CHAPTER **1**

Valuation Case Study Exercises

INTRODUCTION

The purpose of this chapter is to highlight and discuss important concepts in valuation through a series of exercises. These exercises have been intermittently placed in excerpts of a valuation report. You should attempt to complete these exercises as you read the report with reasoning and emphasis on an explanation of your conclusion. The authors' solutions to these exercises can be found in Chapter 2.

The following case presents selected excerpts from a business valuation report that, in its entirety, was in full compliance with the Uniform Standards of Professional Appraisal Practice. This report format is one of many that analysts can use in presenting business valuations. All schedules have been omitted as they are not necessary for the exercises. Some of the terms, numbers, sources, and other data have been changed for ease of presentation.

THE VALUATION REPORT

August 20, 2000

Mr. Tom Profit
LEGGO Construction, Inc.
123 Builders Drive
Anycity, Anystate 54321

Dear Mr. Profit:

The object of this valuation report is to estimate the fair market value of 100% of the common stock in LEGGO Construction, Inc. (LEGGO or the Company), on a nonmarketable, control interest basis, as of December 31, 1999, for management purposes and internal planning.

> **EXERCISE 1:** The purpose of the valuation of LEGGO is to assist management in internal planning. What other purposes are there?
>
> _____
>
> _____
>
> _____
>
> _____

EXERCISE 2:   Which of the following is the "as of" date for valuation?

   a. Anytime within one year
   b. "As of" a single point in time
   c. "As of" a single point in time or six months later
   d. Date that the report is signed

In our opinion, the fair market value of 100% of the common stock in LEGGO, on a nonmarketable, control interest basis, as of December 31, 1999, for management purposes, is (rounded):

FIVE MILLION EIGHT HUNDRED THOUSAND DOLLARS
$5,800,000

EXERCISE 3:   Valuation conclusions can be presented as:

   a. A range of values
   b. A single value
   c. An estimate of value
   d. All of the above

EXERCISE 4:   This valuation is being done on a nonmarketable, control interest basis. It is also on a control stand-alone basis. Name the four levels of value that are considered in a valuation.

   1._____

   2._____

   3._____

   4._____

The standard of value used in this appraisal report is fair market value. *Fair market value* is:

The price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arms length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts.[1]

---

[1] International Glossary of Business Valuation Terms (The C.L.A.R.E.N.C.E. Glossary Project comprised of the following professional organizations: American Institute of Certified Public Accountants, American Society of Appraisers, Canadian Institute of Chartered Business Valuators, National Association of Certified Valuation Analysts, and The Institute of Business Appraisers, 2001).

EXERCISE 5: Which of these are standards of value?

   a. Fair market value, fair value financial reporting, investment value
   b. Fair value investment reporting, fair value state actions, intrinsic value
   c. Investment value, intrinsic value, equal value
   d. Fair market value, equal value, investment value

Valuation is based on relevant facts, elements of common sense, informed judgment, and reasonableness. Our scope was unrestricted and our methodology and analysis complied with the Uniform Standards of Professional Appraisal Practice. In addition, this valuation report and the values determined herein cannot be utilized or relied on for any purpose other than for internal management planning.

The enclosed narrative valuation report, as well as all documents and schedules in our files, constitute the basis on which our opinion of fair market value was determined. Statements of fact contained in this valuation report are, to the best of our knowledge and belief, true and correct. In the event that facts or other representations relied on in the attached valuation report are revised or otherwise changed, our opinion as to the fair market value of the common stock of the Company may require updating. However, Valking LLP has no obligation to update our opinion of the fair market value of the common stock of the Company for information that comes to our attention after the date of this report.

No partner or employee of Valking LLP has any current or contemplated future interest in the Company or any other interest that might tend to prevent them from making a fair and unbiased opinion of fair market value. Compensation to Valking LLP is not contingent on the opinions or conclusions reached in this valuation report.

We wish to express our appreciation to you and the management of the Company for your cooperation in making available to us financial data and other pertinent information necessary for the preparation of the report.

                Very truly yours,

                Valking LLP
                Val Dude, CPA/ABV, ASA, CBA, CVA

INTRODUCTION

Description of the Assignment

Valking LLP was retained by Mr. Tom Profit to determine the fair market value of 100% of the common stock in LEGGO Construction, Inc. (LEGGO or the Company) on a nonmarketable, control interest basis, as of December 31, 1999, for management purposes.

Summary Description and Brief History of the Company

The Company was incorporated in 1978 in the state of Anystate. The Company is a closely held subcontractor whose revenues are predominantly earned from sewer and water-line construction, primarily in central Anystate. The Company's customers generally consist of area contractors, developers, and local governments. The Company is now legally structured as an S corporation.

EXERCISE 6:   Valuation of S corporations is one of the most controversial issues in business valuations today. The main issue is whether to and how to tax effect S corporation income. What four options are there in valuing S corporations?

1. _____

2. _____

3. _____

4. _____

The Company obtains most of its business through bidding competitively with general contractors. Management believes that customers contract with the Company due to its solid reputation and competitive bids; its customers have remained loyal. The two largest customers are XYZ General Contractors and the city of Anycity.

Employee relations have been harmonious with minimal turnover. All employees of the Company are unionized with the exception of several office workers. Currently, the economic climates in the market and industry are good. The Company has six competitors that are similar in size and nature.

Ownership and Capital Structure of the Company

The Company is legally structured as a closely held S corporation. As of the date of valuation, there were 5,000 shares of common stock outstanding, structured as follows:

Name	Shares Owned	Percentage of Ownership
Tom Profit	4,250	85%
Gary Profit	250	5%
Susan Profit	250	5%
Michelle Profit	250	5%
Total	5,000	100%

EXERCISE 7:   We are valuing a 100% controlling interest in LEGGO. The percentage of ownership of individual shareholders is not an issue here. However, assume we are valuing the 85% of Tom Profit as opposed to the 100% in LEGGO. The value of an 85% interest in LEGGO would be based on 85% of the 100% control value in LEGGO.

   a. True
   b. False

Standard of Value

The standard of value used in this report is fair market value. Fair market value is defined as:

> *The price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arms length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts.*[2]

Among other factors, this valuation report considers elements of appraisal listed in the Internal Revenue Service's Revenue Ruling 59-60, which "outline[s] and review[s] in general the approach, methods, and factors to be considered in valuing shares of the capital stock of closely held corporations."[3] Specifically, Revenue Ruling 59-60 states that the following factors should be carefully considered in a valuation of closely held stock:

EXERCISE 8:   Revenue Ruling 59-60 is only applicable to estate, gift, and income tax valuations.

   a. True
   b. False

---

1. *The nature of the business and history of the enterprise from its inception.* The Company was incorporated in 1975. It is engaged primarily as a sewage and water-line subcontractor. The Company has grown since its inception, and its customers have remained loyal.
2. *The economic outlook in general and condition and outlook of the specific industry in particular.* The consideration of the economic outlook on a national level, as well as on a regional and local level, is important in performing a valuation. How the economy is performing has a bearing in part on how the Company performs. Overall, the Company outlook is positive.
3. *The book value of the stock and the financial condition of the business.* The Company has a relatively strong balance sheet with a majority of its assets in three categories: cash, contract receivables, and fixed assets. The fixed assets consist primarily of construction equipment and vehicles.
4. *The earning capacity of the company.* The Company's compound growth rate in revenues from 1995 to 1999 was approximately 5%. The Company has demonstrated a good ability to generate profits.
5. *The dividend-paying capacity of the company.* The Company has made distributions equal to the amount of the shareholders' respective tax liabilities in the recent past and will likely continue this trend into the future.
6. *Whether the enterprise has goodwill or other intangible value.* It is generally acknowledged that goodwill is often measured by the earnings ability of an enterprise being valued. Goodwill can be broadly defined as characteristics that

---

[2] Ibid.
[3] Internal Revenue Service, Revenue Ruling 59-60, Section 1.

induce customers to continue to do business with the Company and to attract new customers.

7. *Sales of the stock and size of the block to be valued.* There have been no sales of stock of the Company that would provide an indication of value during the period being analyzed.

8. *The market prices of stock of corporations engaged in the same or a similar line of business having their stocks actively traded in a free and open market, either on an exchange or over the counter.* The market approach was considered in this valuation. A search for guideline companies that are similar in nature and size to the Company was performed.[4]

EXERCISE 9: These are the only eight tenets of value in Revenue Ruling 59-60 that need to be considered.

    a. True
    b. False

Sources of Information

Sources of information used in this appraisal include:

1. Audited financial statements for the years ended March 31, 1995 through December 31, 1999
2. *Stocks, Bonds, Bills, and Inflation, 1999 Yearbook*, published by Ibbotson Associates
3. *The Federal Reserve Bank* for the 20-year maturity rate on 30-year bonds as of December 31, 1999
4. *1996-1999/2000 editions of Benchmark Statistics and Ratios* (fictitious)
5. *The National Economic Review*, published by Mercer Capital Management, Inc., for the fourth quarter of 1999
6. *The Beige Book* published by the Federal Reserve Bank as of December 8, 1999
7. *www.xls.com* web site for public company information
8. *www.hoovers.com* web site for public company information
9. *Pratt's Stats* Online Comparable Transactions Database
10. *IBA* Comparable Transactions Database

Valking LLP has relied on these sources, but has not provided attest services in regard to any of the sources. Val Dude, a financial analyst with Valking LLP interviewed management of the Company.

