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Business Valuations:

Applications & Calculations of the Income and Asset Approaches

Co-Sponsored by:
National Association of Certified Valuators and Analysts
Institute of Business Appraisers

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Business Valuations: Applications and Calculations of the Income and Asset Approaches

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Table of Contents

Course Evaluation Form **3**

On-Site Support Evaluation Form **5**

Chapter One
Professional Standards **1**

Chapter Two
Defining the Valuation Engagement & Obtaining the Necessary Information **1**

I. Defining the Evaluation Engagement 1
II. Effective Research 5
III. Obtaining the Necessary Information 18
Chapter Review Questions 27

Chapter Three
Search for Adjustments **1**

I. Search for Adjustments 1
Exhibit 3-1 Historical Balance Sheet Summary 9
Exhibit 3-2 Summary of Historical Common Size Balance Sheets 11
Exhibit 3-3 Graphs of Selected Historical Balance Sheet Line Items 13
Exhibit 3-4 Summary of Historical Income Statements 21
Exhibit 3-5 Summary of Historical Common Size Income Statements 23
Exhibit 3-6 Graphs of Selected Historical Income Statement Line Items 25
Exhibit 3-7 Comparative Analysis of Historical Financial Statements 35
Exhibit 3-8 Selected Unadjusted Ratio Summary 37
Exhibit 3-9 Selected Ratio Graphs 39
Exhibit 3-10 Checklist for Valuation Engagements 45
Chapter Review Questions 77

Chapter Four
Estimating the Future Benefit Stream **1**

I. The Process 1
II. Net Cash Flows vs. GAAP Earnings 4
Chapter Review Questions 15

Chapter Five
Capitalization/Discount Rates **1**

I. Build-Up Method 1
II. Modified Capital Asset Pricing Model (CAPM) 10
III. Equity Risk Premium: Duff & Phelps, LLC Risk Premium Report and Calculator 15
IV. Weighted Average Cost of Capital (WACC) 20
V. Market Multiples 27
VI. The Risk Rate Component Model (RRCM) 30
Chapter Review Questions 35

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Chapter Six
Valuation Methods 1

I. Asset-Based Approach: Adjusted Net Assets Method 1
II. Income Approach: Capitalization of Earnings Method 4
III. Income Approach: Excess Earnings (Return on Assets or ROA) Treasury Method 8
IV. Excess Earnings (Return on Assets or ROA) Treasury Method 11
V. Excess Earnings (Return on Asses) Reasonable Rate Method 14
VI. Market Approach: Price/Earnings (P/E) Ratio Method 17
VII. Market Approach: Dividend Paying Capacity Method 19
VIII. Tax Affecting Pass-Through Entities 22
IX. Summary: Non-Controlling Interest in Pass-Through Entity Theory 23
Chapter Review Questions 27

Appendix I *Daubert* and *Kumho Tire*
Appendix II Revenue Ruling 59-60
Appendix III IRC § 2031 and Pertinent Regulations and the Pension Protection Act
Appendix IV Answer Keys
Appendix V Sample Industry Economic Study
Appendix VI Sample MSA Economic Study
Appendix VII Income and Asset Approaches Answers to Chapter and Appendix Review Questions
Appendix VIII Business Valuation Development Checklist
Appendix IX Reporting Checklist for Detailed Reports
Appendix X Duff & Phelps, LLC Risk: Premium Report 2005
Appendix XI CPE Exam for Self-Study Participants Only

Index

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CTI
INSTRUCTOR/COURSE EVALUATION FORM

COURSE TITLE: BV: Income and Asset Approaches LOCATION: _____

INSTRUCTOR: _____

Your assistance will allow us to continue to provide you with the highest quality learning experience and to more closely satisfy your professional needs and expectations in the future. Thank you!

INSTRUCTOR	N/A	Poor	Fair	Good	Very Good	Excellent
How would you rate the instructor's overall presentation/teaching skills?	0	1	2	3	4	5
How would you rate the instructor's knowledge of the subject matter?	0	1	2	3	4	5
If applicable, were individual instructors effective?	0	1	2	3	4	5

COURSE	N/A	Poor		Fair		Good		Very Good		Excellent	
Were stated learning objectives met?	0	1	2	3	4	5	6	7	8	9	10
Were stated prerequisite requirements appropriate and sufficient?	0	1	2	3	4	5	6	7	8	9	10
Were program materials accurate?	0	1	2	3	4	5	6	7	8	9	10
Were program materials relevant and did they contribute to the achievement of the learning objectives?	0	1	2	3	4	5	6	7	8	9	10
Was the time allotted to each learning activity appropriate?	0	1	2	3	4	5	6	7	8	9	10
Were the handouts or advance preparation materials satisfactory?	0	1	2	3	4	5	6	7	8	9	10

Comments: _____

_____

_____

Would you recommend this course to your colleagues and/or other professionals? ❑ Yes ❑ No

If no, explain why? _____

_____

In what other ways could this course be improved or made more valuable to you? _____

_____

Which aspect(s) of this course did you enjoy / value the most? _____

_____

Rate your experience in this field. ❑ None ❑ Nominal ❑ Modest ❑ Seasoned ❑ Extensive

What can we do in the future to assist you in your career/professional development? _____

_____

May we use your comments? ❑ Yes ❑ No If yes, please provide your member number _____

We are unable to use your comments without knowing who you are.

CTI
On-Site Support Evaluation Form

CTI ON-SITE REPRESENTATIVE_____ DATE:_____

LOCATION:_____

Your assistance will allow us to continue to provide you with the highest quality learning experience and to more closely satisfy your professional needs and expectations in the future. Thank you.

	N/A	Poor	Fair	Good	Very Good	Excellent
Representative's availability (at sign-in table each morning, at breaks, at CTI sponsored lunches, at class end):	0	1	2	3	4	5

COMMENTS: _____

	N/A	Poor	Fair	Good	Very Good	Excellent
Attitude and professionalism:	0	1	2	3	4	5

COMMENTS: _____

	N/A	Poor	Fair	Good	Very Good	Excellent
Ability to respond adequately to questions/concerns (including follow-up if research was required):	0	1	2	3	4	5

COMMENTS: _____

	N/A	Poor	Fair	Good	Very Good	Excellent
Daily introductory comments and explanations:	0	1	2	3	4	5

COMMENTS: _____

	N/A	Poor	Fair	Good	Very Good	Excellent
Ability of CTI representative to interface with hotel personnel on room set-up/amenities/problems:	0	1	2	3	4	5

COMMENTS: _____

	N/A	Poor	Fair	Good	Very Good	Excellent
To what degree did the training location meet with your overall expectations:	0	1	2	3	4	5

COMMENTS: _____

	N/A	Poor	Fair	Good	Very Good	Excellent
To what degree were the software preview(s) useful:	0	1	2	3	4	5

COMMENTS: _____

May we use your comments? ❑ Yes ❑No
If yes….Name_____ NACVA/IBA #:_____

CHAPTER ONE

PROFESSIONAL STANDARDS

These Professional Standards are effective for engagements accepted on or after August 1, 2015

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NACVA PROFESSIONAL STANDARDS

Table of Contents

I. INTRODUCTION
A. Preamble 5

II. GENERAL AND ETHICAL STANDARDS
A. Integrity and Objectivity 5
B. Professional Competence 5
C. Due Professional Care 5
D. Understandings and Communications with Clients 5
E. Planning and Supervision 6
F. Sufficient Relevant Data 6
G. Confidentiality 6
H. Acts Discreditable 6
I. Client Interest 6
J. Documentation 6
K. Financial Interest 6

III. SCOPE OF SERVICES
A. Applicability 6
B. Valuation Services 7
1. Valuation Engagement 7
2. Calculation Engagement 7
C. Other Services 7
D. Jurisdictional Exception 7

IV. DEVELOPMENT STANDARDS
A. General 7
B. Expression of Value 7
C. Reliability of Data 7
D. Scope Limitations 8
E. Use of Specialist 8
F. Approaches and Methods 8
G. Identification 8
H. Fundamental Analysis 8

V. REPORTING STANDARDS
A. General 9
B. Form of Report 9
C. Contents of Report 9
1. Detailed Reports 9
2. Summary Reports 10
3. Calculation Reports 10
4. Statement that the Report is in Accordance with NACVA Standards 11
D. Litigation Engagements Reporting Standards 11

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Table of Contents

Continued

VI. BUSINESS VALUATION REVIEW
A. Applicability 12
B. General 12
1. Types of Opinions 13

VII. REVIEW ENGAGEMENT DEVELOPMENT STANDARDS
A. Identification 13
B. Fundamental Analysis 13

VIII. REVIEW ENGAGEMENT REPORTING STANDARDS
A. General 14
1. An Introduction 14
2. An Opinion 14
3. If Outside the Business Valuation Review, the Member Develops His or Her Own Conclusion of Value or Calculated Value 14
4. Business Valuation Review Assumptions and Limiting Conditions 14
5. Sources of Information Relied Upon by the Member 15
6. Representation of the Member 15
7. Appendix and/or Exhibits 15
8. Qualifications of Member 15

IX. INTERNATIONAL GLOSSARY 15

X. EFFECTIVE DATE 15

APPENDIX 16

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NACVA PROFESSIONAL STANDARDS

I. INTRODUCTION

These principles-based Standards have been developed to provide guidance to members and other valuation professionals performing valuation services. The use of professional judgment is an essential component of estimating value.

A. PREAMBLE

Members of the National Association of Certified Valuators and Analysts (NACVA) shall comply with the standards and definitions herein. NACVA will adopt changes to and interpretations of the Standards when necessary.

II. GENERAL AND ETHICAL STANDARDS

A member shall perform professional services in compliance with the following principles:

A. INTEGRITY AND OBJECTIVITY

A member shall remain objective, maintain professional integrity, shall not knowingly misrepresent facts, or subrogate judgment to others. The member must not act in a manner that is misleading or fraudulent.

B. PROFESSIONAL COMPETENCE

A member shall only accept engagements the member can reasonably expect to complete with a high degree of professional competence. If a member lacks the knowledge and/or experience to complete such engagements with a high degree of professional competence, the member is not precluded from performing such engagements. In such instance, the member must take steps necessary to gain such expertise through additional research and/or consultation with other professionals believed to have such knowledge and/or experience prior to completion of such engagements.

C. DUE PROFESSIONAL CARE

A member must exercise due professional care in the performance of services, including completing sufficient research and obtaining adequate documentation.

D. UNDERSTANDINGS AND COMMUNICATIONS WITH CLIENTS

A member shall establish with the client a written or oral understanding of the nature, scope, and limitations of services to be performed and the responsibilities of the parties. If circumstances encountered during the engagement require a significant change in these understandings, the member shall notify the client. A member shall inform the client of conflicts of interest, significant reservations concerning the scope or benefits of the engagement, and significant engagement findings or events.

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E. PLANNING AND SUPERVISION

A member shall adequately plan and supervise the performance of services.

F. SUFFICIENT RELEVANT DATA

A member shall obtain sufficient relevant data to afford a reasonable basis for conclusions, recommendations, or positions.

G. CONFIDENTIALITY

Unless required to do so by competent legal authority, a member shall not disclose any confidential client information to a third party without first obtaining the express consent of the client.

H. ACTS DISCREDITABLE

A member shall not commit any act discreditable to the profession.

I. CLIENT INTEREST

A member shall serve the client interest by seeking to accomplish the objectives established with the client, while maintaining integrity and objectivity.

J. DOCUMENTATION

Quantity, type, and content of documentation are matters of the member's professional judgment. Members should retain documentation for a sufficient time period to comply with legal, regulatory, and professional requirements. NACVA recommends a minimum of five years.

K. FINANCIAL INTEREST

A member shall not express a Conclusion of Value or a Calculated Value unless the member and the member's firm state either of the following:

1. "I (We) have no financial interest or contemplated financial interest in the subject of this report."; or
2. "I (We) have a (specify) financial interest or contemplated financial interest in the subject of this report."

I. SCOPE OF SERVICES

A. APPLICABILITY

These Standards are applicable when valuing a ***business, business ownership interest, security, or intangible asset.*** The General and Ethical standards apply to all professional services performed by members.

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B. VALUATION SERVICES

A member may express either a Conclusion of Value or a Calculated Value. When performing such Valuation Services, members shall comply with these Development and Reporting Standards. Valuation Services are:

1. **Valuation Engagement**

   A Valuation Engagement requires that a member apply valuation approaches or methods deemed in the member's professional judgment to be appropriate under the circumstances and results in a Conclusion of Value; or

2. **Calculation Engagement**

   A Calculation Engagement occurs when the client and member agree to specific valuation approaches, methods, and the extent of selected procedures and results in a Calculated Value.

C. OTHER SERVICES

Any service provided by a member of the NACVA should be done so in an ethical and competent manner that does not negatively impact the valuation profession in general or the NACVA in particular.

D. JURISDICTIONAL EXCEPTION

These Standards may differ from published governmental, judicial, accounting, or other authority that specifies valuation development or reporting procedures. In that event, the member should follow the applicable published authority or stated procedures. The other parts of these Standards shall continue in full force and effect.

II. DEVELOPMENT STANDARDS

A. GENERAL

A member shall comply with these Development Standards when expressing a Conclusion of Value or a Calculated Value.

B. EXPRESSION OF VALUE

Value can be expressed as a single number or a range. A valuation analyst must avoid bias in the development of a Conclusion of Value or a Calculated Value.

C. RELIABILITY OF DATA

A member may rely upon information provided by any source without corroboration if disclosed in the report.

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D. SCOPE LIMITATIONS

A member must consider scope limitations which affect the level of reliance on the information.

E. USE OF SPECIALIST

If the work of a third party specialist, such as a real estate or equipment appraiser, was relied upon in the engagement, a description of the reliance (if any) and any level of member's responsibility should be documented.

F. APPROACHES AND METHODS

Valuation methods are commonly categorized into the asset-based, market, income, or a combination of these approaches. Professional judgment is used to select the approaches and the methods that best indicate the value. Rules of thumb are acceptable as reasonableness checks, but should not be used as stand-alone method.

G. IDENTIFICATION

A member must define the assignment and determine the scope of work necessary by identifying the following:

1. Subject to be valued;
2. Interest to be valued;
3. Valuation date;
4. Purpose and use of the valuation;
5. Standard of value;
6. Premise of value;
7. Intended users;
8. Valuation approaches or methods;
9. Assumptions, limiting conditions and scope limitations;
10. Ownership size, nature, restrictions and agreements;
11. Sources of information; and
12. Other factors that may influence value when appropriate in the opinion of the member.

H. FUNDAMENTAL ANALYSIS

For a Conclusion of Value the member must obtain and analyze applicable information, as available, to accomplish the assignment, including:

1. The nature of the business and the history of the enterprise;
2. The economic outlook in general and the condition and outlook of the specific industry in particular;
3. The adjusted book value of the interest to be valued and the financial condition of the enterprise;
4. The earning capacity of the enterprise;
5. The dividend paying capacity of the enterprise;
6. Whether or not the enterprise has goodwill or other intangible value;
7. Prior sale of interests in the enterprise being valued;
8. Size of interest to be valued and its control, liquidity and marketability characteristics;

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9. The market price of interests or enterprises engaged in the same or a similar line of business having interests actively traded in a free and open market;
10. Hypothetical conditions appropriate for the circumstances; and
11. All other information deemed by the member to be relevant.

V. REPORTING STANDARDS

A. GENERAL

A member shall comply with these Reporting Standards when expressing a Conclusion of Value or a Calculated Value. The objective of these Reporting Standards is to ensure consistency and quality of valuation reports issued by members of NACVA. The purpose of these Reporting Standards is to establish minimum reporting criteria.

B. FORM OF REPORT

The form of any particular report should be appropriate for the engagement, its purpose, its findings, and the needs of the decision-makers who receive and rely upon it. The purpose of these Reporting Standards is to establish minimum reporting criteria. The report may be written or oral.

C. CONTENTS OF REPORT

A report expressing a Conclusion of Value may be presented in either a Summary or Detailed Report. A Calculated Value must be presented in a Calculation Report. The member should disclose the report type (Detailed, Summary, or Calculation).

