056
Equity Price/Gross Cash Flow	N/A	EBIT/Sales	0.056
Equity Price/EBT	8.290	Sales/Total Assets	3.703
Equity Price/Net Income	8.290	Sales/Fixed Assets	18.181
Equity Price/Book Value of Equity	3.285	EBIT/Interest Expense	475.260
MVIC/Net Sales	0.464	Long-term Debt/Total Assets	0.000
MVIC/Gross Profit	1.302	Return on Assets	0.207
MVIC/EBITDA	N/A	Return on Equity	0.396
MVIC/EBITDA	8.272		
MVIC/Discretionary Earnings	N/A		
MVIC/Book Value of Invested Capital	3.285		

Note: Several fields in this transaction report have been altered for the puposes of this case study.

N/A = not available

Exhibit 20C

Pratts Stats™ Transaction Report

Transaction Details

Intermediary Name	NA		
Firm Name	NA	Company Name	Z
SIC	8711 Engineering Services	Sale Location	Pasadena, CA, United States
NAICS	54133 Engineering Services	Years in Business	5
Business Description	Full-Service Environmental, Engineering, and Consulting Firm	Number of Employees	65
		Report Date	6/18/2004

Income Data		Asset Data		Transaction Data	
Data is "Latest Full Year" Reported	Yes	Data is Latest Reported	Yes	Date Sale Initiated	4/23/2001
Data is Restated (see Notes for any explanation)	No	Data is "Purchase Price Allocation agreed upon by Buyer"	No	Date of Sale	5/23/2004
Income Statement Date	12/31/2003	Balance Sheet Date	12/31/2003	Asking Price	N/A
Net Sales	$17,005,778	Cash Equivalents	$106,988	Equity Price*	$9,650,000
COGS	$11,548,399	Trade Receivables	$5,736,644	Market Value of Invested Capital*	$10,850,000
Gross Profit	$5,457,379	Inventory	$0	Liabilities Assumed	$1,200,000
Yearly Rent	$96,450	Other Current Assets	$151,787	Employment Agreement Value	$350,000
Owner's Compensation	$350,000	Total Current Assets	$5,995,419	Noncompete Value	N/A
Other Operating Expenses	N/A	Fixed Assets	$233,680	Amount of Down Payment	N/A
Noncash Charges	$90,000	Real Estate	N/A	Stock or Asset Sale	Stock
Total Operating Expenses	$2,797,790	Intangibles	N/A	Company Type	S Corporation
Operating Profit	$2,659,589	Other Noncurrent Assets	$6,622	Was there an Employment/Consulting Agreement?	No
Interest Expenses	$19,400	Total Assets	$6,235,721	Was there an Assumed Lease in the sale?	Yes
EBT	$3,640,199	Long-term Liabilities	N/A	Was there a Renewal Option with the Lease?	Yes
Taxes	$1,200,000	Total Liabilities	N/A	*Includes noncompete value; excludes real estate, employment/consulting agreement values, and all contingent payments.	
Net Income	$2,440,199				

Additional Transaction Information

Was there a Note in the consideration paid?	No
Was there a personal guarantee on the Note?	No
Terms	
Balance of Assumed Lease (Months)	N/A
Terms of Lease	N/A
Noncompete Length (Months)	24
Noncompete Description	N/A
Employment/Consulting Agreement Description	
Additional Notes	EBT includes interest income of $1,000,0100. 8/2003 - Employment agreement value of $350,000 subtracted from Equity Price to conform to new pricing convention.

Valuation Multiples		Financial Ratios	
Equity Price/Net Sales	0.567	Net Income/Sales	0.143
Equity Price/Gross Cash Flow	3.814	EBIT/Sales	0.215
Equity Price/EBT	2.651	Sales/Total Assets	2.727
Equity Price/Net Income	3.955	Sales/Fixed Assets	72.774
Equity Price/Book Value of Equity	N/A	EBIT/Interest Expense	188.639
MVIC/Net Sales	0.638	Long-term Debt/Total Assets	N/A
MVIC/EBITDA	2.894	Return on Assets	0.391
MVIC/EBITDA	2.965	Return on Equity	N/A
MVIC/Discretionary Earnings	2.647		
MVIC/Book Value of Invested Capital	N/A		

Note: Several fields in this transaction report have been altered for the puposes of this case study.