NATIONAL ECONOMIC OUTLOOK

In conjunction with the preparation of our opinion of fair market value, we have reviewed and analyzed the economic conditions as of December 31, 1999, the date

---

[4] Ibid, Section 4.

of valuation. This report includes summary discussions and analysis of the national economy for the fourth quarter of 1999. These discussions are based on a review of current economic statistics, articles in the financial press, and economic reviews found in current business periodicals. The purpose of the review is to provide a representative "consensus" review of the condition of the national economy and its general outlook at the end of the fourth quarter of 1999.

General Economic Overview

According to preliminary estimates released by the Department of Commerce's Bureau of Economic Analysis (BEA) real Gross Domestic Product (GDP), the output of goods and services produced by labor and property located in the United States, increased at an annualized rate of 5.8% during the fourth quarter of 1999. Revised growth in GDP for the third quarter of 1999 was 5.7%, which is higher than the preliminary estimated annualized growth rate of 4.8%. Increases in personal consumption expenditures, government spending, inventory investment, and exports were major contributors to the increase in GDP. These components were partially offset by an increase in imports. Annual growth in GDP for 1999 was 4.0%, modestly lower than the 4.3% growth rate reported for 1998. The U.S. economy is expected to continue expanding in the year 2000 at approximately a 3% to 4% growth rate.

The Composite Index of Leading Economic Indicators (the government's primary forecasting gauge) increased 0.4% in December after rising 0.1% in October and 0.3% in November. The composit index attempts to gauge economic activity six to nine months in advance. Multiple consecutive moves in the same direction are said to be indicative of the general direction of the economy. In December, nine of the ten leading economic indicators rose. The most significant increases were money supply, interest rate spread, manufacturers' new orders of nondefense capital goods, stock prices, and manufacturers' new orders of consumer goods and materials. During the six-month span through December, the leading index rose 0.9%, and seven of the ten components advanced. According to the Conference Board's report, "the leading indicators point to a continuation of the [economic] expansion during 2000."[5]

Stock markets ended the year at record levels. Broad market and blue chip stock indices turned in 20% to 25% annual gains, while the NASDAQ gained an unprecedented 85.6% during 1999. The Federal Reserve (the "Fed") increased the Federal funds rate in mid-November in an effort to slow economic growth and thus curb inflation. The Fed is attempting to cool the robust economic engine before it produces excessive inflationary pressure. Additional rate tightening is expected during the early part of 2000. Despite a midquarter respite in bond price declines, bond yields reached their highest levels of the year in December, with the 30-year Treasury bond averaging a yield to maturity of 6.35%.

Inflation results for 1999 reflect very low core price growth but high growth in energy prices. The Consumer Price Index (CPI) rose 2.7% for the year. Tight labor markets and strong economic activity may produce inflationary pressures, however, pricing data continue to suggest that gains in productivity and limited pricing

---

[5] *The National Economic Review,* published by Mercer Capital Management, Inc., for the fourth quarter of 1999.

power are keeping inflation in check. The inflation rate is expected to continue at approximately 2.5% to 3.0% in the first half of the year 2000, but increasing fuel prices are posing a significant threat to future price stability.

Consumer Spending and Inflation

According to the Bureau of Labor Statistics (BLS), the CPI was unchanged at 168.3 in December (CPI: all urban consumers, 1982-1984 = 100, before seasonal adjustment). Excluding food and energy, this rate increased at a seasonally adjusted 0.1% in December, following an increase of 0.2% in November. The seasonally adjusted annual rate of inflation for the fourth quarter was 2.2%, compared to 4.2%, 2.9%, and 1.5%, respectively, for the prior three quarters. The inflation rate for 1999 was 2.7%, higher than the 1.6% rate of 1998 which was the smallest annual increase since a 1.1% rise in 1986. The acceleration in 1999 was largely due to an upturn in petroleum-based energy prices. The energy index, which declined 8.8% in 1998, increased 13.4% in 1999. Following a 15.1% decline in 1998, petroleum-based energy costs increased 29.5% in 1999, the largest annual advance since 1990.

The Producer Price Index (PPI), generally recognized as predictive of near-term consumer inflation pressure, increased 0.3% in December (PPI for finished goods, seasonally adjusted) following a 0.2% increase in November and a 0.1% decline in October. For the year, the PPI increased 3.0% and reflected the dramatic impact of energy costs on producer costs. The PPI was flat in 1998, reflecting the aforementioned energy price declines. Core PPI in 1999 increased only 0.9% and mirrored the same underlying pattern in the CPI regarding productivity enhancements and limited wholesale pricing power.

According to the Census Bureau of the Commerce Department, the increase in retail sales for the October to November period was 1.1%, higher than the 0.9% originally reported. The advance estimate for December retail sales (adjusted for seasonal, holiday, and trading day differences) reflected an increase of 1.2% from November and a 9.7% increase over December 1998 sales. Total sales for 1999 were $3.0 trillion, 8.9% higher than 1998. Personal consumption spending represents approximately two-thirds of total economic activity and is generally the primary component of economic growth. Real personal consumption spending increased 5.3% in the fourth quarter, following a 4.9% increase in the third quarter. Durable goods purchases increased 11.8% in the fourth quarter after an increase of 7.7% in the third quarter of 1999.

The Financial Markets

Stock markets began the fourth quarter with a volatile October amid speculations of an interest rate increase. Equity markets plunged during the third week of October before rebounding on investor hopes that the U.S. economy was slowing. The National Association of Securities Dealers Automated Quotations (NASDAQ) showed breathtaking gains in November and December, while the Dow Jones Average (Dow) and Standard and Poor's (S&P) 500 faltered several times before finishing with a strong December. The Dow, the S&P 500, and the NASDAQ finished the year at record levels. For the Dow and the S&P 500, it was the fifth straight

year of double-digit growth. However, blue chip stocks were overshadowed by the NASDAQ's phenomenal 85.6% growth for the year.

The Dow Jones Industrial Average (DJIA) closed the fourth quarter at 11497.12, an increase of 11% for the quarter. The DJIA gained 25.2% in 1999 after a 16% gain in 1998. The S&P 500 closed the quarter at 1469.25, a 14.5% increase for the fourth quarter, following much the same pattern as the Dow. The S&P 500 gained almost 20% in 1999 after a 27% gain in 1998. The NASDAQ composite index, generally consisting of smaller and more technology oriented issues, increased 48.2% during the quarter to close at 4069.31. The NASDAQ surpassed its almost 40% gain in 1998 with an 85.6% gain in 1999. More than half of the NASDAQ's 1999 gain came after the index crossed 3000 on November 3. The broad-market Wilshire 5000 index closed at 13812.67, reflecting a quarterly gain of 18%. The Wilshire 5000 gained 22% in 1999 following similar growth in 1998.

The monthly average yield to maturity on the 30-year Treasury bond during the fourth quarter of 1999 was 6.26%, 6.15%, and 6.35%, respectively, for October, November, and December. Bond prices are negatively correlated with their respective yields, which can shift abruptly on investor reactions to major variances in reported economic data versus market expectations (i.e., expected inflation, growth, monetary policy and other Fed action, etc.). With few exceptions, yields have generally risen throughout the year. Oddly, the November Fed rate hike did not result in a dramatic repricing, but in tandem with the Fed's lack of action at its later December meeting, bond prices fell abruptly in expectation of high growth and the possibility of impending action by the Fed to slow the economy.

Interest Rates

After leaving interest rates unchanged at its October 5 meeting, the Federal Reserve Open Markets Committee (FOMC) raised interest rates by a quarter of a percentage point at its November 16 meeting, the third increase in a three-month span. The change was made to "markedly diminish the risk of rising inflation going forward." Although the FOMC remained idle at its December 21 meeting, it remains concerned "with the possibility that over time increases in demand will continue to exceed the growth in potential supply." Such trends could foster inflationary imbalances that would undermine the economy's performance. Nonetheless, the FOMC decided to adopt a symmetric directive in order to indicate that the focus of policy in the inter-meeting period must be to ensure a smooth transition into the year 2000.[6]

> **EXERCISE 10:** What types of industries would most likely be affected by anticipated changes in interest rates?
>
> _____
> _____
> _____
> _____

[6] Ibid.

Construction, Housing, and Real Estate

Home building is generally representative of overall economic activity because new home construction stimulates a broad range of industrial, commercial, and consumer spending and investment. According to the U.S. Commerce Department's Bureau of the Census, new privately owned housing starts were at a seasonally adjusted annualized rate of 1.712 million units in December, 7% above the revised November estimate of 1.598 million units, but 2% below the December 1998 rate. Single-family housing starts in December were 1.402 million, 8% higher than the November level of 1.299 million units. An estimated 1.663 million privately owned housing units were started in 1999, 3% above the 1998 figure of 1.617 million.

The seasonally adjusted annual rate of new housing building permits (considered the best indicator of future housing starts) was 1.611 million units in December, similar to the revised November rate of 1.612 million and 6% below the December 1998 estimate of 1.708 million.
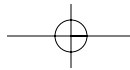
Unemployment

According to the Labor Department's Bureau of Labor Statistics, unemployment levels during the fourth quarter remained historically low. The unemployment rate for October, November, and December was 4.1%, slightly lower than the September rate of 4.2%. This marked the 30th consecutive month that the unemployment rate was below 5%. The unemployment rate for all of 1999 was approximately 4.2%, down from 4.5% in 1998. Tight labor markets remain a theme of Federal Reserve concerns regarding inflation. Productivity enhancements and relatively constant levels of workers' hours are believed to be mitigating historically inflationary conditions.