1. Detailed Reports

Detailed Reports must be coherent, supportable, and understandable. A detailed report should include, as applicable, the following sections titled using wording similar in content to that shown:

a) Letter of Transmittal
b) Table of Contents
c) Introduction, may include:

(1) Identification of the subject being valued
(2) Purpose and use of the valuation
(3) Description of the interest being valued
(4) Ownership size, nature, restrictions and agreements
(5) Valuation date
(6) Report date
(7) Standard of Value and its definition
(8) Identification of the premise of value
(9) Scope limitations
(10) Material matters considered
(11) Hypothetical conditions/assumptions and the reason for their inclusion
(12) Disclosure of subsequent events considered
(13) Reliance on a specialist
(14) Denial of access to essential data
(15) Jurisdictional exceptions and requirements

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d) Sources of information
e) A description of the fundamental analysis (refer to IV(H)), may include:

(1) Historical financial statement summaries
(2) Adjustments to historical financial statements
(3) Adjusted financial statement summaries
(4) Projected/forecasted financial statements including the underlying assumptions
(5) Non-operating assets and liabilities
(6) Valuation approaches and method(s) considered by the member
(7) Valuation approaches and method(s) utilized by the member
(8) Other items that influence the valuation
(9) Site visit disclosure
(10) Reconciliation of estimates and conclusion of value

f) Identification of the assumptions and limiting conditions
g) Representation of the member, may include:

(1) Client identification and limitations on use of report
(2) Disclosure of any contingency fee
(3) A statement of financial interest
(4) Whether or not member is obligated to update the report
(5) Responsible member signature—the member who has primary responsibility for the determination of value must sign or be identified in the report

h) Qualifications of member
i) Appendices and exhibits

2. **Summary Reports**

Summary Reports should set forth the Conclusion of Value through an abridged version of the information that would be provided in a detailed report as outlined in (C.1.a) through (C.1.i) as applicable, and therefore, need not contain the same level of detail.

3. **Calculation Reports**

A Calculation Report should set forth the Calculated Value and should include the following information.

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a) Introduction, may include:

(1) Identification of the subject interest
(2) Purpose and use of the calculation
(3) Description of the interest being valued
(4) Ownership size, nature, restrictions and agreements
(5) Calculation date
(6) Report date
(7) Scope of work
(8) Calculation Procedures
(9) Hypothetical conditions/assumptions and the reason for their inclusion
(10) Disclosure of subsequent events considered
(11) Reliance on a specialist

b) Identification of the assumptions and limiting conditions
c) Representation of the member, adapted to a calculation report

(1) Client identification and limitations on use of report
(2) Disclosure of any contingency fee
(3) A statement of financial interest
(4) Whether or not member is obligated to update the report
(5) Responsible member signature—the member who has primary responsibility for the determination of the calculated value must sign or be identified in the report

d) Appendices and exhibits
e) Purpose of the calculation procedures;
f) Statement that the expression of value is a Calculated Value; and
g) A general description of the calculation, including a statement similar to the following:

> "This Calculation Engagement did not include all the procedures required for a Conclusion of Value. Had a Conclusion of Value been determined, the results may have been different."

4. **Statement that the Report is in Accordance with NACVA Standards**

A statement similar to the following should be included in the member's report:

> "This analysis and report were completed in accordance with 'The National Association of Certified Valuators and Analysts' Professional Standards."

D. LITIGATION ENGAGEMENTS REPORTING STANDARDS

A valuation performed for a matter before a court, an arbitrator, a mediator, or other facilitator, or a matter in a governmental or administrative proceeding, is exempt from the reporting provisions of these standards. The reporting exemption applies whether the matter proceeds to trial or settles. This litigation waiver does not, however, relieve the member from complying with the Development Standards and all other standards promulgated by NACVA.

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VI. BUSINESS VALUATION REVIEW

A. APPLICABILITY

These standards are applicable in an engagement to review a report that valued a ***business, business ownership interest, security, or intangible asset***. The General and Ethical standards apply to all professional services performed by members.

1. Under these Review Standards, if the member provides a Conclusion of Value or Calculated Value as a part of the Review of another valuation analyst's work, the member must follow NACVA's General Business Valuation Standards as outlined in paragraphs III. through V. above. In the context of preparing the Conclusion of Value or Calculated Value, the Litigation Engagement Reporting Standards as outlined in (paragraph V. D.) applies.

2. If the member does not provide a Conclusion of Value or Calculated Value as part of the Business Valuation Review, the member need only provide an opinion, including the basis and reason for the opinion, as to whether the report under review is appropriate and not misleading within the context of the requirements applicable to that work, stating the reasons for any disagreement, following the Review Standards below. The member can provide such opinion in a written or an oral Review Report.

B. GENERAL

Business Valuation Review is the act or process of developing and communicating a member's opinion regarding the credibility of the work product of another valuation analyst. It is a type of service, whether in written or oral form, intended to provide to identified users that the report is credible.

A Business Valuation Review opinion is not a Conclusion of Value or Calculated Value.

A member should not issue a Conclusion of Value or a Calculated Value, orally or in writing, solely as a result of performing a Business Valuation Review.

A member must not allow the intended use of an assignment or a client's objectives to cause the assignment results to be biased nor advocate for a client's objectives.

The scope of a Business Valuation Review should be sufficient to provide a member a basis for rendering a credible Business Valuation Review opinion regarding the relevance, reliability, completeness, and reliable application of the business valuation methodology under review, and its consistency with generally accepted valuation practices.

Consistent with the member's scope of work, the member is required to develop an opinion as to the completeness, accuracy, adequacy, relevance, and reasonableness of the report, given law, regulations, or intended user requirements applicable to that work.

When the scope of work includes the member developing his or her own Conclusion of Value or Calculated Value, the member must comply with the Professional Standards applicable to the development of that opinion.

A member's findings and conclusions should be stated in the form of an opinion as of the completion date of the Business Valuation Review engagement.

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1. **Types of Opinions**

When necessary for credible assignment results in the review of a report, the member must:

a) Develop an opinion as to whether the report is appropriate and not misleading within the context of the requirements applicable to that work; and
b) Develop the reasons for any disagreement.

VII. REVIEW ENGAGEMENT DEVELOPMENT STANDARDS

A. IDENTIFICATION

A member must define the assignment and scope of the work necessary by identifying the following:

1. The client and other intended users;
2. The purpose and intended use of the member's opinions and conclusions;
3. Whether the assignment includes the development of the member's own opinion of value or review opinion related to the work under review;
4. The ownership interest that is the subject of the work under review;
5. The date of the work under review and the effective date of the opinions or conclusions of the work under review;
6. The valuation analyst(s) who completed the work under review, unless the identity is withheld by the client;
7. The physical, legal, and economic characteristics of the business, business ownership interest, security, or intangible asset and market area of the work under review;
8. The effective date of the member's opinions and conclusions; and
9. Any hypothetical conditions/assumptions necessary in the review.

B. FUNDAMENTAL ANALYSIS

A member should make an analysis as defined by the scope of the work of the business valuation approaches, methods, and procedures used in the report under review. This may include whether the analytical procedures and supporting documentation incorporated in the analysis to arrive at the Conclusion of Value or Calculated Value is complete, accurate, adequate, relevant, reliable, appropriate, and reasonable as reported, as well as:

1. Complete research and analyses necessary to produce a credible Business Valuation Review;
2. Apply the Business Valuation Review methods and techniques that are necessary for credible engagement results;
3. Develop an opinion as to whether the analyses are appropriate and credible within the context of the requirements of the review engagement;
4. Develop an opinion as to whether the opinions and conclusions are credible within the context of the requirements applicable to that work; and
5. Develop the reasons for any disagreement.

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VIII. REVIEW ENGAGEMENT REPORTING STANDARDS

A. GENERAL

Reporting the results of a Business Valuation Review must be separate from the work under review and must clearly and accurately contain sufficient information to enable the intended users of the Business Valuation Review to understand the report properly.

A Business Valuation Review Report should contain the following:

1. **An Introduction**

   a) State the identity of the client and any intended users, by name or type;
   b) State the purpose and intended use of the Business Valuation Review;
   c) State the date of the work under review, the effective date of the Business Valuation Review, and the date of the valuation review report;
   d) Identify valuation analyst(s) who completed the work under review, unless the identity is withheld by the client; and
   e) Identify the report under review, including the ownership interest.

2. **An Opinion**

   When necessary for credible assignment results in the review of a report, the member must:

   a) State an opinion, including the basis and reason for the opinion offered, as to whether the report is appropriate and not misleading within the context of the requirements applicable to that work; and
   b) State the reasons for any disagreement.

3. **If outside the Business Valuation Review, the member develops his or her own Conclusion of Value or Calculated Value**

   The Business Valuation Review Report should contain the following:

   a) State which information, analyses, opinions, and conclusions in the work under review that the member accepted as credible and used in developing the member's Conclusion of Value or Calculated Value;
   b) Summarize any additional information relied on and the reasoning for the member's Conclusion of Value, Calculated Value, or review opinion related to the work under review; and
   c) Clearly and conspicuously state all hypothetical conditions/assumptions connected with the member's Conclusion of Valuation, Calculated Value, or review opinion related to the work under review and state whether their use might have affected the assignment results.

4. **Business Valuation Review Assumptions and Limiting Conditions**

   a) Clearly and accurately disclose all assumptions and hypothetical conditions used in the assignment.

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5. **Sources of Information Relied Upon by the Member**

6. **Representation of the Member**

7. **Appendix and/or Exhibits**

8. **Qualifications of Member**

To the extent that it is both possible and appropriate, an oral Business Valuation Review Report must address the substantive matters set forth in NACVA's Professional Business Valuation Review Standards.

IX. INTERNATIONAL GLOSSARY

The International Glossary of Business Valuation Terms was developed by the valuation organizations identified in the Glossary. These definitions should be used by members (see Appendix) unless preempted by Regulatory authority.

X. EFFECTIVE DATE

These Professional Standards are effective for engagements accepted on or after August 1, 2015. Earlier adoption by members is encouraged. Revised to include Review Standards.

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APPENDIX

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APPENDIX

International Glossary of Business Valuation Terms

(1) To enhance and sustain the quality of business valuations for the benefit of the profession and its clientele, the below identified societies and organizations have adopted the definitions for the terms included in this glossary.

The performance of business valuation services requires a high degree of skill and imposes upon the valuation professional a duty to communicate the valuation process and conclusion in a manner that is clear and not misleading. This duty is advanced through the use of terms whose meanings are clearly established and consistently applied throughout the profession.

If, in the opinion of the business valuation professional, one or more of these terms needs to be used in a manner that materially departs from the enclosed definitions, it is recommended that the term be defined as used within that valuation engagement.

(2) This glossary has been developed to provide guidance to business valuation practitioners by further memorializing the body of knowledge that constitutes the competent and careful determination of value and, more particularly, the communication of how that value was determined.

(3) Departure from this glossary is not intended to provide a basis for civil liability and should not be presumed to create evidence that any duty has been breached.

American Institute of Certified Public Accountants
American Society of Appraisers
Canadian Institute of Chartered Business Valuators
National Association of Certified Valuators and Analysts
The Institute of Business Appraisers

Adjusted Book Value Method:
A method within the asset approach whereby all assets and liabilities (including off-balance sheet, intangible, and contingent) are adjusted to their fair market values. (NOTE: In Canada on a going concern basis.)

Adjusted Net Asset Method:
See **Adjusted Book Value Method**.

Appraisal:
See **Valuation**.

Appraisal Approach:
See **Valuation Approach**.

Appraisal Date:
See **Valuation Date**.

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Appraisal Method:
See **Valuation Method**.

Appraisal Procedure:
See **Valuation Procedure**.

Arbitrage Pricing Theory:
A multivariate model for estimating the cost of equity capital, which incorporates several systematic risk factors.

Asset (Asset-Based) Approach:
A general way of determining a value indication of a business, business ownership interest, or security using one or more methods based on the value of the assets net of liabilities.

Beta:
A measure of systematic risk of a stock; the tendency of a stock's price to correlate with changes in a specific index.

Blockage Discount:
An amount or percentage deducted from the current market price of a publicly traded stock to reflect the decrease in the per share value of a block of stock that is of a size that could not be sold in a reasonable period of time given normal trading volume.

Book Value:
See **Net Book Value**.

Business:
See **Business Enterprise**.

Business Enterprise:
A commercial, industrial, service, or investment entity (or a combination thereof) pursuing an economic activity.

Business Risk:
The degree of uncertainty of realizing expected future returns of the business resulting from factors other than financial leverage. See **Financial Risk**.

Business Valuation:
The act or process of determining the value of a business enterprise or ownership interest therein.

Capital Asset Pricing Model (CAPM):
A model in which the cost of capital for any stock or portfolio of stocks equals a risk-free rate plus a risk premium that is proportionate to the systematic risk of the stock or portfolio.

Capitalization:
A conversion of a single period of economic benefits into value.

Capitalization Factor:
Any multiple or divisor used to convert anticipated economic benefits of a single period into value.

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Capitalization of Earnings Method:
A method within the income approach whereby economic benefits for a representative single period are converted to value through division by a capitalization rate.

Capitalization Rate:
Any divisor (usually expressed as a percentage) used to convert anticipated economic benefits of a single period into value.

Capital Structure:
The composition of the invested capital of a business enterprise, the mix of debt and equity financing.

Cash Flow:
Cash that is generated over a period of time by an asset, group of assets, or business enterprise. It may be used in a general sense to encompass various levels of specifically defined cash flows. When the term is used, it should be supplemented by a qualifier (for example, "discretionary" or "operating") and a specific definition in the given valuation context.

Common Size Statements:
Financial statements in which each line is expressed as a percentage of the total. On the balance sheet, each line item is shown as a percentage of total assets, and on the income statement, each item is expressed as a percentage of sales.

Control:
The power to direct the management and policies of a business enterprise.

Control Premium:
An amount or a percentage by which the pro rata value of a controlling interest exceeds the pro rata value of a non-controlling interest in a business enterprise to reflect the power of control.

Cost Approach:
A general way of determining a value indication of an individual asset by quantifying the amount of money required to replace the future service capability of that asset.

Cost of Capital:
The expected rate of return that the market requires in order to attract funds to a particular investment.

Debt-Free:
***We discourage the use of this term*.** See **Invested Capital**.

Discount for Lack of Control:
An amount or percentage deducted from the pro rata share of value of 100% of an equity interest in a business to reflect the absence of some or all of the powers of control.

Discount for Lack of Marketability:
An amount or percentage deducted from the value of an ownership interest to reflect the relative absence of marketability.

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Discount for Lack of Voting Rights:
An amount or percentage deducted from the per share value of a minority interest voting share to reflect the absence of voting rights.

Discount Rate:
A rate of return used to convert a future monetary sum into present value.

Discounted Cash Flow Method:
A method within the income approach whereby the present value of future expected net cash flows is calculated using a discount rate.

Discounted Future Earnings Method:
A method within the income approach whereby the present value of future expected economic benefits is calculated using a discount rate.

Economic Benefits:
Inflows such as revenues, net income, net cash flows, etc.

Economic Life:
The period of time over which property may generate economic benefits.

Effective Date:
See **Valuation Date**.

Enterprise:
See **Business Enterprise**.

Equity:
The owner's interest in property after deduction of all liabilities.

Equity Net Cash Flows:
Those cash flows available to pay out to equity holders (in the form of dividends) after funding operations of the business enterprise, making necessary capital investments, and increasing or decreasing debt financing.

Equity Risk Premium:
A rate of return added to a risk-free rate to reflect the additional risk of equity instruments over risk free instruments (a component of the cost of equity capital or equity discount rate).

Excess Earnings:
That amount of anticipated economic benefits that exceeds an appropriate rate of return on the value of a selected asset base (often net tangible assets) used to generate those anticipated economic benefits.

Excess Earnings Method:
A specific way of determining a value indication of a business, business ownership interest, or security determined as the sum of a) the value of the assets derived by capitalizing excess earnings, and b) the value of the selected asset base. Also frequently used to value intangible assets. See also **Excess Earnings**.

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Fair Market Value:
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. (NOTE: in Canada, the term "price" should be replaced with the term "highest price.")

Fairness Opinion:
An opinion as to whether or not the consideration in a transaction is fair from a financial point of view.

Financial Risk:
The degree of uncertainty of realizing expected future returns of the business resulting from financial leverage. See **Business Risk**.

Forced Liquidation Value:
Liquidation value, at which the asset or assets are sold as quickly as possible, such as at an auction.

Free Cash Flow:
We discourage the use of this term. See **Net Cash Flow**.

Going Concern:
An ongoing operating business enterprise.

Going Concern Value:
The value of a business enterprise that is expected to continue to operate into the future. The intangible elements of Going Concern Value result from factors such as having a trained work force, an operational plant, and the necessary licenses, systems and procedures in place.