N/A = not available

Exhibit 20D
Pratts Stats™ Transaction Report

Transaction Details

Intermediary Name	N/A		
Firm Name	N/A	Company Name	**W**
SIC	8711 Engineering Services	Sale Location	FL, United States
NAICS	54133 Engineering Services	Years in Business	11
Business Description	Engineering Service Provider Principally to the United States	Number of Employees	300
		Report Date	11/5/2004

Income Data		**Asset Data**		**Transaction Data**	
Data is "Latest Full Year" Reported	Yes	Data is Latest Reported	Yes	Date Sale Initiated	N/A
Data is Restated (see Notes for any explanation)	No	Data is "Purchase Price Allocation agreed upon by Buyer"		Date of Sale	11/2/2004
Income Statement Date	12/31/2003	Balance Sheet Date	12/31/2003	Asking Price	N/A
Net Sales	$31,302,012	Cash Equivalents	$601,665	Equity Price*	$20,772,085
COGS	$0	Trade Receivables	$3,453,610	Market Value of Invested Capital*	$20,772,085
Gross Pro?t	$31,302,012	Inventory	$0	Liabilities Assumed	N/A
Yearly Rent	$400,000	Other Current Assets	$399,545	Employment Agreement Value	N/A
Owner's Compensation	N/A	Total Current Assets	$4,454,820	Noncompete Value	$540,000
Other Operating Expenses	N/A	Fixed Assets	$31,918	Amount of Down Payment	$19,460,000
Noncash Charges	$22,162	Real Estate	$0	Stock or Asset Sale	Stock
Total Operating Expenses	$30,421,517	Intangibles	$0	Company Type	C Corporation
Operating Pro?t	$1,159,495	Other Noncurrent Assets	$1,144,459	Was there an Employment/Consulting Agreement?	Yes
Interest Expenses	$212,033	Total Assets	$5,631,197	Was there an Assumed Lease in the sale?	Yes
EBT	$854,969	Long-term Liabilities	$2,0892,894	Was there a Renewal Option with the Lease?	No
Taxes	$426,480	Total Liabilities	$7,241,897	*Includes noncompete value; excludes real estate, employment/consulting agreement values, and all contingent payments.	
Net Income	$428,489	Stockholder's Equity	($1,610,700)		

Additional Transaction Information

Was there a Note in the consideration paid?	Yes
Was there a personal guarantee on the Note?	No
Terms	Consideration: $6.5 million in cash, 3.6 million shares of the buyer's public company common stock valued at $3.60 per share on November 1, 2001, which is the date prior to the sale. The buyer also issued a promissory note totaling $722,085 with a ?ve-year term.
Balance of Assumed Lease (Months)	49
Terms of Lease	Future Minimum Lease Payments total $899,027
Noncompete Length (Months)	N/A
Noncompete Description	N/A
Employment/Consulting Agreement Description	
Additional Notes	EBT includes interest income of $7,217, other income of $232,309, and other expenses of $332,019. The seller's primary customers are NASA and the U.S. Intelligence community. 8/2003 - Noncompete value of $540,000 added to Equity Price to conform to new pricing convention.

Valuation Multiples		**Financial Ratios**	
Equity Price/Net Sales	0.664	Net Income/Sales	0.014
Equity Price/Gross Cash Flow	46.094	EBIT/Sales	0.034
Equity Price/EBT	24.296	Sales/Total Assets	5.559
Equity Price/Net Income	48.478	Sales/Fixed Assets	980.701
Equity Price/Book Value of Equity	N/A	EBIT/Interest Expense	5.032
MVIC/Net Sales	0.664	Long-term Debt/Total Assets	0.370
MVIC/Gross Pro?t	0.664	Return on Assets	0.076
MVIC/EBITDA	19.072	Return on Equity	N/A
MVIC/EBITDA	19.468		
MVIC/Discretionary Earnings	N/A		
MVIC/Book Value of Invested Capital	43.991		

Note: Several ?elds in this transaction report have been altered for the puposes of this case study.