Summary and Outlook

Economic growth, as measured by growth in GDP, accelerated to 5.8% in the fourth quarter of 1999, after registering a revised 5.7% annualized rate in the third quarter. Annual growth in GDP for 1999 was 4.0%. Stock markets finished the year at record levels. Both the Dow and S&P 500 experienced double-digit growth for the fifth straight year, while the NASDAQ posted an 85.6% gain in 1999. Bond prices generally declined throughout the year but showed particular weakness on rising yields late in the fourth quarter. Fourth-quarter inflation reflected a seasonally adjusted annualized rate of 2.2%, representing a decrease from the third-quarter rate of 4.2%. The rate of inflation for 1999 was 2.7%, higher than the 1.6% rate for 1998. After leaving interest rates unchanged at its October 5 meeting, the Federal Reserve Open Markets Committee raised interest rates by a quarter of a percentage point at its November 16 meeting. No change was made at the December 21 meeting. Economic growth is expected to moderate somewhat from recent levels, but should remain historically favorable with GDP growing at 3% to 4%. Inflation is expected to remain relatively mild at below 3%, but increasing fuel prices are posing a significant threat to future price stability.

> **EXERCISE 11:** What two economic indicators are probably the most important in valuation?

a. Unemployment levels and Gross Domestic Product (GDP)
b. Dow Jones Industrial Average and Producer Price Index
c. GDP and inflation
d. Inflation and unemployment levels

National Economic Impact on Valuation

Analyzing the national economy is an important step in performing a valuation because it helps to identify any risk that the economy may have in relation to the Company. In this case, the economy appears to be performing well.

EXERCISE 12:   In valuing a small geographically concentrated business, which of these types of economic data should be considered?

a. International, national, regional, local
b. National, regional, local
c. Regional, local
d. Local only

REGIONAL ECONOMIC DATA (AS OF DECEMBER 8, 1999)

The economy remained strong in October and early November, but was expanding more slowly than earlier in the year. Reports on consumer spending were mixed, with some noting strong sales growth for the first weekend of the 1999 holiday shopping season.

Construction activity generally was strong, despite softening on the residential side. Overall manufacturing output remained strong, but conditions were varied across industry segments. Lenders reported conditions similar to those noted in the last report, and reports reported no signs of Y2K-related surges in inventory borrowing or cash demand. The labor markets remained much tighter than the rest of the nation, and seasonal demand put additional strain on some sectors of the market. The fall harvest was complete, as was the planting of winter wheat. A survey of agricultural bankers indicated that slow farm loan repayments continued to be a problem.

Consumer Spending

Reports on consumer spending activity were mixed. Prior to the Thanksgiving weekend, sales were well below most merchants' expectations. However, several retailers reported double-digit sales gains from a year ago for the Thanksgiving weekend and most merchants expected a strong holiday sales season. Most retailers' reports cited unusually warm weather as contributing to lackluster pre-Thanksgiving sales results, especially for cold-weather apparel. By contrast, sales of appliances, electronics, and lawn and garden goods had continued to be strong.

Retailers reported that inventories for most goods were in line with their planned levels, but inventories of winter merchandise were high. They also noted that they had not changed their promotional activity from a year earlier. Auto dealers reported that lighter floor traffic and a slowdown in light vehicle sales continued through October and into mid-November. One large auto group noted that service activity was also down and that used-car prices weakened considerably.

Construction and Real Estate

Overall real estate and construction activity was robust but softer than earlier in the year. Demand for both new and existing homes continued to ease in October and early November, but most reports described the market as strong. Those realtors contacted indicated that sales in October and early November were down about 10% from very strong results a year earlier. Home builders' reports appeared to be more positive than realtors' reports, with most reports indicating new home sales were unchanged or down slightly. Conditions in the nonresidential sector remained strong and steady for the most part, according to most reports.

Development of light industrial space was steady to down slightly, as was the development of infrastructure projects. A report from one of the largest metro areas suggested that a few large office projects that have recently broken ground might be the last of the current downtown office expansion. Some contractors noted that many customers have changed strategies, preferring to hire the contractor viewed as most likely to complete the job on schedule rather than going with the low bidder.

Manufacturing

The manufacturing sector generally remained strong, although activity varied by industry segment. According to most automakers, orders for light vehicles remained strong nationwide. Inventories were generally in good shape, although they were reportedly lean for select models. Despite these conditions, the pricing environment remained soft, with an increase in incentive spending noted by some analysts. Producers of agricultural and heavy construction equipment reported further softening in output in recent weeks, and most planned to reduce inventories further next year, although not as aggressively as this year. Reports expected domestic demand would be relatively soft in the coming year while foreign demand was expected to pick up. Wallboard producers indicated that demand remained very strong and factories continued to run near capacity. With new capacity coming on stream, however, price increases were expected to moderate in the coming months. A large manufacturer of telecommunications equipment noted that orders continued to recover from weak sales early in the year, due in large part to strengthening demand in Asian markets.

Banking and Finance

Lending activity continued to be mixed in October and early November. Business lending remained robust, and most bankers suggested that growth was steady. A few reports indicated that overall asset quality on commercial loans might have deteriorated slightly, since intense competition for customers led some lenders to relax

standards slightly. Some bankers appeared to be less optimistic about the near-term commercial lending outlook than they had been in recent months. Household loan demand softened further, according to most lenders, as new mortgage and refinancing activity continued to slow. Reports noted that asset quality on consumer loans improved as existing bank and store credit-card balances were paid down, delinquencies slowed, and personal bankruptcies decreased. A report from one large money center bank attributed this improvement to a lagged effect from strong refinancing activity earlier in the year, and as a result, did not expect the improvement to endure. None of the bankers contacted noted any unusual borrowing by businesses that would indicate an inventory buildup ahead of the year 2000 rollover, nor was there any noticeable increase in the demand for cash by consumers.

Labor Markets

Labor markets remained very tight in October and early November, and worker shortages appeared to intensify as the holiday hiring season began. Retailers and others who increase hiring for the holidays were finding it particularly difficult to staff positions this year. According to one report, many traditional seasonal workers (such as students, homemakers, etc.) were already employed elsewhere, either part- or full-time, as a result of overall strength in the economy. Some retailers reportedly have gone to extraordinary lengths to attract seasonal hires by offering, among other things, increased wages, steeper in-store discounts, and even tuition reimbursement for part-time workers.

Demand for workers in most other sectors remained strong as well. Temporary help firms in some metro areas reported increasing demand for manufacturing workers, while there were a few reports of slackening demand for financial service professionals, partly as a result of slowing mortgage applications. On balance, reports suggested that overall wage pressures had not intensified further in recent weeks. Staffing services reports indicated that wages were increasing fastest in the administrative/clerical occupations while a slowdown in wage growth was noted for information technology professionals. Reports from a large trucking firm noted the continued shortage of drivers is especially serious during current high seasonal demand for transporting goods. Most reports continued to argue that worker shortages were hampering the economic expansion.

Agriculture

The fall corn and soybean harvest was essentially complete in surrounding states. Storage space for corn and soybeans was reported to be tight in some areas, due to strong yields and a quick harvest pace that caused grain deliveries to bunch up at elevators. Winter wheat planting was finished and most of the crop had emerged, but its condition had deteriorated in some areas due to dry weather. A survey of agricultural bankers indicated that farmland values were steady to weak during the third quarter in several states, with rising values in only two states. Bankers also indicated that slow farm loan repayments continued to be a problem, and a majority believed there will be an increase in the incidence of financially stressed farmers selling assets during the fall and winter.

Regional Economic Impact on Valuation

The regional economy should also be analyzed in performing a valuation to help to determine specific risks associated with the particular region in which the Company operates. In this instance, the regional economy is performing very well in many areas.

LOCAL ECONOMY

Anycity, Anystate was founded in 1810. It has an estimated population of 670,000 citizens and is approximately 326 square miles in area. The economy is made up primarily of trade, services, and manufacturing. Anycity has the 12th strongest economy in the nation, according to a 1998 economic analysis. The analysis studied factors such as employment, per capita personal income and construction, and retail employment.

According to a 1998 study, Anycity, Anystate was one of the top ten metropolitan areas in the nation as a hot spot for starting and growing young companies. The survey measured the number of significant start-up firms created during the last ten years and the number of ten-year-old firms that grew substantially during the last four years. Also, in November 1997, a national magazine named Anycity one of the top ten "most improved cities" for business in the United States. Anystate was ranked seventh based on cost of living, educational opportunities, quality of life, and business issues. Construction activity also remained good.

Local Economic Impact on Valuation

The local economy is another important aspect to consider when performing a business valuation. The local economy represents the immediate environment in which the Company operates. The economy of Anycity, Anystate appears to be doing very well. Thus, in our opinion, there is little risk associated with the local economy that will affect the Company.

INDUSTRY OUTLOOK: WATER AND SEWER SYSTEMS

Water supply construction increased 5% in 1998, while sewerage construction was about the same as the level in 1997. Both of these construction categories did well in the mid-1990s, reflecting high levels of building construction as well as work on long-deferred projects. The strong construction market expected in 2000 will help both categories do well. In the longer term, waterworks probably will be one of the more rapidly growing categories of public construction. The aqueduct systems of most older cities are so old that extensive replacement work must be done each year. The current level of construction in the United States is much lower than that needed to replace waterworks every 50 years, which is the recommended practice. Most water utilities are in a good position to raise the needed capital, so a steady increase in replacement construction is likely through 2000.