Goodwill:
That intangible asset arising as a result of name, reputation, customer loyalty, location, products and similar factors not separately identified.

Goodwill Value:
The value attributable to goodwill.

Guideline Public Company Method:
A method within the market approach whereby market multiples are derived from market prices of stocks of companies that are engaged in the same or similar lines of business and that are actively traded on a free and open market.

Income (Income-Based) Approach:
A general way of determining a value indication of a business, business ownership interest, security or intangible asset using one or more methods that convert anticipated economic benefits into a present single amount.

Intangible Assets:
Non-physical assets such as franchises, trademarks, patents, copyrights, goodwill, equities, mineral rights, securities and contracts (as distinguished from physical assets) that grant rights and privileges and have value for the owner.

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Internal Rate of Return:
A discount rate at which the present value of the future cash flows of the investment equals the cost of the investment.

Intrinsic Value:
The value that an investor considers, on the basis of an evaluation or available facts, to be the "true" or "real" value that will become the market value when other investors reach the same conclusion. When the term applies to options, it is the difference between the exercise price or strike price of an option and the market value of the underlying security.

Invested Capital:
The sum of equity and debt in a business enterprise. Debt is typically a) all interest-bearing debt, or b) long-term interest-bearing debt. When the term is used, it should be supplemented by a specific definition in the given valuation context.

Invested Capital Net Cash Flows:
Those cash flows available to pay out to equity holders (in the form of dividends) and debt investors (in the form of principal and interest) after funding operations of the business enterprise and making necessary capital investments.

Investment Risk:
The degree of uncertainty as to the realization of expected returns.

Investment Value:
The value to a particular investor based on individual investment requirements and expectations. (NOTE: in Canada, the term used is "Value to the Owner.")

Key Person Discount:
An amount or percentage deducted from the value of an ownership interest to reflect the reduction in value resulting from the actual or potential loss of a key person in a business enterprise.

Levered Beta:
The beta reflecting a capital structure that includes debt.

Limited Appraisal:
The act or process of determining the value of a business, business ownership interest, security or intangible asset with limitations in analyses, procedures or scope.

Liquidity:
The ability to quickly convert property to cash or pay a liability.

Liquidation Value:
The net amount that would be realized if the business is terminated and the assets are sold piecemeal. Liquidation can be either "orderly" or "forced."

Majority Control:
The degree of control provided by a majority position.

Majority Interest:
An ownership interest greater than 50% of the voting interest in a business enterprise.

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Market (Market-Based) Approach:
A general way of determining a value indication of a business, business ownership interest, security or intangible asset by using one or more methods that compare the subject to similar businesses, business ownership interests, securities or intangible assets that have been sold.

Market Capitalization of Equity:
The share price of a publicly traded stock multiplied by the number of shares outstanding.

Market Capitalization of Invested Capital:
The market capitalization of equity plus the market value of the debt component of invested capital.

Market Multiple:
The market value of a company's stock or invested capital divided by a company measure (such as economic benefits, number of customers).

Marketability:
The ability to quickly convert property to cash at minimal cost.

Marketability Discount:
See **Discount for Lack of Marketability**.

Merger and Acquisition Method:
A method within the market approach whereby pricing multiples are derived from transactions of significant interests in companies engaged in the same or similar lines of business.

Mid-Year Discounting:
A convention used in the Discounted Future Earnings Method that reflects economic benefits being generated at midyear, approximating the effect of economic benefits being generated evenly throughout the year.

Minority Discount:
A discount for lack of control applicable to a minority interest.

Minority Interest:
An ownership interest less than 50 percent of the voting interest in a business enterprise.

Multiple:
The inverse of the capitalization rate.

Net Book Value:
With respect to a business enterprise, the difference between total assets (net of accumulated depreciation, depletion, and amortization) and total liabilities as they appear on the balance sheet (synonymous with Shareholder's Equity). With respect to a specific asset, the capitalized cost less accumulated amortization or depreciation as it appears on the books of account of the business enterprise.

Net Cash Flows:
When the term is used, it should be supplemented by a qualifier. See **Equity Net Cash Flows** and **Invested Capital Net Cash Flows**.

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Net Present Value:
The value, as of a specified date, of future cash inflows less all cash outflows (including the cost of investment) calculated using an appropriate discount rate.

Net Tangible Asset Value:
The value of the business enterprise's tangible assets (excluding excess assets and non-operating assets) minus the value of its liabilities.

Non-Operating Assets:
Assets not necessary to ongoing operations of the business enterprise. (NOTE: in Canada, the term used is "Redundant Assets.")

Normalized Earnings:
Economic benefits adjusted for nonrecurring, non-economic or other unusual items to eliminate anomalies and/or facilitate comparisons.

Normalized Financial Statements:
Financial statements adjusted for non-operating assets and liabilities and/or for non-recurring, non-economic or other unusual items to eliminate anomalies and/or facilitate comparisons.

Orderly Liquidation Value:
Liquidation value at which the asset or assets are sold over a reasonable period of time to maximize proceeds received.

Premise of Value:
An assumption regarding the most likely set of transactional circumstances that may be applicable to the subject valuation (e.g., going concern, liquidation).

Present Value:
The value, as of a specified date, of future economic benefits and/or proceeds from sale, calculated using an appropriate discount rate.

Portfolio Discount:
An amount or percentage deducted from the value of a business enterprise to reflect the fact that it owns dissimilar operations or assets that do not fit well together.

Price/Earnings Multiple:
The price of a share of stock divided by its earnings per share.

Rate of Return:
An amount of income (loss) and/or change in value realized or anticipated on an investment, expressed as a percentage of that investment.

Redundant Assets:
See **Non-Operating Assets**.

Report Date:
The date conclusions are transmitted to the client.

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Replacement Cost New:
The current cost of a similar new property having the nearest equivalent utility to the property being valued.

Reproduction Cost New:
The current cost of an identical new property.

Required Rate of Return:
The minimum rate of return acceptable by investors before they will commit money to an investment at a given level of risk.

Residual Value:
The value as of the end of the discrete projection period in a discounted future earnings model.

Return on Equity:
The amount, expressed as a percentage, earned on a company's common equity for a given period.

Return on Investment:
See **Return on Invested Capital** and **Return on Equity**.

Return on Invested Capital:
The amount, expressed as a percentage, earned on a company's total capital for a given period.

Risk-Free Rate:
The rate of return available in the market on an investment free of default risk.

Risk Premium:
A rate of return added to a risk-free rate to reflect risk.

Rule of Thumb:
A mathematical formula developed from the relationship between price and certain variables based on experience, observation, hearsay or a combination of these; usually industry specific.

Special Interest Purchasers:
Acquirers who believe they can enjoy post-acquisition economies of scale, synergies or strategic advantages by combining the acquired business interest with their own.

Standard of Value:
The identification of the type of value being used in a specific engagement (e.g., fair market value, fair value, investment value).

Sustaining Capital Reinvestment:
The periodic capital outlay required to maintain operations at existing levels, net of the tax shield available from such outlays.

Systematic Risk:
The risk that is common to all risky securities and cannot be eliminated through diversification. The measure of systematic risk in stocks is the beta coefficient.

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Tangible Assets:
Physical assets (such as cash, accounts receivable, inventory, property, plant and equipment, etc.).

Terminal Value:
See **Residual Value**.

Transaction Method:
See **Merger and Acquisition Method.**

Unlevered Beta:
The beta reflecting a capital structure without debt.

Unsystematic Risk:
The risk specific to an individual security that can be avoided through diversification.

Valuation:
The act or process of determining the value of a business, business ownership interest, security or intangible asset.

Valuation Approach:
A general way of determining a value indication of a business, business ownership interest, security or intangible asset using one or more valuation methods.

Valuation Date:
The specific point in time as of which the valuator's conclusion of value applies (also referred to as "Effective Date" or "Appraisal Date").

Valuation Method:
Within approaches, a specific way to determine value.

Valuation Procedure:
The act, manner, and technique of performing the steps of an appraisal method.

Valuation Ratio:
A fraction in which a value or price serves as the numerator and financial, operating, or physical data serves as the denominator.

Value to the Owner:
See **Investment Value**.

Voting Control:
De jure control of a business enterprise.

Weighted Average Cost of Capital (WACC):
The cost of capital (discount rate) determined by the weighted average, at market value, of the cost of all financing sources in the business enterprise's capital structure.

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PRACTICE POINTER

When will a Valuation Analyst use a Conclusion of Value? When will a Valuation Analyst use a Calculated Value?

A Conceptual Framework to Start With

Engagement Type	Conclusion of Value	Calculated Value
Tax	Y	N
Tax Planning	N	Y
Litigation Expert	Y	Y
Litigation Consultant	N	Y
Transactional	Y	Y
Transactional (3rd Party)	Y	N
DOL	Y	N
Fairness Opinion	Y	N

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BUSINESS VALUATIONS: APPLICATIONS AND CALCULATIONS OF THE INCOME & ASSET APPROACHES

CHAPTER 1

REVIEW QUESTIONS

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BV: APPLICATIONS AND CALCULATIONS USING THE INCOME AND ASSET APPROACHES

CHAPTER REVIEW QUESTIONS

Chapter 1: Professional Standards

1. What are the types of Valuation Services recognized by the Professional Standards?

    a. The Professional Standards recognize two types of services, Conclusion of Value and Calculated Value.
    b. The Professional Standards recognize two types of services, Valuation Engagements and Calculation Engagements.
    c. The Professional Standards recognize three types of services, Conclusion of Value Services, Opinion of Value Services, and Estimate of Value Services.
    d. The Professional Standards recognize two types of services, Conclusion of Value Services and Opinion of Value Services.

2. The Professional Standards are applicable when valuing the following:

    a. Real estate
    b. Intangible asset
    c. Business ownership interest
    d. B and C

3. The Professional Standards are:

    a. Rules-based
    b. Applicable to economic damages reports
    c. Not applicable to valuations performed for transactions (M&A engagements)
    d. Principles-based

4. If I am also a member of ASA must I still also follow the Professional Standards in a Valuation Engagement?

    a. No. As a member, you may select which organization's standards are most appropriate to the valuation you are performing and write your report in the manner prescribed by that organization.
    b. No. This would confuse the requestor of the report.
    c. Yes. If you are a member of more than one certifying organization with standards, you must adhere to all of them as required by that organization.
    d. Yes. When the analyst is expressing a range of values, it is necessary to document the Professional Standards definition of a range of values.

5. Under the Professional Standards, when expressing a Conclusion of Value, the value amount may be communicated :

    a. As a range of values
    b. As a single number
    c. Orally
    d. All of the above

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6. When performing Other Services as defined by the Professional Standards, all of the Professional Standards shall apply except for:

    a. General and Ethical Standards
    b. Development Standards
    c. Reporting Standards
    d. A and B
    e. None of the above, all standards apply
    f. B and C

7. A member may perform a Valuation Engagement for a contingent fee when expressing a Conclusion of Value.

    a. True
    b. False

8. According to the Development Standards, a member must identify all of the following except for:

    a. Subject to be valued
    b. Purpose and use of the valuation
    c. Premise of value
    d. Member's industry experience

9. A member shall not express either a Conclusion of Value or a Calculated Value unless the member and the member's firm state whether or not the member or the member's firm has a financial interest in the subject of the engagement.

    a. True
    b. False

10. The Reporting Standards would NOT be exempt for a Valuation Engagement for what purpose?

    a. Gift tax
    b. Family law
    c. Shareholder oppression action
    d. Breach of contract litigation

11. A report expressing a Conclusion of Value may be presented in a:

    a. Summary Report
    b. Detailed Report
    c. Restricted Report
    d. Letter Report
    e. A and B

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12. The primary difference between a Valuation Engagement and a Calculation Engagement is that:

    a. A Calculation Engagement is a shorter form of a Valuation Engagement.
    b. A Calculation Engagement can result in a range of values whereas a Valuation Engagement can only result in a single value.
    c. The results of a Valuation Engagement can only be presented in a Detailed Report while the results of a Calculation Engagement can only be presented in a Summary Report.
    d. A Valuation Engagement requires that a member applies valuation approaches and methods deemed in their professional judgment to be appropriate, whereas a Calculation Engagement occurs when the client and member agree to specific valuation approaches, methods, and the extent of selected procedures.

Chapter 1 Bonus Questions

1. Why isn't Fair Value defined in the glossary?

2. Why doesn't the Professional Standards endorse USPAP?

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CHAPTER TWO

DEFINING THE VALUATION ENGAGEMENT AND OBTAINING THE NECESSARY INFORMATION

I. DEFINING THE VALUATION ENGAGEMENT

Defining the valuation engagement is the initial step in laying the foundation for the engagement. By considering the following items, the analyst can establish the necessary parameters for defining the engagement.

A. ENGAGEMENT ACCEPTANCE

The first and probably most critical issue a Valuation Analyst must address is whether or not to accept the valuation engagement. In evaluating whether or not to accept a valuation engagement, the analyst must consider any real or presumed conflicts of interest that would preclude the analyst from accepting the engagement. This is especially important for CPA members of the AICPA, considering the aspects of changes to the Professional Ethics Division Interpretations and Rulings.[1]

> *"Independence would be impaired if a member performs an appraisal, valuation, or actuarial service where the results of the service, individually or in the aggregate, would be material to the financial statements and the appraisal, valuation, or actuarial service involves a significant degree of subjectivity."*

Preparing an actuarial valuation of a client's pension or post-employment benefit plan liabilities generally does not require a significant degree of subjectivity because this service is based on a single prescribed methodology that produces reasonably consistent results. Therefore, such services would not impair independence provided all significant assumptions and matters of judgment are determined or approved by the client and the client is in a position to have an informed judgment on, and accepts responsibility for, the results of the service.

> "*Valuations performed in connection with, for example, business combinations or appraisals of assets generally are not based on a single methodology and, therefore, the results can vary widely. Accordingly, if these services produce results that are material to the financial statements, independence would be impaired. Appraisal,*

[1] New interpretations No. 101-03 to Rule 101 effective for new services after October 1, 2003 and services in existence at December 31, 2003 do not impair independence if completed by December 31, 2004, www.aicpa.org,

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valuation, and actuarial services performed for non-financial statement purposes would not impair independence."

In deciding whether or not to accept a valuation engagement for a client with whom you are already involved, ask yourself some questions. Your answers will tell you if you can accept the engagement or whether you must recommend another certified member for the task.

1. Will this valuation be material—individually or in the aggregate—to the financial statements of my client? If the answer is yes, a conflict exists. Valuation requires some degree of subjectivity, and the engagement should be declined. Independence and objectivity would be deemed impaired if the results of this engagement would be material to the financial statements and the valuation would involve a significant degree of subjectivity. A valuation performed for the combining of two companies would significantly affect their financial statements, and would be considered an ethical impairment for the CPA and not an objective engagement for most other valuation analysts.

2. Is there more than one method of valuation which I could or would use? A valuation performed which uses more than one method, or a combination of methods, or a weighting of methods, or an averaging of methods or for which there is not one universally accepted method to use is subjective by nature. The analyst could argue the meaning of 'significant degree' in the definition above. An actuarial valuation, wherein a single prescribed methodology produces reasonably consistent results no matter who does the work, could be argued to be an insignificant issue, and therefore allowed. Business valuation by its nature requires some subjectivity, and if the valuation impacts the financial statement of the client, it involves an ethical dilemma, and must be declined.

3. What is the purpose of this engagement? Valuations performed for tax planning, tax compliance, estate planning and/or gifting, or for a divorce are not usually considered material to the financial statements of the client and should not cause a valuation bias. Generally, accepting this kind of engagement—all other issues being equal—is ethically acceptable.

4. In a litigation situation, will I be viewed as biased because I have done work for this client? In litigation, objectivity is very important. Remember, lawyers are advocates for their client, and often expect the valuation analyst to be on 'their' side. This creates a conflict and an ethical dilemma. A valuer's conclusion of value is to be independent and objective. If your valuation opinion must be tailored to fit into a specific set of parameters for the case, you should probably decline the engagement and refer. Do not be a hired gun.

5. I am a CPA and I audit this client's business. In a large firm, it is possible the auditing is done by another division or another partner. Although that fact would probably mean your conclusion of value could be independent, chances are your objectivity would be deemed impaired. Decline the engagement except if performed for one of the non-financial reasons: tax, gifting, or divorce. Or, if feasible, withdraw yourself and your company completely from the audit, and document your reasons for withdrawing.

6. Is there some monetary gain beyond the valuation fee I stand to gain if I come out with the "right" value? Or - not gain if I come up with the "wrong" value? A monetary gain, other than the fee charged, creates an ethics issue and would be an impairment.