N/A = not available

Exhibit 21
Subject, Inc.
Guideline Transaction Method—Valuation Multiples

Company	X	Y	Z	W	Mean	Median	Standard Deviation	Coefficent of Variation
Equity price/net sales	Q85	Q86	Q87	Q88	Q89	Q90	0.097	Q91
Equity price/gross cash flow	4.967	N/A	3.814	76.094	28.292	4.967	41.402	1.463
Equity price/EBT	6.291	8.290	2.651	24.296	10.382	7.291	9.565	0.921
Equity price/net income	6.291	8.290	3.955	48.478	16.754	7.291	21.224	1.267
Equity price/book value of equity	2.514	3.285	N/A	NA	2.900	2.900	0.545	0.188
MVIC/net sales	0.670	0.464	0.638	0.664	0.609	0.651	0.098	0.160
MVIC/EBITDA	4.479	N/A	2.894	19.072	8.815	4.479	8.918	1.012
MVIC/EBIT	5.528	8.272	2.965	19.468	9.058	6.900	7.270	0.803
MVIC/discretionary earnings	N/A	N/A	2.647	N/A	2.647	2.647	N/A	N/A
MVIC/book value of invested capital	2.008	3.285	N/A	43.991	16.428	3.285	23.879	1.454

Questions 85 to 91 Refer to Exhibit 21

Using the data presented in Exhibits 20A through 20D, please compute and fill in the blanks in Exhibit 21 with the following missing data points.

85. The equity price/net sales for guideline transaction X
86. The equity price/net sales for guideline transaction Y
87. The equity price/net sales for guideline transaction Z
88. The equity price/net sales for guideline transaction W
89. The mean of the equity price/net sales multiple
90. The median of the equity price/net sales multiple
91. The coefficient of variation of the equity price/net sales multiple

Exhibit 22
Subject, Inc.
Guideline Transaction Method—Equity Multiples Adjustments

Selected Pricing Multiple	Median Pricing Multiple	Adjustment Factor	Adjusted Pricing Multiple
Equity price/net sales	Q92	-10.0%	Q93
Equity price/gross cash flow	4.97	-10.0%	4.47
Equity price/EBT	7.29	-10.0%	6.56
Equity price/net income	7.29	-10.0%	6.56
Equity price/book value of equity	2.90	-10.0%	2.61

Questions 92 and 93 Refer to Exhibit 22

Using the data previously computed in Exhibit 21, please compute and fill in the blanks in Exhibit 22 with the following missing data points.

92. The median equity price/net sales multiple
93. The adjusted median equity price/net sales multiple (Assume a negative adjustment of 10%.)

Exhibit 23
Subject, Inc.
Guideline Transaction Method—Weighting and Equity Calculation

Selected Pricing Multiple	Adjusted Pricing Multiple	Subject Company Fundamental	Indicated Value	Multiple Weight	Weighted Value
Equity price/net sales	Q94	Q95	Q96	30%	Q97
Equity price/gross cash flow	4.47	$1,930,769	$8,631,118	0%	$0
Equity price/EBT	6.56	$2,303,692	$15,115,562	40%	$6,046,225
Equity price/net income	6.56	$1,654,923	$10,858,695	0%	$0
Equity price/book value of equity	2.61	$2,252,055	$5,876,850	30%	$1,763,055
Control value based on guideline merged and acquired company equity					Q98

Questions 94 to 98 Refer to Exhibit 23

Using the data previously computed in Exhibit 22, please compute and fill in the blanks in Exhibit 23 with the following missing data points.

94. The adjusted median equity price/net sales multiple
95. The subject's LTM sales (Fill in the cell under "Subject Company Fundamental.")
96. The indicated value for the subject using the adjusted equity price/net sales valuation multiple (assuming a 10% negative adjustment to the median multiple)
97. The weighted value for the subject using the adjusted equity price/net sales valuation multiple (assuming a weight of 30% for the equity price/sales multiple)
98. The control value of the subject based on the guideline merged and acquired company equity

Exhibit 24
Subject, Inc
Valuation Synthesis
As of December 31, 2005

	Indicated Equity Value	Marketability/ Minority Discount	Adjusted Equity Value	Method Weight	Weighted Value
Market Approach					
Guideline public company method—equity procedure	Q99	45%	Q102	40%	Q105
Guideline public company method—MVIC procedure	Q100	45%	Q103	40%	Q106
Guideline merged and acquired company method—equity procedure	Q101	10%	Q104	20%	Q107
Fair Market Value of Common Equity—Closely Held, Minority Interest Basis				100%	Q108
Shares Outstanding					1,000,000
Fair Market Value Per Share					Q109

Questions 99 to 109 Refer to Exhibit 24

Using the data previously computed in Exhibits 15, 16, and 23, please compute and fill in the blanks in Exhibit 24 with the following missing data points.