The Safe Drinking Water Act requires numerous upgrades and replacements of water supply facilities. The Water Resources Act has expanded the role of the

Federal government in municipal water supply and appears to have facilitated increased Federal funding for water supply construction. After 1999, sewerage construction probably will continue to increase, although at a growth rate lower than that of the overall economy. Federal spending may not keep up with inflation, but the state and local share will increase steadily. A growing market factor is the need to repair, modernize, and replace the sewage treatment plants that were built during the boom of the 1970s. The sustained recovery in building construction also will support sewerage construction.

Impact on Valuation

The outlook for this industry is good. The Company is a subcontractor that does mainly water-line and sewer work. The water and sewer portion of the construction sector appears to be growing and is expected to grow in the next few years. The fact that there is a need of repairs and modernization of sewage treatment plants that were built a few decades ago also provides a positive outlook for the Company.

EXERCISE 13: Which industry outlook factors are generally the most important in supporting valuation assumptions?

    a. Growth rates, profit margins, and risk
    b. Regulatory and legal issues
    c. Unemployment figures
    d. Minority discounts and/or control premiums

HISTORICAL FINANCIAL ANALYSIS AND OVERVIEW OF THE COMPANY

Financial statement amounts labeled "Dec-98" represent the nine-month period, April 1, 1998 through December 31, 1998, due to change of year end.

EXERCISE 14:   What is the most important use of historical financial data?

    a. To determine how the company has performed
    b. To assist in supporting anticipated performance
    c. To highlight profitability
    d. To determine average profits

EXERCISE 15:   Analysts typically spread five years of financial statements because:

    a. Revenue Ruling 59-60 requires five years.

b. Uniform Standards of Professional Appraisal Practice requires five years.
c. An economic cycle is often captured in five years.
d. Most business plans are based on five years of projections.

Income Statements

REVENUES

Revenues are generally the first component to be reviewed by financial analysts. All other things equal, trends in revenues will translate into trends in profit margins, as well as the Company's ultimate fate. Increases in revenues, all things equal, should lead to higher profitability as the Company's fixed costs are spread over a wider revenue base, leading to lower fixed costs per dollar of revenue. Table 1.1 represents the actual revenues of the Company for each year and the growth trend associated with each year.

Table 1.1: Actual Revenues and Growth Trend						
	Mar-95	**Mar-96**	**Mar-97**	**Mar-98**	**Dec-98**	**Dec-99**
Revenues	$12,198,433	$11,345,938	$10,726,214	$11,558,858	$12,278,556	$14,819,373
% Change		-7.0%	-5.5%	7.8%	N/A	20.7%

As can be seen, the Company's revenues have increased toward the latter part of the analysis period. The revenues for the nine-month period ending December 1998 were higher than any of the previous 12-month periods. Over the period, 1995 to 1999, the compound growth rate in revenues was approximately 5%.

COST OF GOODS SOLD

To compare the Company to the industry, we used the 1999/2000 Benchmark Studies (fictitious). We believe that the appropriate industry classification for the Company is Standard Industrial Classification Code 1623: Construction: Water, Sewer, Pipeline, Communication and Power Line—General Contractors. According to the Benchmark Studies, the cost of goods sold averaged 78.2%. As presented in Table 1.2, the Company's cost of goods sold as a percentage of revenues was 78.8% in 1999, which is comparable to the industry average.

Table 1.2: Cost of Goods Sold and Percentage of Revenues						
	Mar-95	**Mar-96**	**Mar-97**	**Mar-98**	**Dec-98**	**Dec-99**
Cost of Goods Sold	$9,774,937	$9,301,970	$8,193,650	$8,804,580	$8,868,450	$11,676,380
% of Sales	80.1%	82.0%	76.4%	76.2%	72.2%	78.8%

OPERATING EXPENSES

According to the *Benchmark Studies*, operating expenses as a percentage of sales for companies in this industry were approximately 14.2% in 1999. As presented in Table 1.3, the Company's operating expense as a percentage of sales was approximately 8.1% in 1999, significantly lower than that of the industry average.

Table 1.3: Operating Expenses and Percentage of Revenues						
	Mar-95	**Mar-96**	**Mar-97**	**Mar-98**	**Dec-98**	**Dec-99**
Operating Expenses	$1,135,984	$818,233	$1,213,537	$1,563,721	$872,841	$1,202,237
% of Sales	9.3%	7.2%	11.3%	13.5%	7.1%	8.1%

Balance Sheets

ASSETS

Current assets usually consist of cash and cash equivalents, accounts receivable, inventory, and other current assets, which usually consist of prepaid expenses.

ASSET MIX

Over the period, the majority of the Company's assets has been in fixed assets and contract receivables. Table 1.4 illustrates the Company's asset mix as a percentage of total assets:

Table 1.4: Asset Mix Percentages							
	Mar-95	**Mar-96**	**Mar-97**	**Mar-98**	**Dec-98**	**Dec-99**	**Benchmark**
Cash and Equivalents	13.8%	9.0%	10.2%	10.5%	1.7%	4.6%	11.2%
Contract Receivables	19.6%	15.8%	12.6%	10.1%	39.3%	34.3%	39.9%
Inventories	0.2%	0.2%	0.3%	0.2%	0.1%	0.6%	1.0%
Other Current Assets	5.8%	8.9%	14.2%	22.3%	9.7%	5.9%	7.7%
Net Fixed Assets	54.4%	58.8%	59.6%	55.3%	47.9%	53.3%	33.5%
Other Assets	6.2%	7.1%	3.3%	1.6%	1.3%	1.3%	6.7%

As shown in Table 1.4, the Company's asset mix was stable for the most part. The contract receivables increased significantly in 1998 and 1999 due to the change in the reporting periods. The contract receivables tend to be higher at the December 31 year end than they were at the March 31 year end. The Company also has a much higher percentage of net fixed assets than the industry average. The Company maintained a lower cash balance than the industry in the past few years, but that again is mainly due to the change in the fiscal year ends.

LIABILITIES

The majority of the liabilities consisted of long-term debt, including the current portion. Table 1.5 illustrates the Company's liabilities mix as a percentage of total liabilities and stockholders' equity.

Table 1.5: Liability Mix Percentages							
	Mar-95	**Mar-96**	**Mar-97**	**Mar-98**	**Dec-98**	**Dec-99**	**Benchmark**
Short-Term Notes	2.2%	2.5%	2.4%	2.9%	8.7%	2.9%	3.4%
Current Portion of LTD	0.0%	0.0%	0.0%	0.0%	3.9%	6.8%	4.8%
Accounts Payable	3.2%	7.4%	3.1%	4.3%	6.3%	7.7%	15.2%
Other Current Liabilities	12.9%	6.2%	4.1%	15.9%	4.3%	5.9%	12.8%
Long-Term Debt	10.4%	12.6%	14.5%	13.4%	6.7%	4.1%	12.9%
Equity	71.3%	71.3%	75.9%	63.5%	70.0%	72.6%	50.9%

The liability section of the balance sheet was also stable. The largest liabilities were the accounts payable and the long-term debt. The equity as a percent is much higher than the industry average.

EQUITY

Stockholders' equity refers to the difference between the book value of a company's assets and its liabilities. The stockholders' equity increased each year over the period analyzed. During the entire period from March 1995 to December 1999, the stockholders' equity grew 109.8%.

Financial Ratio Analysis

Ratios for the nine-month period ending December 31, 1998, are not presented.

EXERCISE 16: The main drawbacks of publicly available benchmark financial ratios are:

   a. There are very few SIC codes.
   b. They calculate the ratios incorrectly.
   c. The companies that make up the data cannot be used to determine pricing ratios or capitalization rates.
   d. The information is from public companies.

The industry statistics used in the ratio analysis were taken from *Benchmark Studies*. The median statistics are for businesses whose primary Standard Industrial Classification Code 1623: Construction: Water, Sewer, Pipeline, Communication and Power Line—General Contractors.

   Ratios are divided into four groups, each representing an important aspect of the Company's financial position. The groups are liquidity, activity, leverage, and profitability.

LIQUIDITY RATIOS

Liquidity analysis assesses the risk level and ability of a company to meet its current obligations. It represents the availability of cash and the company's ability to eventually be converted into cash.

CURRENT RATIO

The current ratio compares current assets to current liabilities. It measures the margin of safety a company has for paying short-term debts in the event of a reduction in current assets. It also gives an idea of a company's ability to meet day-to-day payment obligations. Generally, a higher ratio is better.

Table 1.6: Current Ratios					
	Mar-95	**Mar-96**	**Mar-97**	**Mar-98**	**Dec-99**
Company	2.3	2.1	3.9	1.9	2.0
Industry	1.4	1.2	1.2	1.5	1.5

The Company's current ratio was consistantly above the industry average over the period, as shown in Table 1.6. The Company's ratio is higher than the industry due to lower current liabilities.

Quick Ratio

The quick ratio adds accounts receivables to cash and short-term investments and compares the sum to current liabilities. The resulting ratio measures a company's ability to cover its current liabilities without having to convert inventory to cash. Generally a higher ratio is better.

Table 1.7: Quick Ratios					
	Mar-95	**Mar-96**	**Mar-97**	**Mar-98**	**Dec-99**
Company	1.9	1.5	2.4	0.9	1.7
Industry	1.1	1.0	1.0	1.2	1.2

As shown in Table 1.7, the Company's ratios fluctuated over the period. The basic difference between the current and quick ratio is that the quick ratio includes only cash and receivables as the numerator. Thus, inventory is not included. As can be seen from the table, the industry averages contained a larger inventory base due to the lower ratio. The Company carried a minimal inventory of materials and supplies. In 1998, the Company's ratio was lower than the industry average due to a large increase in current liabilities in that year. Other than that year, the Company has been very liquid and could easily cover its current maturities.