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7. Could I lose this client if he/she did not 'like' my conclusion of value? If yes, what affect does the loss have on my practice? In a marital dissolution, both the moneyed and un-moneyed spouse can be unhappy with the outcome. Will you be blamed and lose the client? This is not an ethical issue but a practical issue. Its answer is important to your business.

8. I am a CPA and valuation is a non-attest service I would do for my client. Does my client have the competence and technical skills to meet the prerequisites required to perform any of these services themselves and therefore manage my service in this area? Generally speaking, the answer is going to be no, or they likely would not ask you to do the valuation. If the valuation will require assumptions (especially financial ones) to be made by the client which they do not have the skill to do, your should refer the valuation work, so that you may provide your client with the management advice so they can make reasoned decisions in support of the valuation.

9. Can I do the valuation and withdraw myself (and my company) from the audit? If you cannot or do not wish to withdraw from an audit, then refer the valuation.

The accounting and financial profession's foundation is objectivity and independence. Whether or not one is a CPA, if the answers to the questions posed above, or others germane to your practice that you think of yourself, are such that you believe your objectivity and independence may be compromised, do not accept the engagement. If there is any doubt, a nagging question remains, refer the engagement to another certified analyst.

The SEC prohibits auditors of SEC registered companies from providing: appraisal or valuation services, fairness opinions, or contributions-in-kind reports.

B. DEFINE THE PURPOSE OF THE VALUATION ENGAGEMENT

This procedure is necessary to properly assess the relative importance of each of several factors to be considered in the valuation process.

Defining the purpose of the valuation helps to develop the analyst's general valuation approach by establishing the standard of value. The purpose of the valuation engagement will also have a material affect on the type of valuation report that should be issued.

C. DEFINE THE OWNERSHIP INTEREST TO BE VALUED

This is a required step in order to determine the extent of the analyst's valuation procedures that may be necessary to adequately complete the assigned task. For example, the type of ownership interest may have a material impact on the scope of the engagement. This can be demonstrated by the fact that historical balance sheet information (Statements of Assets, Liabilities, and Equity) is rarely available for sole proprietorships, whereas this information is usually available for corporations. One of the biggest issues, when valuing sole proprietorships, is whether or not sufficient data is available. If the information is unavailable, the analyst has to decide if the information is necessary. If it is necessary, alternative methods of performing certain analyses should be considered.

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Defining the ownership interest is also necessary in order to determine if discounts or premiums are applicable and for the communication of specific value estimates in preparing the valuation report.

D. ASCERTAIN WHETHER OR NOT NECESSARY INFORMATION IS AVAILABLE

Before a valuation engagement is begun, the analyst should determine if sufficient relevant data is readily available and if not, determine what will be required to obtain this information.

Any additional time that is required to obtain necessary relevant data should be anticipated and any incremental costs associated with obtaining such data should be provided for in the engagement letter.

The lack of preferred data concerning the subject company and the industry in which it operates will not necessarily preclude the analyst from accepting the engagement. However, it will affect the cost of the engagement and the type of valuation opinion that will be issued.

E. ESTABLISH THE VALUATION DATE

The effective date of the valuation will almost always be different from the date that the report is issued. The effective date of the report is determined by the purpose of the valuation. For example, the effective date for an estate tax valuation will be either the date of death or the sixth month alternative date. The effective date for a divorce valuation may be the date of the divorce, the separation date or another date that is agreed to by the parties.

It should be noted that when the effective date of the valuation is inconsistent with the fiscal year end of the subject company, additional procedures might be necessary. Any costs associated with additional procedures should be anticipated and provided for in the engagement letter.

F. OBTAIN AN ENGAGEMENT LETTER

The need for issuing a properly written engagement letter cannot be over emphasized. After a sufficient understanding of the details for the valuation engagement has been developed, the analyst contracts with the client by using an engagement letter. The engagement letter documents and communicates the particulars of the engagement as understood by the client and the valuation analyst. The engagement letter does so by clearly delineating the scope of the services the analyst will provide, the effective valuation date, the purpose of the valuation, the type of ownership interest to be valued, the type of report to be issued, the standard and premise of value on which the valuation is to be based, and the terms of payment for the services to be rendered.

NOTE:
Adler-Cottino Wood Furniture, Inc., is set forth in this manual as a guide to performing a full valuation and issuing a full written report. There are many steps involved with doing such a valuation, and the analyst must take all due caution to ensure a logical outcome and a sound conclusion of value.

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II. EFFECTIVE RESEARCH

We all know that we live in the information age; that we are bombarded with data from all directions. However, one of the keys to a successful valuation/litigation career is the ability to quickly zero in on quality, *relevant* information. Should you research online or in your library? How do you evaluate the quality of the information you retrieve—is it current or outdated—is it accepted methodology correct or an unproven theory?

A. RESEARCH—THE BASICS

If the main thrust of your preferred mode of research is through searching on the **Internet**, you must assess the quality of the information you are accessing. Before relying on and citing an Internet source in your report, you should (at a minimum) **perform the following due diligence steps:**

1. Determine the name of the author and publisher using free online utilities (access at DomainTools.com):E

    a) Email Dossier—investigates email addresses
    b) Domain Dossier—investigates IP addresses
    c) Ping—see if a host is accessible

2. Ascertain the credentials of the persons/entities in Step 1

    Google the person/entity and verify the credentials from various sources

    a) Find other publications by author or third party articles citing the author
    b) Verify credentials with professional organizations, universities, etc.

3. Try to determine the date of the posting—Google advanced search can be of assistance with choices of 3 months, 6 months, 1 year and anytime updated web referencing
4. Try to verify the information with a secondary source

B. RESEARCH

A thorough understanding of the court systems, type of law, types of legal documents issued by the courts and citations is required for effective research in the litigation support and business valuation arena. Although valuators are not normally attorneys and do not practice law, it is imperative that one understands these factors that might be influencing the valuator's opinion.

1. Court Systems

a) State Systems—Usually all states have three levels:

    (1) Trial Court
    (2) Appellate Court
    (3) High (Supreme) Court

Most state Appellate and state Supreme Court cases are now found on the Internet.

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b) Federal Systems—Again there are three general levels:

(1) Trial Court (known as U.S. District Courts)
(2) Appellate Courts (known as U.S. Court of Appeals)
(3) The U.S. Supreme Court

Each state has a minimum of one U.S. District Court. The more populous states have several U.S. District Courts.

There are 11 Circuit Courts, a DC Appeals Court, and a Federal Circuit Court.

Different interpretations of the law between the Circuit Courts are common; therefore, knowing which Appellate Court has authority over the case at hand and its previous decisions regarding your similar facts and circumstances is imperative.

There are also special courts such as the U.S. Tax Court.

2. Types of Law

a) Common Law—Laws that carried over from England (established by Henry II) enacted by England's Circuit Judges and modified over the years by the judiciary. An example is the Law of Trusts, developed by common law.
b) Statutory Law—Laws passed by a legislative body and signed by an executive (governor or president).
c) Administrative Law—State or Federal Agency rules and regulations (prime examples is a Revenue Ruling issued by the IRS).

3. Types of Court Issued Legal Documents

a) Opinions—Opinions may be oral or written. Full written opinions are usually reserved for cases where the judge(s) decide the issue(s) are important and deserve an explanation. Memorandum Opinions are usually relatively short and cover narrower issues. Normally only one judge is considered an opinion's author, but in the case of the higher level courts, there will be "majority" and "dissenting" opinions where more than one judge weighs in on either side.

In the U.S. Tax Court, there are "regular" decisions and "memorandum" decisions. The regular decisions are those that are considered precedents and are usually given more weight than memorandum decisions. Memorandum decisions are usually issued when the judge believes that issues of interpretation of facts or application of existing law are in question. When the IRS issues an acquiescence or a non-acquiescence, it is only in response to a regular decision, not a memorandum decision.

b) Orders—While most non-lawyers only look at the various opinions, the Order is actually more important. An Order directs the parties to specified actions. If an Order is ignored or violated, it can result in Contempt of Court charges.

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c) Citations—A similar format followed for all cases

(1) Case name
(2) Volume number of the publishing reporter
(3) Name of the reporter
(4) Page of the reporter

In some cases the year of the decision is added at the end in parentheses.

All regular U.S. Tax Court decisions are printed by the government printing office (GPO). The GPO does not publish memorandum decisions; however, those are published by private publishers. The regular decisions are cited as T.C. while the memorandum decisions are cited as T.C. Memo or TCM.

An example of a regular Tax Court citation would be as follows:

d) *A.A. Emmerson*, 44 T.C. 86 (1965)

(1) *Emmerson* is the name of the case
(2) 44 is the volume in the *Reports of the United States Tax Court* as printed by the GPO
(3) 86 is the decision number
(4) 1965 is the year of the opinion

An example of a memorandum Tax Court citation would be as follows:

e) *Estate of Davis*, 110 T.C. Memo 530

(1) *Davis* is the name of the case
(2) 110 is the volume of the CCH reporter (GPO will not publish memo decisions)
(3) 530 is the page number in the reporter

It is important when doing any kind of legal research that you "Shepardize" the case by utilizing Shepard's Citations. This resource will provide an analysis of the treatment of the case by subsequent cases. It can be utilized not only for cases, but also for statutes and other legal authorities (law reviews).

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SAMPLE 1

January 15, 2006

Mr. David Boria, President & CEO
Adler-Cottino Wood Furniture Inc.
1111 S. Birch Highway
Atlanta, GA 30309

RE: Engagement for Business Valuation Services

Dear Mr. Harrison:

This letter will confirm our understanding of the arrangements for our valuation of the following company: Adler-Cottino Wood Furniture, Inc. currently located at 1111 South Birch Highway in Atlanta, Georgia, or hereinafter referred to as the Company.

We will estimate the Fair Market Value, of a 100% controlling interest, of the Company as of December 31, 2000, in order for the Estate to complete tax form 706. We will perform various analytical review procedures of the Company's five years financial statements covering the period of 1996-2000, and perform other procedures we consider necessary to accomplish this purpose.

The valuation, to be completed and reported upon on or before August 31, 2006, will be based on what we consider the most appropriate method of valuation in the circumstances. We are not required to give expert testimony in Court, or to be in attendance during any hearing or deposition, with reference to our valuation unless separate arrangements are made in connection therewith. We are not required to update this report for events and circumstances occurring after the date of valuation.

Our valuation report will be intended for the specific purpose of completing tax form 706. Our report is intended for this specific purpose and is not to be used for any other purpose.

Users of business valuations should be aware that business valuations are based on future earnings potential that may or may not materialize. Therefore, the actual future period earnings will vary from the projections used in this valuation, and the variations may be material.

Our fees will be based on the following per hour rate schedule:

Partner time	$ 275 per hour
Staff time	$ 160 per hour
Para-professional time	$ 95 per hour

(All out-of-pocket costs will be billed separately.)

and will include, as a separately billable cost, those out-of-pocket costs relating to research, travel, phone calls, document requests, and copy costs. As previously communicated, we estimate that our total fees, based on our discussions and the above per hour rate schedule, will range between $10,000 and $12,000.

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We will begin fieldwork upon receipt of this letter signed by you and a retainer fee of $5,000. The above fees and out-of-pocket costs will be billed periodically and will be due upon statement presentation and before the final report is issued. Any fees paid after thirty (30) days will be charged interest at 10% per annum. In case of default in payments you will be required to pay all costs and expenses, including reasonable attorney's fees, preceding and subsequent to judgment which may arise or accrue from enforcing this agreement whether such remedy is pursued by filing a suit or otherwise. This agreement shall be governed by and construed in accordance with the laws of the State of Georgia, as though it were fully made and performed there.

We are pleased to have this opportunity to serve you. If this letter correctly expresses your understanding, please sign this original where indicated and immediately return it to us in the enclosed envelope. A copy is enclosed for your records.

Very truly yours,

James Lewis

James Lewis, CPA, CVA
Lewis, Jones & Company, LLC

Accepted by:

Name: _____ Title: _____Date:_____

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SAMPLE 1A

January 15, 2006

Mr. David Boria, President & CEO
Adler-Cottino Wood Furniture Inc.
1111 S. Birch Highway
Atlanta, GA 30309

Re: Engagement for Business Valuation Services

Dear Mr. Boria:

This letter constitutes the agreement between Adler-Cottino Wood Furniture, Inc. and James Lewis CPA, CVA and outlines our understanding of the terms and objectives of this business valuation engagement.

We will perform a valuation of a 100% interest in Adler-Cottino Wood Furniture, Inc. as of December 31, 2000. We plan to start the engagement upon the return of this signed engagement letter. Unless unforeseen problems are encountered, we plan to complete this engagement by May 15, 2006. Our anticipated start and completion dates are subject to the timely receipt and availability of those items detailed within our document request list (enclosed).

The object of our valuation will be to determine and estimate the fair market value of a 100% interest in Adler-Cottino Wood Furniture, Inc. The term "fair market value" is often defined as follows:

> *"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."*

However, it must be realized that as this is the accepted definition of "fair market value" the true value of a business or entity is determined by actual negotiations between a buyer and seller culminating in the transfer of the subject property. Although our valuation is intended to estimate fair market value, we assume no responsibility for a seller's or buyer's inability to obtain a purchase contract at that price.

In performing our valuation, we will be relying on the accuracy and reliability of third party prepared historic financial statements, forecasts of future operations, or other financial data of the business. We will not audit, compile, or review those financial statements, forecasts, or other financial data. We will not express an opinion or any other form of assurance on them. Our engagement cannot be relied on to disclose errors, irregularities, or illegal acts, including fraud or defalcations that may exist.

During the course of our engagement, we shall request information and explanations from the management of Adler-Cottino Wood Furniture, Inc. regarding the company's operations, future plans, financial statements, and specific transactions. At the conclusion of our engagement, we will require, as a precondition to the issuance of any valuation report or other communication of a value estimate, that management reconfirm this information in a written representation letter. The procedures we perform in our engagement will be heavily influenced by the representations that we receive from the company's management; accordingly, any false representations could cause material errors in our valuation. You, therefore, agree to indemnify and hold us harmless for any liability and all reasonable costs (including

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legal fees) which may be incurred in connection with claims based upon any material valuation error resulting from known false representations made to us by any representative or agent of management.

The results of our engagement will be documented in a formal report. We understand that the purpose of our valuation will be to report the fair market value of a 100% interest in the referenced company for estate tax purposes. Accordingly, our report can not be distributed to outside parties to obtain credit, published, or used in any other manner with out the express written consent of this firm. If, for any reason, we are unable to complete the valuation engagement, we will not issue a report as a result of this engagement. We have no responsibility to update our report for events and circumstances that occur after the date of its issuance.

Our fees are based on our customary hourly rates. We estimate our fee for this engagement to be $27,500 and we shall require a retainer of $10,000. It should be anticipated that should the services of other valuation or appraisal experts be required, the cost of these services are excluded from this estimate. Should we encounter unusual circumstances requiring us to expand the scope of the engagement; we will discuss them with you prior to commencing additional or further services. Any revisions, additions, or addendum to this agreement shall require a signed and acknowledged written attachment thereto. Our fee is not contingent or otherwise dependant on any opinion, statement, or findings, which will be presented in this engagement.

Fees for any services that may be required to defend our report or opinion in litigation, including conferences, depositions, court appearances, and testimony will be considered a separate engagement and billed at our customary rate of $275.00 per hour. These professional services are **specifically excluded** from this agreement. A retainer equivalent to the total estimated fee will be required in advance, prior to commencing any additional services.

Our estimated fee is not contingent or otherwise dependant on any opinion, statement or findings, which will be presented in this engagement. To safeguard against any assertion or allegation that our work may in some way be influenced by or contingent upon the outcome of this litigation, all outstanding invoices for professional services relating to this engagement must be paid in full prior to our furnishing testimony in deposition or at trial.

If any dispute, controversy or claim arises in connection with the performance or breach of this agreement (including the scope, nature, quality of services to be performed by us, our fees, and other terms), either party may, upon written notice to the other party, request that the matter be mediated. Such mediation will be conducted by a mediator appointed by and pursuant to the Rules of the American Arbitration Association or such other neutral facilitator acceptable to both parties. Both parties will exert their best efforts to discuss with each other in good faith their respective positions in an attempt to finally resolve such dispute or controversy.

The mediation proceedings will conclude within sixty days from receipt of the written notice unless extended or terminated sooner by mutual consent. Each party will be responsible for their own respective expenses. The fees and expenses of the mediator, if any, will be borne equally by the parties.