99. The indicated equity value from the application of the guideline public company method (equity procedure)
100. The indicated equity value from the application of the guideline public company method (MVIC procedure)
101. The indicated equity value from the application of the guideline merged and acquired company method (equity procedure)
102. The adjusted equity value from the application of the guideline public company method (equity procedure) (Assume a 45% discount for lack of marketability.)
103. The adjusted equity value from the application of the guideline public company method (MVIC Procedure) (Assume a 45% discount for lack of marketability.)
104. The adjusted equity value from the application of the guideline merged and acquired company method (equity procedure) (Assume a 0% discount for lack of marketability and a 10% minority discount.)
105. The weighted equity value from the application of the guideline public company method (equity procedure) (Assume a 40% weight.)
106. The weighted equity value from the application of the guideline public company method (MVIC procedure) (Assume a 40% weight.)
107. The weighted equity value from the application of the guideline merged and acquired company method (equity procedure) (Assume a 20% weight.)
108. The fair market value of common equity of the subject company on a closely held, minority interest basis
109. The fair market value of common equity per share of the subject company

Chapter 15

Reconciling Market Approach Values with Income and Asset Approach Values

Most analysts like to use two or even all three approaches to a business valuation, partly to see the indications of value from different perspectives and partly to call attention to any errors or misjudgments in one approach or another. Ideally, the various approaches will lead to similar indicated values, but when they do not, a reconciliation process is in order to reach a final opinion of value.

This chapter addresses a few of the considerations in making such a reconciliation. In particular, it addresses the relationship between market multiples and discount or capitalization rates.

MULTIPLE CHOICE QUESTIONS

1. Which of the following is a correct statement about the discount rate?

   a. It is the expected rate of return in the year following the valuation date.

   b. It is the reciprocal of the capitalization rate.

   c. It is the total expected annualized rate of return over the life of the investment.

   d. It is the expected average rate of return for the five years following the valuation date.

2. When reconciling divergent results from the income and market approaches, if the discount rate is WACC (the weighted average cost of capital), which of the following would be the most likely comparative market variable?

   a. EBITDA

   b. EBIT

   c. Pretax earnings

   d. Sales

TRUE OR FALSE QUESTIONS

3. Discount rates and market multiples both reflect risk. True False

4. When valuing a partnership interest, the value is the sum of the values of the underlying assets less the liabilities. True False

EXERCISES

Use the following information to answer the next three questions for Company A:

Expected earnings next year	$10 per share
Discount rate	20%
Expected sustainable growth rate in earnings	4%

5. What is the capitalization rate for the next year's earnings for Company A? ___________

____

6. What is the implied price/earnings multiple on the next year's earnings of Company A?

____

7. What is the indicated value per share for Company A's stock? _______________________

____

Chapter 16

Does Size Matter? Evidence from Empirical Data

There has been much controversy about whether, or the extent to which, the size of a subject company impacts its cost of capital (as reflected in its discount rate) and/or the level of market valuation multiples applicable. This chapter presents evidence on this issue from several sources.

MULTIPLE CHOICE QUESTIONS

1. Which of the following is a correct statement about the size effect, if any?

   a. Smaller companies tend to have higher discount rates, but size does not seem to have an impact on market valuation multiples.

   b. Size does not seem to impact either discount rates or market multiples.

   c. Smaller companies tend to have both higher discount rates and lower market valuation multiples.

   d. Smaller companies tend to have lower market valuation multiples, but size does not seem to impact discount rates.

2. Which is a correct statement about the Standard & Poor's Valuation Consulting (or Grabowski-King) studies and the Ibbotson studies?

   I. The S&P studies break the NYSE into 25 size groups plus a financially distressed category, whereas Ibbotson breaks the NYSE into 10 size categories plus splitting the tenth decile.

   II. The S&P studies have several measures of size, whereas Ibbotson has only market value of equity.

   III. The S&P studies combine the general equity risk premium (ERP) and the size premium, whereas Ibbotson treats the ERP and size factors separately.