Conclusion of Liquidity Ratios

The Company appears to have lower risk than that of the industry. The current ratio and the quick ratio are above the industry average for the most part. Thus, the

Company would have little difficulty covering its obligations when compared to other companies within the industry.

ACTIVITY RATIOS

Activity ratios, also known as "efficiency ratios," describe the relationship between the Company's level of operations and the assets needed to sustain the activity. The higher the ratio, the more efficient the Company's operations, as relatively fewer assets are required to maintain a given level of operations. Although these ratios do not measure profitability or liquidity directly, they are ultimately important factors affecting those performance indicators.

Collection Period Ratio

The collection period ratio, also known as the "days' sales in receivables," multiplies accounts receivable at year end by 365, then divides the result by net sales for the year. This ratio measures how much control a company has over its accounts receivable, and indicates how many days, on the average, it takes that company to convert accounts receivable to cash. Generally, the smaller the number of days, the better.

Table 1.8: Collection Period Ratios					
	Mar-95	**Mar-96**	**Mar-97**	**Mar-98**	**Dec-99**
Company	19	19	16	16	58
Industry	55	54	59	63	60

Compared to the industry, the Company was better at collecting receivables. For the years represented in Table 1.8, the Company converted its accounts receivable to cash more quickly than the other companies within the industry. The Company's collection period ratio was higher in 1999 due to exceptional circumstances concerning two accounts.

Fixed Assets Activity Ratio

The fixed assets activity ratio compares net sales to fixed assets. It indicates a company's ability to generate net sales from the use of its fixed assets. Largely depreciated fixed assets or a labor-intensive operation may cause a distortion of this ratio. Generally, a higher ratio is better.

Table 1.9: Fixed Assets Activity Ratios					
	Mar-95	**Mar-96**	**Mar-97**	**Mar-98**	**Dec-99**
Company	6.9	5.2	4.7	4.1	4.1
Industry	5.8	6.2	6.1	6.9	6.4

The Company appears worse than the industry average during the period, as demonstrated in Table 1.9. The Company appears to have not utilized its fixed assets in generating revenues as effectively as the industry. However, the Company owns all of its equipment and machinery as opposed to renting. Thus, the higher

amount of fixed assets causes the ratio to be low as opposed to the industry figures. Most companies of this nature do not own all of their equipment. The industry averages most likely represent companies that both rent and own their respective equipment and machinery.

Asset Management Ratio

The asset management ratio compares net sales to total assets. It measures a company's ability to generate sales volume using its assets. It is useful in comparing companies within specific industry groups on their effective employment of assets. Generally, a higher ratio is better.

Table 1.10: Asset Management Ratios					
	Mar-95	**Mar-96**	**Mar-97**	**Mar-98**	**Dec-99**
Company	3.7	3.0	2.8	2.3	2.2
Industry	2.1	2.0	1.9	2.4	2.2

The Company's average decreased each year. The Company's trend (as shown in Table 1.10) was worse than the industry the most recent two years. The Company is not generating sales volume using its assets as effectively as in the past, but is comparable to other companies in the industry currently.

Conclusion of Activity Ratios

The Company seems to be doing better and worse than the industry in this category. The Company does collect its receivable quicker than other companies within the industry, for the most part. However, the Company is not as effective as other companies within the industry with fixed assets, but this may be affected by the large level of owned fixed assets.

LEVERAGE RATIOS

Leverage ratios measure the relative exposure of the creditors versus the shareholders of a business. Leveraged companies accrue excess returns to their shareholders as long as the rate of return on the investments financed by debt is greater than the cost of debt. However, financial leverage brings additional risks primarily in the form of fixed costs that would adversely affect profitability if revenues decline. Additionally, the priority of interest and debt can have a severe negative impact on a company when adversity strikes. The inability to meet these obligations may lead to default and possibly bankruptcy.

Net Fixed Assets to Equity

The net fixed assets to equity ratio divides net fixed assets by a company's equity. It measures a company's ability to support the acquisition of fixed assets by using the original investment plus retained earnings. Generally, a low ratio is better.

Table 1.11: Net Fixed Assets to Equity Ratios					
	Mar-95	**Mar-96**	**Mar-97**	**Mar-98**	**Dec-99**
Company	0.8	0.8	0.8	0.9	0.7
Industry	0.7	0.8	0.7	0.8	0.6

Overall, the Company is close to the industry averages. The Company's ratio was pretty stable over the period, as shown in Table 1.11. Generally, the Company would have no problem supporting the acquisition of fixed assets with retained earnings.

Total Debt to Equity Ratio

The debt to equity ratio compares a company's total liabilities to its net worth. It expresses the degree of protection provided by the owners for the creditors. Generally, a lower ratio is better.

Table 1.12: Debt to Equity Ratios					
	Mar-95	**Mar-96**	**Mar-97**	**Mar-98**	**Dec-99**
Company	0.4	0.4	0.3	0.6	0.4
Industry	1.3	1.2	1.0	1.1	1.0

The Company's ratio has been better than the industry averages for every year. A lower ratio indicates less debt in relation to equity. As presented in Table 1.12, the Company had less debt than the industry.

Conclusion of Leverage Ratios

The Company is leveraged and contains some debt and related interest expense, but its debt is still not as high as the industry averages. The Company should have little trouble supporting the purchase of fixed assets with retained earnings. The Company also has the capacity to take on some long-term debt if necessary.

PROFITABILITY RATIOS

Profitability ratios measure the ability of a company to generate returns for its stockholders.

Return on Equity

The return on equity ratio compares pretax income to equity. It measures a company's ability to generate a profit on the owner's investment. Generally, a higher ratio is better.

Table 1.13: Return on Equity Ratios					
	Mar-95	**Mar-96**	**Mar-97**	**Mar-98**	**Dec-99**
Company	54.9%	47.3%	46.8%	41.4%	40.3%
Industry	30.5%	32.7%	31.9%	28.8%	31.2%

Although the Company's return on equity ratio has deteriorated during the period under analysis, it is still higher than the industry average, as presented in Table 1.13.

Return on Assets Ratio

The return on asset ratio is calculated by dividing pretax income by total assets. This ratio expresses the pretax return on total assets and measures the effectiveness of management in employing available resources. Generally, a higher ratio is better.

Table 1.14: Return on Asset Ratios					
	Mar-95	**Mar-96**	**Mar-97**	**Mar-98**	**Dec-99**
Company	39.7%	33.7%	35.5%	26.3%	29.3%
Industry	21.2%	26.2%	19.8%	23.2%	19.9%

Table 1.14 shows the Company's ratio was better than the industry average for each year in the analysis period.

Conclusion of Profitability Ratios

The Company is profitable and appears to be outperforming the industry, although there is a recent decrease in the margins.

> **EXERCISE 17:** Indicate whether you believe that LEGGO is a better or worse performer based on the financial ratios previously presented.
>
> _____
>
> _____
>
> _____

APPRAISAL OF FAIR MARKET VALUE

Valuation Approaches

Conventional appraisal theory provides several approaches for valuing closely held businesses. The asset approach looks to an enterprise's underlying assets in terms of either their net going concern or their liquidation value. The income approach looks at an enterprise's ongoing cash flows or earnings and apply appropriate capitalization or discounting techniques. Finally, the market approach derives value multiples from guideline company data or transactions.

> **EXERCISE 18:** All three approaches to value must be applied in all valuations.
>
> a. True
> b. False

Asset Approach

ADJUSTED BOOK VALUE METHOD

The adjusted book value method consists of determining the fair market value of a company's assets and subtracting the fair market value of its liabilities to arrive at the fair market value of the equity. Both tangible and intangible assets are valued. Appraisals are used to value certain assets, and the remaining assets and liabilities are often included at book value, which is often assumed to approximate fair market value. This method does not provide a strong measure of value for goodwill or other intangible assets, which are more reasonably supported through the Company's income stream. In this case, the value under the adjusted book value method was less than the values calculated under the income and market approaches. Thus, the adjusted book value method was not utilized in the determination of a conclusion of value for the Company.

EXCESS CASH FLOW METHOD

The excess cash flow method, which is sometimes referred to as the excess earnings or formula method, is based on the excess cash flow or earnings available after a percentage return on the tangible assets used in a business have been subtracted. This residual amount of cash flow is capitalized at a percentage return for intangible assets of the business to derive the intangible asset value. This method is commonly used for very small businesses and in marital dissolution proceedings. The Internal Revenue Service's position on this method is that it should only be used when no better method exists.[7] It was not used in the valuation of LEGGO since more appropriate methods were available.

> **EXERCISE 19:**   In what type of valuation setting is the excess cash flow method most often used?
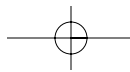>
>   a. ESOPs (Employee stock ownership plans)
>   b. Estate tax
>   c. Dissenting rights
>   d. Marital dissolution

> **EXERCISE 20:**   On which Revenue Ruling is the excess cash flow method based?
>
>   a. Revenue Ruling 59-60
>   b. Revenue Ruling 83-120
>   c. Revenue Ruling 68-609
>   d. Revenue Ruling 77-287

---

[7] Revenue Ruling 68-609.

Income Approach

CAPITALIZED CASH FLOW METHOD (PREDEBT/INVESTED CAPITAL BASIS)

The capitalized cash flow method determines the value of a Company as the present value of all of the future cash flows that the business can generate to infinity. An appropriate cash flow is determined, then divided by a risk-adjusted capitalization rate, here the weighted average cost of capital. In this instance, control cash flows were used. This method was used to determine the Company's indicated value. The value is stated on a marketable, control interest basis.