If any dispute, controversy, or claim arising out of or in connection with the performance or breach of this agreement cannot be resolved by mediation, then the dispute, controversy or claim will be settled by arbitration in accordance with the Rules of the American Arbitration Association (AAA) for the Resolution of Accounting Firm Disputes. No pre-hearing discovery will be permitted unless specifically authorized by the arbitration panel. The arbitration hearing will take place in the city closest to the place where this agreement was performed in which the AAA maintains an office, unless the parties agree to a different locale. The arbitration proceedings will be conducted before a panel of three persons. One of

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these persons will be chosen by each party, and the third will be selected by the two party-selected arbitrators. The arbitration panel will have no authority to award non-monetary or equitable relief, and any monetary award will not include punitive damages. The confidentiality provisions applicable to mediation will also apply to arbitration.

If an award is issued by the arbitration panel, it may be confirmed in a judgment by any federal or state court of competent jurisdiction. All reasonable costs of both parties, as determined by the arbitrators, including (1) the fees and expenses of the AAA and the arbitrators, and (2) the costs, including reasonable attorneys' fees, necessary to confirm the award in court, will be borne entirely by the non-prevailing party (to be designated by the arbitration panel in the award) and may not be allocated between the parties by the arbitration panel.

If this agreement meets with your approval, please sign and date both the original and the enclosed copy as indicated. The original should be returned to us in the envelope provided. Retain the copy for your files.

Very truly yours,

James Lewis

James Lewis, CPA, CVA
Lewis, Jones & Company, LLC

Accepted by:

Name: _____ Title: _____Date:_____

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SAMPLE 2

April 30, 2006

Mr. James Lewis, CPA, CVA
Lewis, Jones & Company, LLC
1111 Maple Road
Atlanta, GA 30309

Dear Mr. Lewis:

In connection with your valuation of Adler-Cottino Wood Furniture, as of December 31, 2000 we represent to you that to the best of our knowledge and belief:

1. We have made available to you all information requested and all information that we believe is relevant to your valuation as indicated by request for documents. All significant matters of judgment have been determined or approved by us.

2. The financial statements furnished to you for the years ended December 31, 1996-2000 present the financial position of Adler-Cottino Wood Furniture in conformity with generally accepted accounting principles consistently applied. In addition to our in-house CPA (Mr. Paul F. Riddelman, CFO and Controller), our financial statements are reviewed by the firm of XYZ CPAs, 9843 Peachtree Avenue, of Atlanta.

3. The income tax returns furnished to you for the years ended December 31, 1996–2000 are exact and complete copies of the returns filed with the Internal Revenue Service.

4. The Company has no commitments or contingent liabilities, including those arising from litigation, claims, and assessments that are not disclosed in the financial statements identified above.

5. The Company does not have any (a) employment contracts with salaried employees; (b) stock option plans, or (c) stock redemption agreements with shareholders except to the extent indicated in written agreements furnished to you.

6. The Company is not currently negotiating the acquisition of any new business interests or the disposition of existing segments or product lines.

7. The valuation report will serve as a basis for filing tax form 706 with regard to the Estate of Raymond Cottino Harrison.

Yours truly,

D. B. Harrison

Mr. David B. Harrison
President/CEO

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VALUATION ENGAGEMENT ACCEPTANCE CHECKLIST

Requesting/Referring Party Information

Name:_____

Address:_____

_____

Phone #:_____

Fax #:_____

COMPANY SUBJECT TO VALUATION INFORMATION

Name:_____

Address:_____

_____

Phone #:_____

Fax #:_____

Type of Entity:_____

Purpose of Valuation:_____

_____

_____

Description of Company's Business:

_____

_____

Description of Ownership Interest Subject to Valuation:

_____

_____

Proposed Valuation Date: _____ Completion Date:_____

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ENGAGEMENT ACCEPTANCE CONSIDERATIONS

Describe Potential Conflicts of Interest:

Analyst Disposition:

Describe Adequacy of Professional Competence:

Analyst Disposition:

Describe Potential Documentation Problems:

Analyst Disposition:

Describe Relative Risk Exposure:

Analyst Disposition:

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Describe Engagement Responsibilities Beyond Valuation Engagement:

Analyst Disposition:

CONCLUSION ON ENGAGEMENT

Analyst Comments:

Completed By: Date:

Approved By: Date:

Recommended Follow Through:

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III. OBTAINING THE NECESSARY INFORMATION

Goal: To understand what information the analyst will need in order to perform the valuation of a business.

A. OVERVIEW

Once the valuation analyst has defined the valuation engagement and has contracted with the client by means of a properly written engagement letter, the analyst can proceed with the engagement. The analyst begins by gathering the necessary information on which to base the valuation. This information can be broken down into two main categories: internal information and external information.

The analyst often asks, "What is an acceptable level of supporting documentation?" This is a very difficult question to answer in that each valuation engagement will vary in required levels of supporting documentation. Each case will vary with respect to the time budget, industry in which the company operates, and purpose of the valuation. In summary, the only effective answer to this question is that "it depends on the facts and circumstances of the particular case." The amount of information and documentation should be sufficient for the analyst to reach an informed conclusion and, therefore, should be based on the professional judgment of the analyst. Understand, however, in the majority of valuations you may be asked to perform, you will not get all the information you would like to have or believe it is necessary to have. There are times, especially in the valuation of a business in divorce proceedings, when the valuator can only note in the schedule of limiting conditions that certain items of documentation, while desirable, were not available.

B. INTERNAL INFORMATION

The valuation analyst's objective in gathering internal information is to gain an adequate understanding of the subject company's operational management and earnings ability. In general, the analyst must develop an understanding of the following:

1. History, nature, and organization of the subject company
2. The financial position, results of operations, and significant accounting policies and procedures utilized by the company
3. The current location(s) and physical condition of the subject company's facilities and operational assets
4. The management and personnel of the subject company
5. The subject company's operations, its products and/or services, markets, and competition

Some of the sources and/or methods of gathering internal information are:

1. Interviews with the company's management and owners
2. Personal tour of the facilities
3. Interviews with the company's professional advisors
4. Historical and projected financial data including financial statements, income tax returns, and budgets

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To assist the analyst in organizing information obtained and to help ensure that sufficient and appropriate information is obtained, the analyst should prepare a checklist for data to be collected (both internal and external). A representative checklist for valuation engagements can be found in the Appendices.

C. EXTERNAL INFORMATION

The purpose of obtaining external information is to give the analyst knowledge of any outside factors that may directly or indirectly affect the future operations of the subject company. The information to be obtained should give the analyst an idea as to where the company fits within the industry in which it operates and the general economic environment in which the company operates.

External information can be broken down into the following main categories:

1. General Economic Information
2. General Industry Information
3. Local and Regional Economic Information
4. Local and Regional Industry Information
5. Specific Comparable Company Information

D. REFERENCE

Following are some resources for the valuator. This manual does not contain all sources available. To find more, see the current reference Guide and visit NACVA's homepage on the Internet (http://www.NACVA.com).

1. General Economic Information

The analyst should try to keep abreast of changing general economics by reading publications such as the *Wall Street Journal*, *Fortune*, and *Business Week* magazines. Economic projections can vary dramatically between economists; this occurs even between the most recognized theorists, authors, and educators in the field.

The importance of reviewing general economic information lies in the need for the analyst to ascertain how it may impact the assumptions that are made during the valuation process. General economic information, while important, has less impact on the value of the subject company than local and national industry information.

A sampling of resources for general economic information are:

Beige Book Report
http://www.federalreserve.gov/monetarypolicy/beigebook/

Center for Economic and Industry Research (dba:KeyValueData.com)
4575 Galley Road, Suite 200E
Colorado Springs, CO 80915
(800) 246-8488

Federal Reserve Bulletin
http://www.federalreserve.gov/pubs/bulletin/

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Regional and National Financial Institutions and Local Colleges/Universities
Economic Departments
Survey of Current Business
Department of Commerce, Bureau
of Economic Analysis,
U.S. Government Printing Office
PO Box 371954
Pittsburgh, PA 15250
(202) 512-1800
http://www.commerce.gov

Standard & Poor's Statistical Service
http://www.standardpoor.com

Stocks, Bonds, Bills and Inflation Valuation Yearbook and/or
Cost of Capital Quarterly
Morningstar, Inc.
225 West Wacker Drive
Chicago, IL 60606
(available from NACVA, call 800-677-2009)

U.S. Industry & Trade Outlook
McGraw-Hill
PO Box 545
Blacklick, OH 43004
(800) 338-3987
Email: customerservice@mcgrawhill.com

The Outlook is not published for all years. When it is available, it has a great deal of industry information. Check the web site for details

2. General Industry Information

General industry information has more impact on valuation assumptions than general economic information. It is important for the valuation analyst to tell the reader just how the information impacts the subject company.

The importance of reviewing general industry information lies in the need for the analyst to ascertain how it may affect the future operations of the subject company. For example, if the industry profile projects a substantial decrease in earnings for the industry as a whole, it may be difficult for the analyst to defend a continuing increase in the growth rate for the subject company in that industry.

The analyst will often discover that trade association information is more complete and specific than other sources of general industry information. Therefore, a search for trade association information should be a primary source in gathering general industry information. See Sample Industry Economic Study in Appendix V.

A sampling of sources of general industry information are:

Bizminer
Industry reports and outlooks
http://www.bizminer.com

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Bizsites
Outlooks for select industries
http://www.bizsites.com/Outlooks/industryoutlook.html

Center for Economic and Industry Research (dba:KeyValueData.com)
4575 Galley Road, Suite 200E
Colorado Springs, CO 80915
(800) 246-8488
http://www.KeyValueData.com
Custom Industry Research:
http://www.KeyValueData.com/Products/EconomicMarketData/IndustryMarketResearch/CustomIndustryReports.aspx

Dunn & Bradstreet
Industry report, company look-up
http://www.zapdata.com

Encyclopedia of Associations
Thompson Gail
PO Box 9187
Farmington Hill, MI 48333
(800) 877-4253

Federal Reserve Banks
12 Districts: Boston, New York,
Philadelphia, Cleveland, Richmond,
Atlanta, Chicago, St. Louis, Minneapolis,
Kansas City, Dallas, San Francisco
Check the government yellow pages for the closest office

Financial Studies of the Small Business
Financial Research Associates
510 Ave J SE
Winterhaven, FL 33880
(863) 299-3969

Freedonia Group
Very comprehensive reports
http://www.freedoniagroup.com

Harris InfoSource
http://www.harrisinfo.com

IBIS World
Fee based industry and market research
http://www.ibisworld.com

Integra Information
1640 Airport Road, Suite 115
Kennesaw, GA 30144
800-780-2660
http://www.integrainfo.com
Email: integra@integrainfo.com

Links to Industry Portals
http://www.virtualpet.com/industry/mfg/mfg.htm

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Mercer Capital
5860 Ridgeway Center Parkway
Suite 400
Memphis, TN 38120
(901) 685-2120

Moody's OTC Industrial Manuals
Moody's Investors Services
99 Church Street
New York, NY 10007
(212) 553-1658

NABE Industry Survey
National Association of Business Economists
1233 20th Street NW, Ste. 505
Washington, DC 20036
(202) 463-6223
http://www.nabe.com

OneSource
http://www.onesource.com

Peer Scape – *not available for all years*
Deloitte and Touche
http://www.peerscape.com

RMA Annual Statement Studies[2]
The Risk Management Association
1801 Market Street, Suite 300
Philadelphia, PA 19103-1628
(available from NACVA, call 800-677-2009)

Standard & Poor's Industry Surveys
Standard & Poor's
55 Water Street
New York, NY 10041
(212) 438-1000 or (212) 438-2000
http://www.standardandpoors.com/en_US/web/guest/home

The Cole Library
Construction and building materials industry data finder
http://www.rh.edu/dept/library/industry/build.htm

US Business Reporter
Various industry reports
http://www.activemedia-guide.com

[2] Risk Management Association (RMA) Annual Statement Studies® is available from NACVA (800-677-2009) and ValuSource (800-825-8763). ANNUAL STATEMENT STUDIES®, RMA THE RISK MANAGEMENT ASSOCIATION®, and the RMA Logo are trademarks of the Risk Management Association. RMA owns the copyright in the ANNUAL STATEMENT STUDIES® data. The data is used under license from RMA.

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US Industry & Trade Outlook
McGraw-Hill
PO Box 545
Blacklick, OH 43004
(800) 338-3987
Email: customerservice@mcgrawhill.com

The Outlook is not published for all years. When it is available, it has a great deal of industry information. Check the website for details.

Value Line Investment Survey
PO Box 3988
New York, NY 10008
(800) 833-0046

3. Local and Regional Economic Information

The analyst should gain a better understanding of the local and regional economic environment to ascertain the impact it may have on the various assumptions made during the valuation process. Local and regional industry information will have a greater impact on valuation assumptions than local and regional economic information. The valuation analyst should consider and document in the valuation report the impact of both on the subject company's future performance. See Sample MSA Economic Study in Appendix VI.

A sampling of sources of local and regional economic information are:

Federal Reserve Banks
http://www.bog.frb.fed.us/otherfrb.htm

State and/or City Chamber of Commerce

State University Economic Departments

U.S. Bureau of Census
Department of Commerce
U.S. Government Printing Office
Washington, DC 20402
(202) 512-1800

4. Local and Regional Industry Information

The analyst should develop an understanding of the local and regional industry outlook and its potential impact on assumptions made about the future of the subject company.

The comments made concerning general industry information also pertain to local and regional industry information. Trade association data will usually be more comprehensive and complete than will any other source. Therefore, trade association information should always be obtained if possible. It is often necessary to secure trade association information under the auspices of the subject company. Many, but not all, trade associations will not share information with non-members.

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The best sources of local and regional trade association information are:

Encyclopedia of Associations
Thompson Gail
PO Box 9187
Farmington Hill, MI 48333
(800) 877-4253

Local Chapters of Trade Associations
(Contact Local Chamber of Commerce)

National Trade and Professional Associations of the United States
Columbia Books, Inc.
1825 Conn Ave NW, Suite 625
Washington, DC 20009-5733
(202) 464-1662
http://www.columbiabooks.com

OneSource
http://www.onesource.com

Economic Development Administration
http://www.eda.com

5. Specific Comparable Company Information

An essential procedure in the valuation process is to ascertain whether publicly traded comparable companies exist and/or if there has been a recent sale or merger of a company that fits the profile of the subject company.

This is critical because recent sales or mergers can remove much of the subjectivity regarding various valuation assumptions. True comparability is the key. It would be ludicrous to place heavy emphasis on data from publicly traded companies, a recent sale or merger if the companies do not closely compare. The analyst should attempt to locate a true comparable(s).

For a company to be truly comparable with a subject company, the following characteristics should be considered:

a) Same or similar line of business
b) Similar competitive positions within the industry
c) Similar historical rates of growth
d) Similar historical and current levels of profitability
e) Similar capital structures
f) Similar product lines
g) Similar size, relative to sales volume and total assets
h) Similar risk

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Suggested sources of comparable company information are:

BIZCOMPS® Business Sales (Available free to subscribers to KeyValueData.com)
PO Box 711777
San Diego, CA 92171

Deloitte & Touche Consulting Group
PeerScape Department
Two Tower Center Blvd.
East Brunswick, NJ 08816
(800) 335-6488

DoneDeals (Mid-Market Comps)
(available from NACVA, call 800-677-2009)

Edgarscan
http://edgarscan.pwcglobal.com/servlets/edgarscan

Guideline Companies 10K
Center for Economic and Industry Research (dba: KeyValueData.com)
4575 Galley Road, Suite 200E
Colorado Springs, CO 80915
(800) 246-8488

Goodwill Registry
You can pay for only the reports you need
http://www.healthcaregroup.com/servlet/catalog.ProductList?category=4

Hoover's Online
Industry snapshots. More specific information for a fee
http://www.hoovers.com/industry/snapshot/index/0,3517,277,00.html

Institute of Business Appraisers
Send email to: data@go-iba.org

Merger & Acquisition Sourcebook
Quality Services Company
Available at http://www.nvst.com

Moody's OTC Industrial Manuals
Moody's Investor Services
99 Church Street
New York, NY 10007
(212) 553-1658

Pratt's Stats
Business Valuation Resources, LLC
1000 SW Broadway, Suite 1200
Portland, OR 97205
(888) BUS-VALU or (503) 291-7963
http://www.bvresources.com

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Standard & Poor's Stock Reports
Standard and Poor's Corporation
55 Water Street
New York, NY 10041
(212) 438-1000 or (212) 438-2000

Value Line Investment Survey
Value Line Publishing, Inc.
PO Box 3988
New York, NY 10008
(800) 833-0046

Your Local Business Broker
For Example: Merrill Lynch has a "Tuesday Report"
Smith Barney has a "Perspective"
Call your local broker to get reports.