   IV. The S&P data are calculated over a longer historic time period than the Ibbotson data.

V. The S&P premiums should be added to a build-up discount rate, whereas the Ibbotson premiums should be added to a CAPM discount rate.

a. I, II, and III

b. I, II, and V

c. II, III, and IV

d. All of the above

TRUE OR FALSE QUESTIONS

3. Both the Ibbotson and Standard & Poor's studies include NYSE, AMEX, and NASDAQ companies. True False

4. In spite of several difference in the research design, the average results of the Standard & Poor's size effect studies are very close to the results of the Ibbotson Associates studies. True False

5. The Standard & Poor's size effect studies show both an actual premium and a "smoothed" premium for each size group, and, in most cases, the smoothed premium is probably the most appropriate to use. True False

Chapter 17

Common Errors in Implementing the Market Approach

Valuation analysts make many common errors. This chapter addresses some of the most common errors that I encounter in reviewing valuation reports and the proper alternative procedures to avoid the errors.

MULTIPLE CHOICE QUESTIONS

1. Which of the following are reasons why site visits and management interviews are important?

   I. The analyst may gain insights that lead to a more accurate valuation conclusion.

   II. Courts tend to accord more credibility to an analyst who has visited the premises and interviewed management than to one who has not.

   III. The analyst can get insight into what management believes the value should be, which may have an impact on the value conclusion.

   IV. The visit and interviews may result in some revisions to or additions to (or even eliminations of) some preliminary financial statement adjustments.

   V. The analyst may find reasons to delete or add some guideline companies.

   a. All of the above

   b. I, II, IV, and V

   c. I, IV, and V

   d. II and III

2. When using a variety of market multiples, which of the following scenarios is most likely to be objectively appropriate?

   a. Use the means for each multiple.

   b. Use the median for each multiple.

c. Use somewhere within the range using the level for each multiple (e.g., upper quartile, 10% above the median) supported by comparative analysis.

d. Use somewhere within the range, but not necessarily the same level for each multiple (e.g., upper quartile, 10% above the median) supported by comparative analysis.

3. In which of the following scenarios would an adjustment for excess owners' compensation be LEAST likely to be appropriate?

   a. Fair market value of a minority interest

   b. Fair market value of a controlling interest

   c. Fair value of a minority interest

   d. Fair value of a controlling interest

4. If the subject company is on a calendar fiscal year and one of the guideline public companies is on a February fiscal year, which of the following is the best comparison to the subject company in most cases?

   a. The guideline company's fiscal year ending 2 months after the subject company's calendar year

   b. The 12 months ending in November of the subject company's calendar year

   c. The guideline company's latest fiscal year

   d. The guideline company's 12 months coinciding with the subject company's fiscal year

5. Which of the following would be inappropriate?

   I. Applying the guideline companies' median 5-year P/E multiple to the subject company's latest 12 months' earnings

   II. Applying the median of the guideline companies' current price to 5-year average earnings to the subject company's latest 12 months' earnings

   III. Applying the guideline companies' median current price to forecasted earnings to the subject company's forecasted earnings

   IV. Applying the guideline companies' median P/E ratio from *The Wall Street Journal* to the subject company's forecasted earnings

   V. Applying the guidelines companies' median P/E ratio from *The Wall Street Journal* to the subject company's 5-year average earnings

   a. All of the above

   b. I, II, IV, and V

c. I, III, IV, and V

d. I, II, and IV

6. Which of the following are acceptable ways to handle significant differences between the subject and guideline companies' cash positions?

   a. Adjust multiples up or down to reflect differences in financial strength.

   b. Add or subtract a specific dollar amount for excess or deficient cash.

   c. Subtract all the cash from both guideline and subject companies before doing the comparative analysis, and add the subject company's cash back to the value by whatever approach(es).

   d. All of the above.

7. When estimating fair market value of equity and the guideline transaction databases indicate there are contingent payments, what is the best way to handle the contingent payments?

   a. Include the full amount of contingent payments in the price.

   b. Estimate the present value of the contingent payments by the probable amount of each discounted to a present value.

   c. If the contingent payments are significant and not subject to present value analysis, drop the guideline transaction.

   d. Both b and c are acceptable.