EXERCISE 21: Which method(s) is(are) considered valid under the income approach?

    a. Guideline public company method
    b. Discounted cash flow method
    c. Capitalized cash flow method
    d. Excess cash flow method

EXERCISE 22: In which situation(s) would a capitalized cash flow method be more applicable?
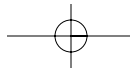
    a. When a company's future performance is anticipated to change from its prior performance
    b. In litigation settings
    c. When a single historical or pro forma amount of cash flow is anticipated to be earned with a constant growth in the future
    d. When valuing very small businesses

EXERCISE 23: List the two main bases when using the capitalized cash flow (CCF) or discounted cash flow (DCF) methods of the income approach.

1._____

2._____

Determination of Appropriate Control Cash Flow

Under the capitalized cash flow method, we used a predebt/invested capital basis for our calculation. This is due, in part, to the fact that the interest being valued is on a control interest basis. This control interest can influence the amount of debt held by the Company. We began our analysis with the adjusted pretax earnings at the

date of valuation and for the five years prior to the date of valuation. The adjustments that were made to arrive at adjusted pretax earnings include an adjustment to officers' compensation, a control adjustment. We then made adjustments for interest expense, nonrecurring items, and items that are not reflective of operations to the pretax earnings.

EXERCISE 24:   Under the direct equity basis, what are the components of net cash flow?

_____

_____

_____

_____

EXERCISE 25:   For the invested capital basis of the income approach, list the components of net cash flow.

_____

_____

_____

_____

EXERCISE 26:   What is the difference between minority cash flows and control cash flows?

_____

_____

_____

_____

EXERCISE 27:   Which adjustment(s) are made when valuing both minority and control cash flows?

    a. Nonrecurring items
    b. Nonoperating assets
    c. Excess compensation
    d. Perquisites
    e. Taxes

EXERCISE 28:   Assume the company does not have any control adjustments and the company is run to the benefit of all shareholders without any shareholders taking out cash flow over or above what they are entitled. Is this value control or minority?

_____

_____

_____

_____

The first adjustment was to add back the depreciation expense. This is a noncash expense and should be added back to arrive at an appropriate cash flow. The adjustment for the gains and losses on the sale of marketable securities was made because the marketable securities are considered an excess/nonoperating asset. All income and expenses related to excess/nonoperating assets are taken out of the income stream, because the total value of these assets is unrelated to the indicated value of operations. The reason for the adjustments to dividend income, income from the investment in a partnership, and unrealized gains on marketable securities is the same. These assets relate to excess/nonoperating assets and must be taken out of the income stream. The second adjustment was an adjustment to the interest income.

EXERCISE 29:   List some of the nonoperating/excess assets that are sometimes encountered in a business valuation.

_____

_____

_____

_____
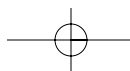
EXERCISE 30:   In valuing a *controlling interest* in a corporation, most analysts agree that the nonoperating and/or excess assets of the business must be removed out of the operating business, then added back at fair market value.

   a. True
   b. False

EXERCISE 31:   In valuing a *minority interest* of a company, most analysts agree that the nonoperating and/or excess assets of the business must be removed out of the operating business, then added back at fair market value.

   a. True
   b. False

The resulting amount for each year (adjusted income before income tax) was then averaged. We believe a straight average is appropriate due to the cyclical nature of the Company. However, the Company changed year ends in 1998. Since we have nine months of data at December 31, 1998, an adjustment was made accordingly.

EXERCISE 32: In the valuation of LEGGO, the analyst decided to use a straight average of the adjusted income before income taxes for five historical years. Besides a straight average, what other method(s) can be used to determine the appropriate cash flow to be capitalized into perpetuity?

a. Weighted average
b. Most recent fiscal year
c. Most recent trailing 12 months
d. Trend line analysis/next year's budget
e. DCF average of next three years

EXERCISE 33: Analysts will generally use a straight historical average where the earnings and cash flows are more volatile.

a. True
b. False

The next step was to deduct an estimated ongoing depreciation expense in order to calculate state and Federal taxes. In this instance, the ongoing depreciation expense was estimated to be $650,000 based on estimated future capital expenditures. After the ongoing depreciation was deducted, state and Federal taxes were calculated at a combined rate of 40% and deducted. The amount that resulted was adjusted income predebt and after-tax.

EXERCISE 34: Which situation is most appropriate when adjusting cash flows for depreciation and capital expenditures?

a. Capital expenditures should exceed depreciation.
b. Depreciation should exceed capital expenditures.
c. Depreciation and capital expenditures should be similar.
d. The actual unadjusted amounts should be capitalized.

EXERCISE 35: Assuming taxes are to be deducted, what two choices are there in making the tax adjustments?

a. Tax each year historically, then determine the average.
b. Taxes should never be deducted in the value of an S corporation.
c. Make all adjustments in the historical period pretax, determine the average, then deduct for taxes.

Three further adjustments were then made to the predebt and after-tax income. The ongoing depreciation that was deducted to calculate taxes was added back because it

is not a cash expense. The estimated future capital expenditures were then deducted. In this case, it was estimated that future capital expenditures would approximate $650,000 per year based on historical trends. The final adjustment was a working capital adjustment. The formula for this adjustment is based on industry data, as shown in Table 1.15. After making these final three adjustments, predebt and after-tax cash flow resulted. We believe that this cash flow is representative of future operations. The cash flow was then divided by a risk-adjusted capitalization rate using weighted average cost of capital, which is discussed below, to derive a value of the operations.

Table 1.15: Working Capital Adjustment Formula				
Current Year Revenue	X	Expected Growth Rate	=	Projected Revenue
Projected Revenue	−	Current Year Revenue	=	Change in Revenue
Change in Revenue	÷	Sales to Working Capital Ratio	=	Working Capital Adjustment

---

EXERCISE 36: Which economic benefit stream(s) can be used for cash flow in a capitalized cash flow method?

  a. After-tax income
  b. Pretax income
  c. Net cash flow
  d. EBITDA (Earnings before interest, taxes, depreciation, and amortization)
  e. Revenues
  f. Debt-free net income
  g. Debt-free cash flow

DETERMINATION OF WEIGHTED AVERAGE COST OF CAPITAL

EXERCISE 37: When using the direct equity basis instead of the invested capital basis, assumptions of capital structure can be avoided.
  a. True
  b. False

There are a number of steps involved in calculating the weighted average cost of capital (WACC). These steps involve calculating the cost of equity, the cost of debt, and the determination of an optimal capital structure for the Company using an iterative process. The WACC formula is:

$$\text{WACC} = \text{We(Ke)} + \text{Wd (Kpt)}(1 - t)$$

Where

  We = Percentage of equity in the capital structure (at market value)
  Ke = Cost of equity
  Wd = Percentage of debt in the capital structure (at market value)
  Kpt = Cost of debt, pretax
  t = Tax rate

EXERCISE 38: When using the invested capital basis to determine a control value, you should always use an optimal capital structure in the weighted average cost of capital.

    a. True
    b. False

Cost of Equity

EXERCISE 39: Name the two methods most often used to derive a cost of equity in the income approach.

1._____

2._____

EXERCISE 40: When using the capital asset pricing model (CAPM) to derive an equity cost of capital for a controlling interest, it is sometimes necessary to adjust beta for differences between the capital structure of the public companies and the capital structure of the subject company being valued. This is not necessary if the capital structure is assumed to be the same. Given the following information, and if the CAPM was used for LEGGO, calculate the unlevered and relevered beta.

a. Average beta of guideline public companies = 1.4

    Tax rate = 40%

    Market value capital structure = 35% debt, 65% equity

    The formula for unlevered beta is:

$$Bu \quad = \quad Bl / (1 + (1 - t)(Wd / We))$$

    Where

Bu	=	Beta unlevered
Bl	=	Beta levered
t	=	Tax rate for the company
Wd	=	Percentage of debt in the capital structure (at market value)
We	=	Percentage of equity in the capital structure (at market value)

b. Assuming that LEGGO has a capital structure of 25% debt and 75% equity and that the CAPM can be used, what would be the beta?

    The formula to relever the beta is:

$$Bl \quad = \quad Bu (1 + (1 - t)(Wd / We))$$

EXERCISE 41: Should build-up method and CAPM rates of return be applied to income or cash flow?

_____

_____

_____

_____

EXERCISE 42: Which of these rates of return are derived using Ibbotson data?

  a. Minority rates of return
  b. Control rates of return
  c. Both
  d. Neutral

We used a build-up method to calculate the cost of equity. The first step was to begin with the risk-free rate of return, represented by the yield on long-term (20-year) constant maturity U.S. Treasury Coupon Bonds of 6.83%, as reported in the *Federal Reserve Bulletin* at December 31, 1999.

EXERCISE 43: Why are long-term 20-year U.S. Treasury coupon bonds most often used for the risk-free rate of return in both the build-up method and the CAPM?

_____

_____

_____

_____

The second and third steps are to add the common stock equity risk premium of 8.0% and the small stock risk premium of 4.35% (10th decile), both calculated in Ibbotson Associates *SBBI 1999 Yearbook*.