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BUSINESS VALUATIONS: APPLICATIONS AND CALCULATIONS USING THE INCOME & ASSET APPROACHES

CHAPTER 2

REVIEW QUESTIONS

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BV : APPLICATIONS AND CALCULATIONS USING THE INCOME AND ASSET APPROACHES

CHAPTER REVIEW QUESTIONS

Chapter 2: Defining the Valuation Engagement and Obtaining the Necessary Information

1. External information includes all of the following EXCEPT:

    a. General Economic Information
    b. General Industry Information
    c. Local and Regional Economic and Industry Information
    d. History, nature and organization of the subject company

2. What is the main purpose of obtaining external information?

    a. To provide the analyst with the most recent 5 years of financial information
    b. To gain an understanding of the company's operations and its products or services
    c. To give the analyst knowledge of any outside factors that may directly or indirectly affect the future operations of the subject company
    d. To comply with the report writing standards as set forth in the Professional Standards

3. The valuation engagement checklist for Adler-Cottino Wood Furniture, Inc. is found in Chapter 10. What Purpose, Standard, and Premise of Value (in that order) were determined for this case?

    a. FMV, Controlling Interest and Arms-Length Transaction
    b. Related Party, Estate and Going concern
    c. Buy-Sell, Capitalization of Earnings, Net Asset Value
    d. Estate Tax valuation for Form 706, FMV and Going Concern

4. What is the valuation analyst's main objective when gathering internal information?
    a. To examine historical and projected financial data including Financial Statements, Income Tax Returns, and Budgets
    b. To keep abreast of changing general economics to ascertain how it may impact the assumptions that are made during the valuation process
    c. To gain an adequate understanding of the subject company's operational management and earnings ability
    d. To examine the current location(s) and physical condition of the subject company's facilities and operational assets

5. The Market Approach for valuing businesses utilizes information from Specific Comparable Companies. In order for a company to be truly comparable it must share all of the following characteristics with the subject company EXCEPT:

    a. Companies must have similar capital structures
    b. Companies must have the same number of stockholders
    c. Companies must be of similar size, relative to sales volume and total assets
    d. Companies must have similar competitive positions within the industry

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6. Independence of the valuator will be impaired if:

    a. The member who performs the appraisal or the member's firm prepares the tax return of the subject entity
    b. The member or the member's firm performs an audit of the subject company's financial statement
    c. Your neighbor's best friend owns 100% of the subject company
    d. The member or member's firm performs a compilation of the subject company's financial statement

7. When defining the engagement the valuation analyst should identify:

    a. Purpose, ownership interest, and profitability of the subject entity
    b. Purpose, valuation date, and valuation approach to be utilized
    c. Purpose, ownership interest, and valuation date
    d. Ownership interest, report date, and valuation approach

8. Before starting an engagement, the valuation analyst must obtain an engagement letter.

    a. True
    b. False

9. In a litigation engagement, a valuation analyst should be independent and objective; if an attorney wants the valuation analyst to give a specific and tailored answer, this will not impair independence or objectivity.

    a. True
    b. False

10. Of the following sources of information, which source provides data which can be specifically compared to the subject company?

    a. U.S. Bureau of Census
    b. Federal Reserve Banks
    c. Ibbotson Valuation Yearbook
    d. BIZCOMPS

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CHAPTER THREE

SEARCH FOR ADJUSTMENTS

I. SEARCH FOR ADJUSTMENTS

Goal: To be able to normalize the subject company's financial for comparison with other companies in the marketplace.

A. OVERVIEW

Once the analyst has obtained and/or generated the referenced information in Chapter Nine, the first step in the adjustments phase is to analyze the historical financial information in order to determine the economic or normalizing adjustments to be made to the historical financial statements.

B. OBJECTIVE FOR ADJUSTING HISTORICAL FINANCIAL INFORMATION

Adjusting a company's historical financial statements is often referred to as recasting. The subject company's historical financial statements should be adjusted to more closely reflect the company's true economic financial position and results of operations on an adjusted historical and current basis, thus enabling the valuation analyst to more accurately estimate the value of the business.

1. Requirements of Adjusted Financial Statements

The requirements for adjusted or recast financial statement information are:

a) Adjusted financial statements should, as nearly as possible, represent market values.
b) Adjusted financial statements should be useful for making meaningful comparisons.
c) Adjusted financial statements should be useful in making meaningful projections and forecasts.

C. TWO DEBATED ISSUES WITHIN THE VALUATION INDUSTRY

1. Officer's Compensation

You will find general agreement from valuators as to the necessity of "normalizing" compensation when valuing a controlling interest. Things get a little more interesting when valuing a minority interest. There are some in the valuation community who firmly believe that since a minority position cannot impact the level of compensation; then there should be no normalizing adjustment for items such as compensation. Then there are others in the community who just as firmly believe that you must make an adjustment to

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normalize compensation regardless of the size of the interest being valued. Once such advocate (for the position of making normalized compensation adjustments) is Z. Christopher Mercer, ASA, CFA. In *Value Matters*™, Volume 2004–06 issued on September 24, 2004, Mr. Mercer includes an article, which is an excerpt from his book, *Valuing Enterprise and Shareholder Cash Flows: The Integrated Theory of Business Valuation*.

Mr. Mercer identifies owner/officer compensation as a Type 2 normalizing adjustment, which he distinguishes from Type 1 (non-recurring) normalizing adjustments or control adjustments. It is Mr. Mercer's position that not making compensation adjustments when valuing minority interests is wrong, as a valuator should aim for enterprise value and then take into account the inability of a minority position to influence, impact, or otherwise affect compensation levels in the value of the interest in relationship to the enterprise value.

In answer to the advocates for skipping the owner compensation adjustment in favor of a direct minority interest valuation, Mr. Mercer contends that unless the adjustment is made, then the analyst is not determining a public equivalent earning stream, therefore if one is using discount rates based on CAPM or guideline company analysis, the resulting value would *not* be at the marketable minority level.

However, proponents of not making the adjustment believe that economic earnings are only of benefit to a controlling interest in a privately-held enterprise, therefore, in a cash flow based analysis; you would not adjust the compensation because the minority position cannot realize any benefit from that adjustment. Therefore, you concentrate directly on the equity value of the interest being valued.

If, in the course of an engagement, you determine that an officer compensation adjustment is required, keep in mind the basics of what determines "normalized" compensation. The valuation analyst will be adjusting compensation levels to an amount the enterprise would have to pay in order to employ a non-owner to provide *comparable* management services. A major factor to consider in normalizing compensation is what service(s) are performed by the owner/officer. In *John L. Ginger Masonry, Inc. v. Commissioner*, T.C. Memo 1997-251 the Tax Court agreed that compensation in excess of $1 million per year was reasonable. The officer worked 12 or more hours a day and performed the combined duties of CEO, CFO, and CMO. On the other hand in *E. J. Harrison and Sons, Inc. v. Commissioner*, T.C. Memo 2003-239, the Court found the compensation to be unreasonable and excessive as the officer's only role was to attend board meetings and perform certain PR functions and for that, the officer was paid between $541K and $806K per year.

Where can the analyst go to obtain the information to make a reasoned adjustment? Some resources for obtaining compensation are as follows:

- RMA's Annual Statement Studies[1]
- Aspen Publishers' Officer Compensation Report

[1] Risk Management Association (RMA) Annual Statement Studies® is available from NACVA (800-677-2009) and ValuSource (800-825-8763). ANNUAL STATEMENT STUDIES®, RMA THE RISK MANAGEMENT ASSOCIATION®, and the RMA Logo are trademarks of the Risk Management Association. RMA owns the copyright in the ANNUAL STATEMENT STUDIES® data. The data is used under license from RMA.

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www.keyvaluedata.com—Members have the ability to use resources at KeyValueData to conduct for a fee, a reasonable compensation report based on parameters provided by the valuator

www.acinet.org—This is the portal to CareerOneStop, which was initiated by the U.S. Department of Labor. It contains free information broken into categories. The category of most use to valuators will be the "wages and trend" category. This section includes information on: metro wages, detailed trends, industry trends, occupation reports, etc.

www.bls.gov—This is also a free site. It provides detailed wage and benefit information from the national to the regional level.

www.erieri.com—This is a commercial site operated by the Economic Research Institute and provides salary survey analysis. They offer a variety of products for purchase.

www.compgeo.net—This is a commercial site offering detailed compensation information over ten regions in the United States and the Caribbean.

www.worlddatwork.org—This site offers free salary and benefits information on a national level and a yearly subscription for metro salary and benefit information,

www.salary.com—On this site, you can obtain free "ball park" salaries broken into 25, 50, and 75 percentiles. Other, more detailed information is available for a fee.

Whatever source you utilized for your adjustments, make certain you understand the underlying data upon which the study is based and make sure it is truly comparable. As stated earlier, the expert failed a *Daubert* challenge because, in the Court's opinion, true comparables were not included in the report.

2. Tax Affecting Pass-Through Entities

One of the often discussed areas is tax affecting the earnings, free cash flow, or other economic stream during the income approach(es) analysis within a valuation when the equity interest being valued is a tax pass-through entity such as a LLC or S Corporation.

Various tax treatment methods are used by different analysts.

- Tax the identified benefit stream at the marginal rate, as if it were a traditional corporation.
- Tax the identified benefit stream at the industry average rate determined from IRS or other sources.
- Adjust the capitalization or discount rate to pretax using industry average actual taxes of entities in discount study behind the capitalization rate determination.

The *PPC Guide to Business Valuations* [Practitioners Publishing Company, 15th Edition (January 2005), Fort Worth, Texas, paragraph 404.46] indicates that some equity interests in S Corporations may be worth a 10% to 15% premium over a traditional corporation (without tax pass-through status).

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a) Status and Range of Issues to Consider

> *"Another year has passed, and the issue of valuation of pass-through entities continues to be a hotbed of controversy. Have we made significant strides? Absolutely. Is there still a ways to go? Yes, but…we're getting there. Great work has been done by many people in this area over the last couple of years, and a healthy debate has ensued. As practitioners, we have an overwhelming amount of information available to us to take advantage of.*
>
> *The market data studies both revealed information, and opened new questions. If we have learned anything from the studies, data, and debate, it is that every situation is unique, and each requires thought and careful application of whatever model we choose. We must consider a plethora of issues in each valuation: this is not just about 'do I tax affect or not?'"*

The range of issues includes:

(1) Is the company a likely candidate for an asset versus a stock sale?
(2) What is included in the market transaction that I am comparing to, and was it an asset or stock sale?
(3) Is the company I am valuing a likely candidate for a 338(h)(10) election, and should that be considered in my valuation?
(4) Has the S election been in effect less than 10 years, and will the seller have built-in gains taxes to contend with?
(5) What is the size of the company being transacted, and how does that impact value?
(6) What is the impact of capital structure on value relative to the studies?
(7) What is the buyer's ability to build up basis in his stock, and will that impact his determination of value?

Typically, these are issues that are adjusted for, from a value determination that has already been made. But…made using what assumptions, and from what base? We must first consider our starting point. Is it:

- A C corporation asset sale?
- A C corporation stock sale?
- A free-standing C corporation?
- A C corporation with high debt in the capital structure?
- A C corporation with an assumption that 100% of cash flow is distributed?
- A C corporation with an assumption that no cash flow is distributed?[2]

[2] Nancy Fannon, et al., "Valuation of Pass-Through Entities," AICPA 2004 National Business Valuation Conference, Orlando, Florida, November 2004.

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Four models have emerged to deal with these issues and will be discussed in the sections that follow.

(1) Roger Grabowski
(2) Z. Christopher Mercer
(3) Chris D. Treharne
(4) Daniel R. Van Vleet

b) New Federal Case Law

> *"The issue of valuing minority interests in pass-through entities came up to a head beginning in 1999 with the IRS' 'victory' in Tax Court with the decision handed down in the* Estate of Walter L. Gross. *Unfortunately, this case has come to stand for much more than it actually represented, and the facts and evidence in that case bear very little resemblance to how broadly it is being misused and applied today.*
>
> *Further compounding this is the fact that the valuation community has been very slow to respond to this issue and any serious, consistent, well-developed financial theory that supports the position that has long been taken with respect to valuation of pass-through entities. While the IRS now has four Tax Court cases behind them—the merits of which, or lack thereof, are discussed below—we have had precious little with which to respond.*
>
> *Citing reasons ranging from 'everyone does it' (i.e., deducts taxes), to 'most buyers are C-corps,' or 'the hypothetical buyer of this minority interest might be a prohibited S-shareholder and blow the election' have fallen on deaf ears. The argument that 'the IRS's own manual says to do it' has long since been rejected. 'We have to match the capitalization rate with the income being capitalized' is certainly a consideration, but left undeveloped, it falls flat, and as those of you who are familiar with the* Adams *case already know, the Tax Court has already visited this argument, and determined that the tax rate of an S-corporation is zero."*[3]

- *Walter L. Gross v. Commissioner*, T.C. Memo, 1999-254, affd. 272 F 3d 333 6th Cir. 2001
- *Estate of John E. Wall v. Commissioner,* T.C. Memo 2001-75
- *Estate of William G. Adams, Jr. v. Commissioner*, T.C. Memo 2002-80
- *Estate of Richie C. Heck v. Commissioner*, T.C. Memo 2002-34
- *Delaware Open MRI Radiology Associates, PA v. Howard B. Kessler*, No. 275 (Del. Chan. 2006)
- *Kathleen C. Vicario v. Paul Michael Vicario*, No. 2005-244-Appeal (RI 2006)

[3] Chris D. Treharne and Nancy J. Fannon, "Valuation of Pass-Through Entities, Treharne Model," (2004 Christ D. Treharne, Gibraltar Business Appraisals, Inc. and Nancy J. Fannon), p. 1.

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(1) *Vicario v. Vicario*, Rhode Island June 29, 2006

The following case was tried before the Supreme Court of Rhode Island and concerned whether or not the trial court erred in adopting the valuation that did not tax-affect the stock of an S corporation over the report that did tax-affect the S corporation. The Court ruled that the trial court did not err and also accepted the discounts for marketability and minority interest in the valuation of the 50-percent interest.

(2) *Delaware Open MRI Radiology Associates v. Kessler, etal.*

First court case where the Court applied a tax rate to a pass-through entity for valuation purposes.

(3) *Estate of Walter Gross*

The *Gross* case laid the ground work for the S-corporation pass-through controversy. When the arguments in the case are summarized, there are seven for tax affecting and five against tax affecting.

For:[4]

(a) Generally accepted practice in valuation community
(b) S corporations sacrifice capital appreciation for current income
(c) S corporation shareholders are at risk of less distribution than liabilities
(d) Might lose "S" status
(e) Approved in *Maris* and *Hall* cases
(f) Implicitly endorse by IRS in its handbooks
(g) IRS should not have discretion to treat taxpayer in an unfair and inequitable manner

Against:

(a) Company doesn't pay taxes currently
(b) No indication company will not stay in "S" status
(c) Historical distributions have been 100% (or nearly 100%)
(d) Company receives a benefit (no corporate taxes) which must be taken into account
(e) Data used to develop rate of return is based on public company returns after corporate income taxes—wrong basis

The 6th Circuit Court of Appeals found tax affecting was not appropriate in this instance. Each of the arguments was rebuffed in this particular valuation. The authors do not agree with the Court's comments or rationale, and include their opinions as to why/why not. Of importance is the Court found that the Commissioner is not precluded from correcting an error, and the fact that tax affecting may have been approved in other cases should not and does not preclude a different result in another case or in another instance.