8. Which of the following is an accurate statement?

   a. A business is worth the fair market value of its tangible assets plus some amount of goodwill.

   b. Goodwill, in the narrow definition, is a function of expected continuing patronage.

   c. The value of goodwill is dependent on the ability of the business to achieve a return over and above a reasonable return on its tangible assets.

   d. b and c.

TRUE OR FALSE QUESTIONS

9. The subject company financial statement should be analyzed and adjusted as deemed appropriate, but the guideline company financial statements should not be adjusted for comparative purposes. True False

10. If there is a widely used valuation rule of thumb for an industry, it should be considered. However, it should not be used as the only valuation method. True False

11. One of the problems with rules of thumb for valuation is not knowing what property was being transacted in the development of the rule of thumb. True False

Chapter 18

The Dismal Track Record of U.S. Market Acquisitions

Mergers and acquisitions are a popular phenomenon in the United States. This chapter explores whose ox tends to get gored in the pricing, and why.

MULTIPLE CHOICE QUESTIONS

1. Which of the following is the most accurate statement about mergers and acquisitions in the United States?

    a. Most have increased the wealth of both acquirers and acquirees, divided about equally.

    b. Most have resulted in increased wealth for both acquirers and acquirees.

    c. Most have resulted in increased total wealth, but more than 100% of the increases tend to go to the shareholders of the acquirees.

    d. Most have resulted in increased total wealth, with most of it going to the shareholders of the acquirers.

2. Which of the following accurately characterizes “hubris”?

    a. A justified sense of self-confidence

    b. Exaggerated pride or self-confidence

    c. Hubris derives from Greek mythology, where those who were excessively self-confident or otherwise lacking in humility were relentlessly struck down by the gods.

    d. b and c

3. What was the conclusion of Mark Sirower in his book *The Synergy Trap*, which studied U.S. mergers and acquisitions from 1979 through 1990?

    a. On average, acquisitions created value for the acquiring companies’ shareholders.

    b. On average, acquisitions turned out to be about a break-even for the acquiring companies’ shareholders.

    c. About one-third of the acquisitions lost value for the acquiring companies’ shareholders.

    d. About two-thirds of the acquisitions lost value for the acquiring companies’ shareholders.

TRUE OR FALSE QUESTIONS

4. It would seem like the greater the hubris of the selling company's CEO, the more the transaction value tilts toward investment value rather than fair market value. True False

5. A Columbia University study used four objective measures of CEO hubris and concluded that there were strong correlations between CEO hubris and the tendency to overpay. True False

Chapter 19

The Market Approach in the Courts

One ultimate test of the goodness of a valuation exercise is when it is tested in court, usually with an opposing valuation expert. The winning side is usually the one whose expert has the best documentation and support for his or her conclusions.

Considering the very large amount of money that is commonly at stake, I never cease to be amazed at how weak some experts' support for their conclusions is. This chapter demonstrates several of the major courts' opinions on various valuation issues, all involving the market approach.

MULTIPLE CHOICE QUESTIONS

1. In which of the following types of cases has the market approach involving comparable businesses been accepted by the courts?

   a. Marital dissolution, bankruptcy, and condemnation

   b. Marital dissolution, bankruptcy, and stockholder actions

   c. Bankruptcy, condemnation, and dissenting stockholder actions

   d. Marital dissolution, bankruptcy, condemnation, and dissenting stockholder actions

2. Which of the following is a correct statement about the Delaware Chancery Court's position with respect to dissenting stockholder actions?

   I. It relies exclusively on the discounted cash flow method.

   II. It prefers the discounted cash flow method, but may accept the market approach for 100% of the weight when data for the DCF method are considered unreliable.

   III. It may assign specific mathematical weights to the results of several methods, including the DCF method, the guideline public company method, and the transaction method.

   a. I

   b. II

   c. III

   d. II and III

TRUE OR FALSE QUESTIONS

3. In at least one case, the tax court rejected the market approach based on only one guideline public company, even while recognizing that it was an excellent comparable. True False

4. Buy-sell agreement prices cannot be controlling for gift and estate tax purposes if they are among family members. True False

5. In an estate tax case, the court ultimately found that when the facts of the case can be supported by law and the business purpose can be reasonably explained, a limited partnership is a valid entity that cannot be disregarded for estate tax purposes. True False