EXERCISE 44: The common stock equity risk premium was 8.0% as of the valuation date from the *SBBI 1999 Yearbook*. It is 7.8% from the *SBBI 2001 Yearbook*. What benchmark is this return based on?

  a. S&P 500
  b. New York Stock Exchange
  c. Dow Jones Industrial Average
  d. Russell 5000

EXERCISE 45:   In applying a small stock risk premium, what are the choices that analysts can make using the Ibbotson data?

a. 10th decile annual beta
b. 10th decile monthly beta
c. 10th decile sum beta
d. 10A monthly beta
e. 10B monthly beta
f. Micro-cap annual beta
g. Micro-cap monthly beta
h. Micro-cap sum beta
i. All of the above

The final step is to add a company-specific premium that takes into account additional risks specific to the Company. These additional risks include:

- *Company's depth of management.* The Company appears to have sufficient depth of management.
- *The importance of key personnel to the Company.* The Company does have several key employees whose loss would have a negative impact on the Company.
- *The growth potential in the Company's market.* The water and sewer portion of the construction sector appears to be growing and is expected to grow in the next few years. (See earlier discussion on the industry outlook section.)
- *The stability of the Company's earnings and gross profits.* The Company has a consistent history of generating profits.
- *The Company's bidding success rates.* The Company has had good bidding success. In addition, the Company has maintained good profit margins. This indicates that the Company's bidding success is not due to underpricing contracts.
- *The financial structure of the Company.* The Company is financially sound.
- *The geographic location of the Company.* The Company is located in Anycity, Anystate. (See earlier discussion on the local economy.)
- *The Company's order backlogs.* The Company has a sufficient amount of contract backlogs.
- *The diversification of the Company's customer base.* The majority of the Company's revenues is generated from only a few customers. The Company could be negatively impacted should any of these customers be lost.

After considering the financial ratio analysis and these risk factors, plus the size of the company as compared to the Ibbotson companies, it is our opinion that a company-specific premium of 4% is appropriate for the Company.

EXERCISE 46:   A list of risk factors was previously presented for LEGGO to calculate the specific risk premium. Discuss the different methods for determining what the actual specific risk premium should be.

_____

_____

_____

_____
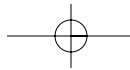
EXERCISE 47: Specific company risk premiums can be determined from Ibbotson data.

    a. True
    b. False

EXERCISE 48: Using the information in the text, calculate the cost of equity for LEGGO.

Rs	=	Risk-free rate of return	=	____
RPm	=	Risk premium common stock	=	____
RPs	=	Risk premium small stock	=	____
RPu	=	Company-specific risk premium	=	____
Ke	=	Cost of equity	=	____

The total of these four factors provides a net cost of equity, which is also called the equity rate, of 23% (rounded).

Cost of Debt

Next, we determined the cost of debt. To calculate this rate, we began by determining the Company's actual borrowing rate at the date of valuation. The borrowing rate of the Company at the date of valuation was at prime. We also added a risk premium of 1% to the prime rate. The prime rate at December 31, 1999 was 8.5%. Therefore, the Company's borrowing rate was 9.5%. To this rate, which is called the debt rate, a 40% tax rate is deducted. The result is the after-tax cost of debt of approximately 6% (rounded).

EXERCISE 49: Which of these factors causes the cost of debt to be tax-affected?

    a. Debt principal is tax deductible.
    b. Interest expense is tax deductible.
    c. It should not be tax-affected since equity is not tax-affected.
    d. Debt and interest are tax deductible.

Weighted Average Cost of Capital

Finally, we determined the WACC using the debt and equity rates that were already calculated. The equity discount rate is multiplied by an equity percentage and the

debt discount rate is multiplied by a debt percentage as determined based on aver-
age capital structure for a company in this industry. In this instance, a 75% equity
multiple and a 25% debt multiple were determined from industry averages. The
percentages were then multiplied by the equity and debt discount rates calculated
earlier and then summed to arrive at the WACC discount rate. This rate was calcu-
lated to be 18.75%.

EXERCISE 50:   Using the information in the text, calculate the weighted
average cost of capital for LEGGO.

_____

_____

_____

_____

EXERCISE 51:   Which methods can be used to determine the weights in the
weighted average cost of capital?

    a. Iterative process
    b. Guideline public companies
    c. Aggregated public industry data
    d. Risk Management Associates
    e. Troy
    f. Book values
    g. Anticipated capital structure

EXERCISE 52:   Explain the iterative process for determining the weights in
the weighted average cost of capital.

_____

_____

_____

_____

EXERCISE 53:   Changing the amount of debt in the capital structure of the
company has no effect on the return on equity.

    a. True
    b. False

EXERCISE 54:   When valuing a controlling interest in a company, should you use the optimal capital structure based on public data or the capital structure anticipated to be employed by the owner of the company?

_____

_____

_____

_____

From this amount, a 3% growth factor is deducted to arrive at a net cash flow capitalization rate for the next year. The 3% growth factor is a long-term inflationary component used to adjust the capitalization rate. The rate derived after deducting the 3% was divided by 1 plus the growth rate to arrive at a net cash flow capitalization rate for the current year. In this instance, the rate amounts to 15% (rounded).

EXERCISE 55:   Calculate the capitalization rate from the information in the text (apply to historical cash flow).

_____

_____

_____

_____

EXERCISE 56:   Items used to support growth rates in the capitalized cash flow method of the income approach include:

   a. Inflation
   b. Nominal Gross Domestic Product
   c. Industry growth rate
   d. Actual historical company growth rate
   e. All of the above

Capitalized Cash Flow Method Conclusion of Value on a Marketable, Control Interest Basis

The indicated value of the Company's invested capital determined under this method was $6,673,093, which was stated on a marketable, control interest basis. The final step was to add nonoperating/excess assets and subtract any structured debt that the Company possessed at the date of valuation. In this instance, the Company possessed excess/nonoperating assets of $388,580. These assets included marketable securities, an investment in a partnership, other receivables, and life

insurance premiums receivable. The Company also held structured debt of $918,121. Thus, after adding the nonoperating assets and subtracting the interest-bearing debt, a value of $6,143,552 is derived, as shown in Table 1.16.

Table 1.16: Income Approach—Capitalized Cash Flow Method	
	Calculated Values
Invested Capital	$6,673,093
Add: Nonoperating Assets	388,580
Less: Interest-Bearing Debt	(918,121)
Value on a Marketable, Control Interest Basis	$6,143,552

DISCOUNTED CASH FLOW METHOD

EXERCISE 57: When is it more appropriate to use a discounted cash flow method instead of a capitalized cash flow method?

_____

_____

_____

_____

The discounted cash flow method is a multiple period valuation model that converts a future series of economic income or cash flow into value by reducing it to present worth at a rate of return (discount rate) that reflects the risk inherent therein. The income might be pretax, after-tax, debt-free, free cash flow, or some other measure deemed appropriate and adjusted by the analyst. Future income or cash flow is determined through projections provided by the Company. However, no such projections were available or attainable. Furthermore, given the trends and growth propects of the company, the capitalized cash flow method was deemed more appropriate.

Market Approach

GUIDELINE COMPANY TRANSACTIONS METHOD

The guideline company transactions method values a company by finding acquisitions of similar companies in the marketplace and applying the multiples at which those companies sold to the subject company data to derive a value. In this instance, we researched various databases and found applicable transactions in two of them: Pratt's Stats and IBA (Institute of Business Appraisers). The transactions discovered within these databases are considered relevant.

EXERCISE 58: Which of these are general transaction databases used by analysts in valuing companies?

    a. Pratt's Stats
    b. RMA
    c. Ibbotson Associates
    d. Institute of Business Appraisers
    e. Done Deals
    f. Bizcomps
    g. Mergerstat Review

EXERCISE 59: What is one of the most significant problems when using transaction data?

_____

_____

_____

_____

Pratt's Stats Database

Pratt's Stats database provides a list of transactions of companies in various industry sectors. In this instance, we researched the water, sewer, and pipeline construction sector and found nine sale transactions that took place from 1996 to the date of valuation. Using this database, we calculated values based on gross revenues and net income, as shown in Table 1.17.

Table 1.17: Pratt's Stats Database Values	
	Calculated Values
Sales Price to Gross Revenue	$6,915,495
Sales Price to Net Income	6,974,419
Average = Value on Nonmarketable, Control Interest Basis	$6,944,957

IBA Database

The IBA database provides a list of transactions of companies in various industry sectors. In this instance, we researched the water, sewer, and pipeline construction sector and found four transactions that took place from 1991 to the date of valuation. Using this database, we calculated values based on gross revenues and discretionary cash flows. To each value, however, we added and deducted some balance sheet items. The multiples derived from the IBA database apply only to the value of

fixed assets and intangibles. Thus, to get to a total entity value, all current assets must be added and all liabilities must be deducted. The values using this database are presented in Table 1.18.

Table 1.18: IBA Database Values	
	Calculated Values
Sales Price to Gross Revenue	$4,630,801
Sales Price to Discretionary Cash Flows	3,267,016
Average	3,948,908
Add: Current Assets	3,090,597
Less: Total Liabilities	(1,864,359)
Value on Nonmarketable, Control Interest Basis	$5,175,146

Database Conclusion of Value on a Nonmarketable, Control Interest Basis

Table 1.19 presents the conclusions of value for each database after adding the non-operating assets that the Company possesses.

Table 1.19: Database Conclusions of Value		
	Pratt's Stats	**IBA**
Nonmarketable, Control Interest Value	$6,944,957	$5,175,146
Add: Non-Operating Assets	388,580	388,580
Total Indicated Value of LEGGO on a Nonmarketable, Control Interest Basis	$7,333,537	$5,563,726

EXERCISE 60: Is a controlling interest nonmarketable?

_____

_____

_____

_____

GUIDELINE PUBLIC COMPANY METHOD

A market approach using guideline public companies requires estimates of a capitalization rate (or multiple) derived from publicly traded guideline companies, and ongoing earnings (or a variation thereof, such as EBIT) for the subject entity.