[4] Company expert is McCoy; IRS expert is Bajaj

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D. PROCEDURES FOR MAKING ADJUSTMENTS

The following reports (except for Exhibit 3-10) may be generated using NACVA's *Business* Valuation Manager™ *Pro* software or other financial analysis software or worksheets can be used. The procedures are:

1. Enter historical financial statement data, and verify that amounts have been entered correctly.

2. Print summary financial statement reports, graphs and a comparative analysis on the historical financial statement data including the following:

Exhibit 3-1:	Historical Balance Sheet Summary
Exhibit 3-2:	Summary of Historical Common Size Balance Sheets
Exhibit 3-3:	Graphs of Selected Historical Balance Sheet Line Items
Exhibit 3-4:	Summary of Historical Income Statements
Exhibit 3-5:	Summary of Historical Common Size Income Statements
Exhibit 3-6:	Graphs of Selected Historical Income Statement Line Items
Exhibit 3-7:	Comparative Analysis of Historical Financial Statements
Exhibit 3-8:	Selected Unadjusted Ratio Summary
Exhibit 3-9:	Selected Ratio Graphs
Exhibit 3-10:	Checklist for Valuation Engagements

3. Review the above information to help identify possible areas that need adjustment.
4. Summarize exceptions noted in step c, discuss with the subject company management to dispose of questionable items and to make provision for adjustment(s).

Exhibits 3-1 through 3-10 for Adler-Cottino Wood Furniture Inc. follow:

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EXHIBIT 3-1

HISTORICAL BALANCE SHEET SUMMARY

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Exhibit 3-1
Adler-Cottino Wood Furniture Inc.
Historical Balance Sheet Summary

For Year Ending December	1996	1997	1998	1999	2000
ASSETS					
Current Assets:					
Cash	$ 618,400	$ 752,979	$ 783,736	$ 789,050	$ 896,406
Accounts Receivable	1,198,600	1,722,800	1,833,973	2,090,600	2,166,908
Inventory	2,200,800	2,565,114	2,713,191	2,869,339	2,994,742
Other Current Assets	42,800	44,400	71,800	69,600	88,600
Total Current Assets	4,060,600	5,085,293	5,402,700	5,818,589	6,146,656
Property & Equipment - Net	1,192,950	1,216,881	1,487,800	2,050,683	2,144,453
Land	-	-	-	-	-
Total Fixed Assets	1,192,950	1,216,881	1,487,800	2,050,683	2,144,453
Other Assets:					
Deposits	102,400	110,000	110,000	110,000	110,000
Other	349,674	329,857	310,040	290,223	270,406
Total Other Assets	452,074	439,857	420,040	400,223	380,406
Total Assets	$ 5,705,624	$ 6,742,031	$ 7,310,540	$ 8,269,495	$ 8,671,515
LIABILITIES & EQUITY					
Current Liabilities:					
Accounts Payable	$ 1,360,400	$ 1,377,800	$ 1,496,966	$ 1,632,000	$ 1,137,600
Other Current Liabilities	564,000	544,200	597,400	690,400	769,200
Current Maturity-Long-Term Debt	85,464	94,413	104,299	167,049	127,285
Notes Payable (Short Term)	718,800	873,000	587,600	306,200	247,800
Total Current Liabilities	2,728,664	2,889,413	2,786,265	2,795,649	2,281,885
Long-Term Liabilities:					
Long-Term Debt	737,173	642,760	538,460	874,906	695,793
Other Long-Term Liabilities	309,740	650,892	975,847	836,680	593,259
Total Long-Term Liabilities	1,046,913	1,293,652	1,514,307	1,711,586	1,289,052
Total Liabilities	3,775,577	4,183,065	4,300,572	4,507,235	3,570,937
Stockholders' Equity:					
Capital Stock	1,000	1,000	1,000	1,000	1,000
Paid-In Capital	300,000	300,000	300,000	300,000	300,000
Retained Earnings	1,629,047	2,257,966	2,708,968	3,461,260	4,799,578
Total Stockholders' Equity	1,930,047	2,558,966	3,009,968	3,762,260	5,100,578
Total Liabilities & Equity	$ 5,705,624	$ 6,742,031	$ 7,310,540	$ 8,269,495	$ 8,671,515

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EXHIBIT 3-2

SUMMARY OF HISTORICAL COMMON SIZE BALANCE SHEETS

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Exhibit 3-2
Adler-Cottino Wood Furniture Inc.
Summary of Historical Common Size Balance Sheets

For Year Ended December	1996	1997	1998	1999	2000
ASSETS					
Current Assets:					
Cash	10.84%	11.17%	10.73%	9.54%	10.33%
Accounts Receivable	21.01%	25.55%	25.09%	25.28%	24.99%
Inventory	38.57%	38.05%	37.11%	34.70%	34.54%
Other Current Assets	0.75%	0.66%	0.98%	0.84%	1.02%
Total Current Assets	71.17%	75.43%	73.91%	70.36%	70.88%
Property & Equipment - Net	20.91%	18.05%	20.35%	24.80%	24.73%
Land	0.00%	0.00%	0.00%	0.00%	0.00%
Total Fixed Assets	20.91%	18.05%	20.35%	24.80%	24.73%
Other Assets:					
Deposits	1.79%	1.63%	1.50%	1.33%	1.27%
Other	6.13%	4.89%	4.24%	3.51%	3.12%
Total Other Assets	7.92%	6.52%	5.74%	4.84%	4.39%
Total Assets	100.00%	100.00%	100.00%	100.00%	100.00%
LIABILITIES & EQUITY					
Current Liabilities:					
Accounts Payable	23.84%	20.45%	20.47%	19.73%	13.12%
Other Current Liabilities	9.88%	8.07%	8.17%	8.35%	8.87%
Current Maturity – Long-Term Debt	1.50%	1.40%	1.43%	2.02%	1.47%
Notes Payable (Short Term)	12.60%	12.95%	8.04%	3.70%	2.86%
Total Current Liabilities	47.82%	42.87%	38.11%	33.80%	26.32%
Long-Term Liabilities:					
Long-Term Debt	12.92%	9.53%	7.37%	10.58%	8.02%
Other Long-Term Liabilities	5.43%	9.65%	13.35%	10.12%	6.84%
Total Long-Term Liabilities	18.35%	19.18%	20.72%	20.70%	14.86%
Total Liabilities	66.17%	62.05%	58.83%	54.50%	41.18%
Stockholders' Equity:					
Capital Stock	0.02%	0.01%	0.01%	0.01%	0.01%
Paid-In Capital	5.26%	4.45%	4.10%	3.63%	3.46%
Retained Earnings	28.55%	33.49%	37.06%	41.86%	55.35%
Total Stockholders' Equity	33.83%	37.95%	41.17%	45.50%	58.82%
Total Liabilities & Equity	100.00%	100.00%	100.00%	100.00%	100.00%

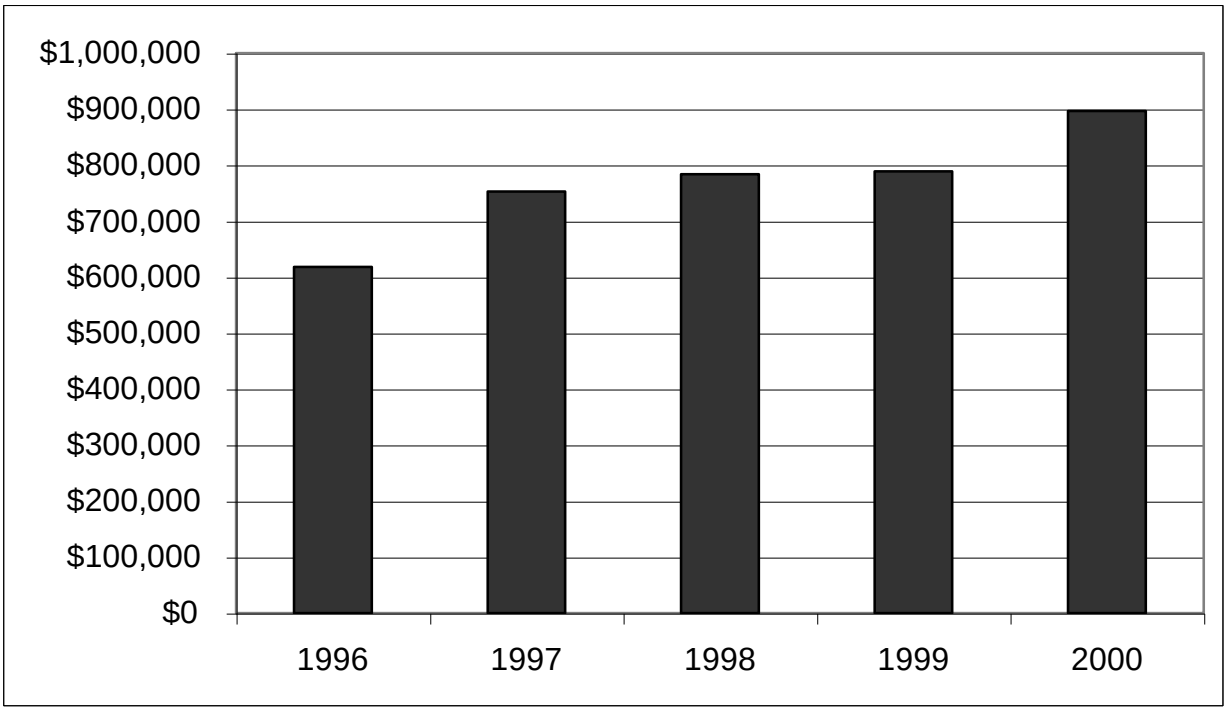
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EXHIBIT 3-3

GRAPHS OF SELECTED HISTORICAL BALANCE SHEET LINE ITEMS

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Exhibit 3-3
Adler-Cottino Wood Furniture Inc.
Balance Sheet—Historical Summary
Cash



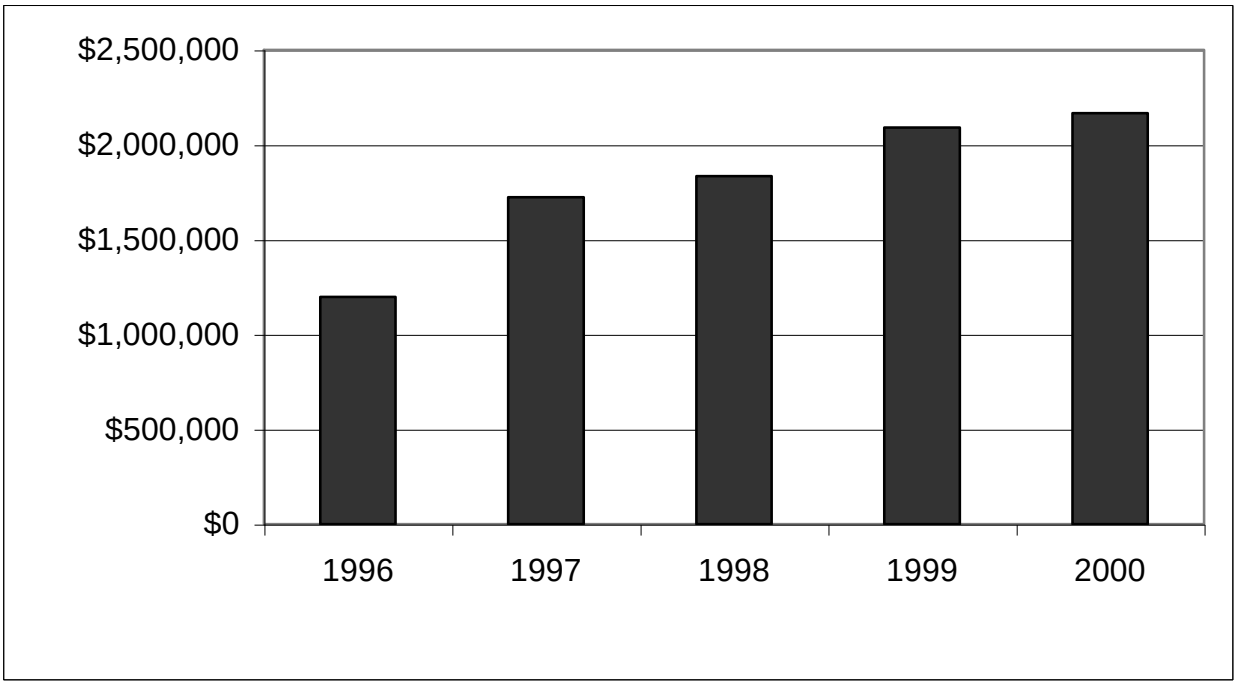
Management Query: Cash levels are growing. What future plans exist which appear to require high levels of cash?

Management Response: There are a couple of reasons for these cash levels. Our near-term goal is to modernize; we are in the early planning stages to add automation to our non-RTA assembly lines, so we are preparing.

Analyst Disposition: Compare to industry levels. Consider whether a portion of the cash represents a non-operating asset.

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Exhibit 3-3 Continued
Adler-Cottino Wood Furniture Inc.
Balance Sheet—Historical Summary
Accounts Receivable



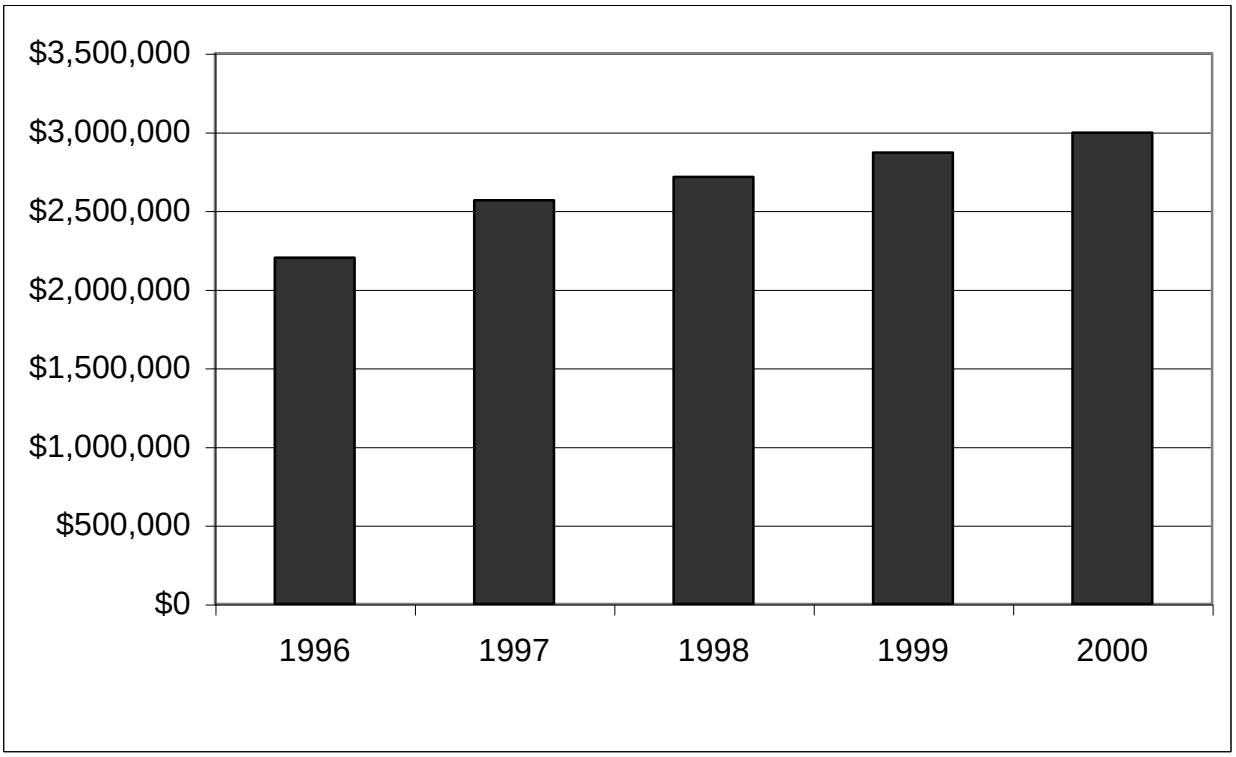
Management Query: Accounts receivable is growing. Has Adler begun to offer more credit purchasing?

Management Response: No.

Analyst Disposition: Review aging; there may be non-collectible receivables, which will need adjustment.

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Exhibit 3-3 Continued
Adler-Cottino Wood Furniture Inc.
Balance Sheet—Historical Summary
Inventory



Management Query: Inventory includes work in process and raw materials?

Management Response: Yes.