Search for Guideline Public Companies

Guideline public companies provide a reasonable basis for comparison to the relevant investment characteristics of a company being valued. They are most often publicly traded companies in the same or similar business as the valuation subject.

However, if there is insufficient evidence in the same business, it may be necessary to consider companies with an underlying similarity of relevant investment characteristics such as markets, products, growth, cyclical variability, and other salient factors.

Our procedure for deriving group guideline companies involves:

- Identifying the industry in which the Company operates
- Identifying the Standard Industrial Classification Code for the industry in which the Company operates
- Using Internet search tools to search filings with the SEC for businesses that are similar to the subject company
- Screening the initial group of companies to eliminate those that have negative earnings, those with a negative long-term debt to equity ratio, and those whose stock price could not be obtained
- Reviewing in detail the financial and operational aspects of the remaining potential guideline companies, and eliminating those whose services differ from the subject company

Based on these criteria, our search identified two publicly traded companies that we believe are similar to the Company. The companies selected were:

1. *Kaneb Services, Inc.: headquartered in Richardson, Texas.* This company provides on-site services such as sealing under-pressure leaks for chemical plants, pipelines, and power companies.
2. *Infracorps, Inc.: headquartered in Richmond, Virginia.* This company specializes in the installation and renovation of water, wastewater, and gas utility pipelines. The company is now focusing on trenchless technology to repair subsurface pipelines.

EXERCISE 61: Size is often a consideration in selecting guideline public companies. General criterion for using size as a selection parameter is:

    a. Two times
    b. Five times
    c. Ten times
    d. None of the above

EXERCISE 62: In the valuation of LEGGO, only one company, Infracorps, was comparable by both industry and size. Given that fact, which option would probably result in the best presentation of the GPCM in the valuation of LEGGO?

    a. Only use Infracorps.
    b. Use both Infracorps and Kaneb.
    c. Reject the guideline public company method.
    d. Use both companies but only as a reasonableness test for the other approaches.

EXERCISE 63: Guideline public company methods are not applicable to smaller businesses such as LEGGO.

a. True
b. False

EXERCISE 64: Which selection criteria are generally used by analysts in choosing guideline public companies?

a. Size
b. Return on equity
c. Profit margin
d. Industry similarity
e. Similar products and services
f. Growth rates
g. Investors' similarities

We have chosen to use four multiples to value the Company: earnings before interest and taxes (EBIT), revenues, assets, and equity. We believe that the asset and equity multiples are appropriate because construction companies tend to be asset intensive. We also believe that the EBIT and revenue multiples are appropriate because the Company has a strong income statement and is profitable. We have calculated both one-year and three-year multiples due to the cyclical nature of the industry. No adjustments have been made to the financial statements of the guideline companies as we believe none are necessary.

EXERCISE 65: Which of these are commonly used guideline public company valuation multiples?

a. Price/earnings
b. Invested capital/revenues
c. Price/gross profits
d. Invested capital/book value of equity
e. Invested capital/EBITDA
f. Invested capital/EBIT
g. Price/assets
h. Invested capital/debt-free net income
i. Invested capital/debt-free cash flow

EXERCISE 66: When using the guideline public company method, at what point in time are the prices of the public companies' stock?

a. 30-day average
b. As of valuation date

c. Six-month average
d. Three-year average

EXERCISE 67: What type of value is the result of the application of the guideline public company method?

a. Control
b. Minority
c. Neutral

Guideline Public Company Method Conclusion of Value on a Marketable, Control Interest Basis

Applying multiples to the one- and three-year averages of the Company's EBIT, revenues, assets, and equity provides the values shown in Table 1.20. We have not applied any size premiums to the Company or fundamental discounts to the guideline company multiples in this case. We also put more weight on the income measures of value. As mentioned previously, we must add the nonoperating assets to the value to arrive at a total indicated value.

Table 1.20: Total Selected Values—Guideline Public Company Method		
	One-year Values	**Three-year Values**
Selected Value	$5,000,000	$6,000,000
Add: Nonoperating Assets	388,580	388,580
Value on Marketable, Control Interest Basis	$5,388,580	$6,388,580

EXERCISE 68: In selecting multiples from guideline public companies for application to a subject company such as LEGGO, what options do analysts typically have?

a. Mean average of the multiples
b. Median average of the multiples
c. Individual guideline company multiples
d. Average multiples with a fundamental discount
e. All of the above

EXERCISE 69: Which of these time periods can be used to derive valuation multiples from publicly traded companies?

a. Most recent four quarters
b. Most recent fiscal year end

    c. Three-year average
    d. Five-year average
    e. One-year projected
    f. Three-year future average

LACK OF MARKETABILITY DISCOUNT

EXERCISE 70:   Discounts for lack of marketability can be applied to 100% controlling interests in a company such as LEGGO

    a. True
    b. False

EXERCISE 71:   Which discounts for lack of marketability studies and/or data are typically relied on in determining discounts?

    a. Mergerstat Review
    b. Restricted stock studies
    c. IPO studies
    d. Court cases
    e. Flotation costs
    f. CAPM
    g. Ibbotson Associates
    h. Quantitative Marketability Discount Model (QMDM)

EXERCISE 72:   Although we are valuing a 100% controlling interest in LEGGO, there are numerous other levels of ownership interests that can exist in a closely held company. Provide some examples of other levels of ownership.

_____

_____

_____

_____

_____

A marketability discount is intended, among other things, to account for the issues a controlling owner must face as he or she begins to liquidate his or her controlling interest in the company. There are a number of studies and cases over the years that have attempted to identify this discount.

> **EXERCISE 73:** A discount for lack of marketability should be applied to all of the valuation methods used in the valuation of LEGGO.
>
>   a. True
>   b. False

Selection of Applicable Discount for Lack of Marketability

To quantify the discount for lack of marketability applicable to the control, marketable ownership interest in the Company, we considered these factors to have an impact on the magnitude of the discount:

- Uncertain time horizon to complete the offering or sale
- Cost to prepare for and execute the offering or sale
- Risk concerning eventual sale price
- Noncash and deferred transaction proceeds
- Marketability implied in underlying valuation methodology

Based on our analysis of the factors we consider to affect the lack of marketability discount, it is our opinion that the appropriate discount for lack of marketability is 5% for a control interest as of December 31, 1999.

CORRELATION OF VALUES

To reach a final conclusion for the value of the stockholders' equity on a nonmarketable, control interest basis, the methods used were subjectively weighted according to their merits as indicators of value, as shown in Table 1.21. In this instance, we believe that the capitalized cash flow method provides the best indication of value because of the discernible trends of the company. This value is supported by the guideline company transactions method (GCTM) (Pratt's Stats and IBA Databases) and the guideline public company method (GPCM) (one-year and three-year). The guideline company transaction method was not chosen as the best indication of value due to the age of some of the transactions and the lack of detailed knowledge of the terms of the transactions. The guideline public company method was also not chosen as the best indication of value since there were only two companies, and one was larger and not as good a fit based on the industry description.

Table 1.21: Value Indications			
Method	Marketable Control Interest Basis	Discount for Lack of Marketability	Nonmarketable Control Interest Basis
Capitalized Cash Flow Method	$6,143,552	5%	$5,835,374
GCTM Pratt's Stats Database			7,333,537
GCTM IBA Database			5,563,726
GPCM—One-year	5,388,580	5%	5,119,151
GPCM—Three-year	6,388,580	5%	6,069,151
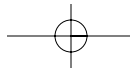
**EXERCISE 74:**   Which method can be used to correlate and reconcile value?

    a. Straight average of the indications of value
    b. Numerical weights assigned to each of the value indications
   c. Qualitative judgment in selection of value
    d. All of the above

TOTAL CONCLUSION OF VALUE ON A NONMARKETABLE, CONTROL INTEREST BASIS

In our opinion, the fair market value of 100% of the common stock of LEGGO, on a nonmarketable, control interest basis, as of December 31, 1999, for management purposes and internal planning, is approximately (rounded):

FIVE MILLION EIGHT HUNDRED THOUSAND DOLLARS
$5,800,000
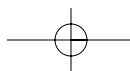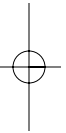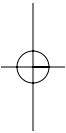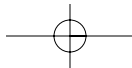
ADDENDUM 1: DISCOUNT CASE STUDY EXERCISES

Exercise A

Assume that we are determining the fair market value of a minority nonmarketable interest in a company for gift tax purposes. The minority marketable value derived by various methods is $100 per share. We are in a state where you need over 50% for full control. What is the relative discount for lack of marketability (DLOM) in these situations?

    a. Value of a 10% interest with one 90% owner

_____
_____
_____

    b. Value of a 10% interest with nine other 10% owners

_____
_____
_____

    c. Value of a 50% interest with one other 50% owner

_____
_____
_____

    d. Value of a 33.33% interest with two other 33.33% owners
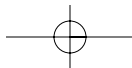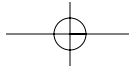
_____
_____
_____

    e. Value of a 2% interest with two 49% owners

_____
_____
_____

Exercise B

Again, assume we are determining the fair market value of a company for gift tax purposes. In this case study we are valuing a 100% controlling interest on a stand-alone basis in a closely held company. What is the discount for lack of marketability in these situations where the prediscount value is determined by using:

a. P/E ratios from control transactions information (i.e., Pratt's Stats)

_____

_____

_____

b. P/E ratios from guideline public companies

_____

_____

_____

c. Discounted cash flow (DCF) with a discount rate determined using Ibbotson information

_____

_____

_____

d. Capitalized cash flow method

_____

_____

_____

e. Asset approach

_____

_____

_____