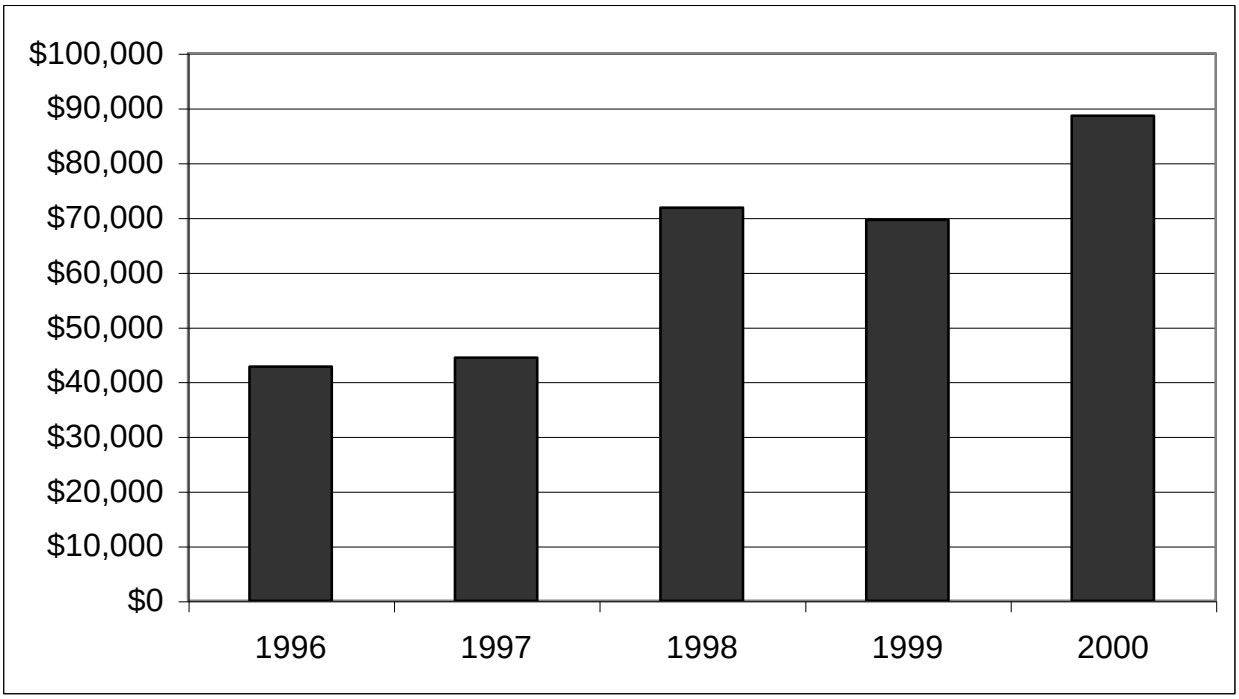
Management Query: Do you manage inventory by billing last in-first out or first in-first out?

Management Response: We have contracts with negotiated prices. In bidding these we use our highest cost for wood and current costs for labor. Inventory management and control lags a bit. We use LIFO method of valuing inventory.

Analyst Disposition: Adjust for LIFO reserve. Mark this area for on-site inspection.

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Exhibit 3-3 Continued
Adler-Cottino Wood Furniture Inc.
Balance Sheet—Historical Summary
Other Current Assets



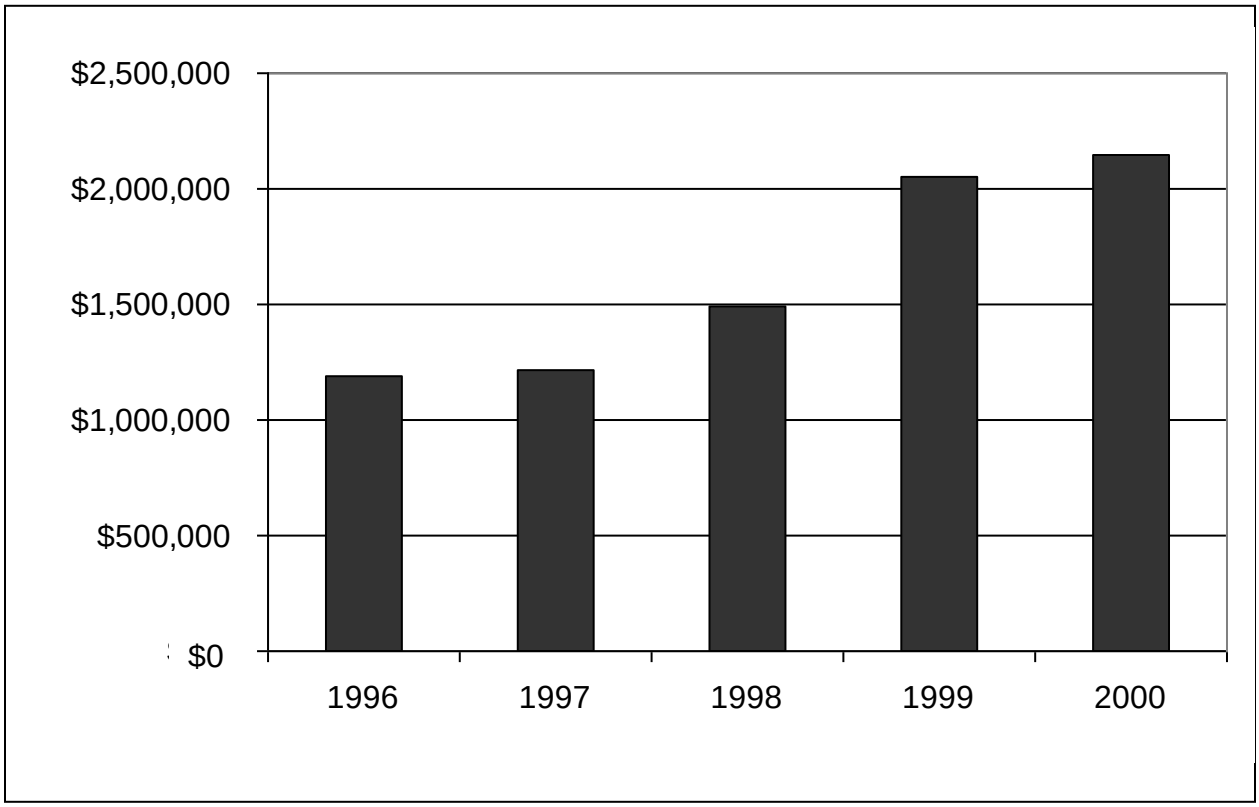
Management Query: 1998 assets jumped. Assets for 2000 also jumped. To what do you attribute the jump?

Management Response: Normal proposed expenses and increase in prepared taxes and insurance.

Analyst Disposition: No adjustment.

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Exhibit 3-3 Continued
Adler-Cottino Wood Furniture Inc.
Balance Sheet—Historical Summary
Property, Plant & Equipment



Management Query: A marked increase appears in 1999. What is the reason for the upswing?

Management Response: In the latter part of 1998, we began expanding the manufacturing facility. This project was completed in early 1999. We substantially increased our capacity, which accounts for the changes.

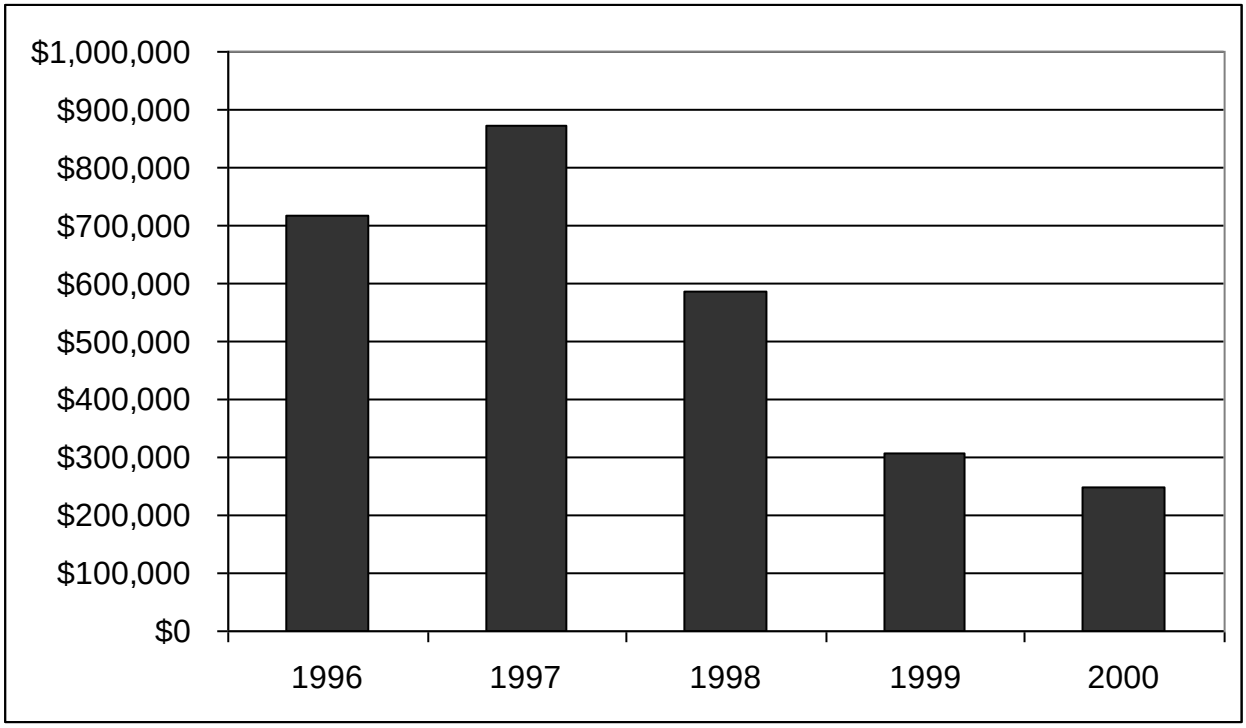
Management Query: Do you have appraisals of the property, plant and equipment?

Management Response: Yes, I will provide a copy to you.

Analyst Disposition: Site inspection needed to confirm. Also, adjust asset values to appraised value.

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Exhibit 3-3 Continued
Adler-Cottino Wood Furniture Inc.
Balance Sheet—Historical Summary
Short Term Notes Payable



Management Query: Shows Adler had some short-term notes payable. What were these?

Management Response: We have a line of credit. We did some short term financing during a down-turn cycle – and we made a decision to pay these down in 1998. The pay-down coincided with our expansion.

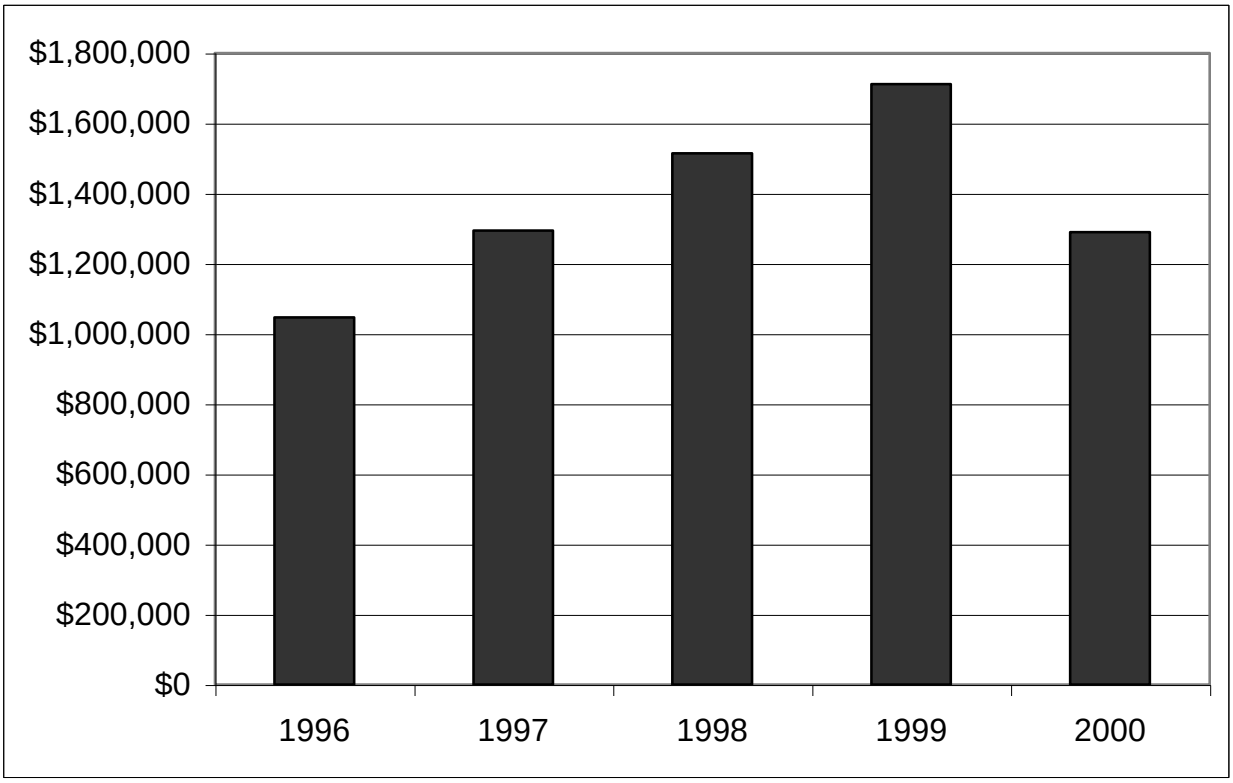
Management Query: Does Adler ever let the family borrow from the company?

Management Response: Yes it has in the past. We need a good reason and board approval before we do that. We do not have an outstanding family loan now.

Analyst Disposition: Check this against detail ledgers.

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Exhibit 3-3 Continued
Adler-Cottino Wood Furniture Inc.
Balance Sheet—Historical Summary
Total Long-Term Liabilities



Management Query: Adler's liabilities increase in 1998, and begin to decrease in 2000. Why?

Management Response: Adler plant expansion project, to increase facility size from 75,000 to 110,000 square feet, began in 1998 and was completed in 1999.

Analyst Disposition: Fits with equipment/plant fiscal data. Note correlation. If all matches, no adjustments would be necessary to this account.

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EXHIBIT 3-4

SUMMARY OF HISTORICAL INCOME STATEMENTS

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Exhibit 3-4
Adler-Cottino Wood Furniture Inc.
Summary of Historical Income Statements

Year End December	**1996**	**1997**	**1998**	**1999**	**2000**
Sales	$ 14,770,000	$ 18,998,000	$ 18,784,400	$ 21,988,800	$ 24,127,600
Cost of Sales	10,952,500	14,572,480	14,282,612	16,413,380	17,535,276
Gross Profit	3,817,500	4,425,520	4,501,788	5,575,420	6,592,324
Operating Expenses:					
Officers' Compensation	370,400	422,000	469,200	556,600	617,800
Other Salaries & Wages	1,097,460	1,471,136	1,551,200	1,611,800	1,657,500
Rent	300,000	300,000	300,000	440,000	440,000
Payroll Taxes	133,428	191,060	188,632	191,840	192,724
Auto & Truck Expenses	25,200	25,800	26,960	25,600	28,960
Insurance	58,360	63,000	112,500	175,100	207,520
Selling Expenses	84,420	102,564	139,570	170,490	187,150
Professional Expense	32,000	30,000	52,840	62,800	80,200
Travel & Entertainment	79,600	69,600	71,800	64,800	70,600
Other Operating Expenses	53,260	372,960	467,524	557,920	585,556
Total Operating Exp	2,434,128	3,048,120	3,380,226	3,856,950	4,068,010
Operating EBITDA (1)	1,383,372	1,377,400	1,121,562	1,718,470	2,524,314
Depreciation & Amortization	211,400	234,312	253,100	352,500	396,900
Operating Inc (Loss) - EBIT (2)	1,171,972	1,143,088	868,462	1,365,970	2,127,414
Miscellaneous (Inc) Exp	5,126	2,617	39,417	40,817	(5,983)
Interest Expense	149,413	150,048	135,195	131,038	105,643
Income (Loss) Before Taxes	1,017,433	990,423	693,850	1,194,115	2,027,754
Income Taxes	386,625	361,504	242,848	441,823	689,436
Net Income (Loss)	630,808	628,919	451,002	752,292	1,338,318
Retained Earnings - Beg. of Yr	998,239	1,629,047	2,257,966	2,708,968	3,461,260
Dividends	-	-	-	-	-
Retained Earnings - End of Yr	$ 1,629,047	$ 2,257,966	$ 2,708,968	$ 3,461,260	$ 4,799,578

Notes:
(1) Operating EBITDA = Operating Earnings Before Interest, Taxes, Depreciation & Amortization
(2) Operating EBIT = Operating Earnings before Interest and Taxes

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EXHIBIT 3-5

SUMMARY OF HISTORICAL COMMON SIZE INCOME STATEMENTS

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Exhibit 3-5
Adler-Cottino Wood Furniture Inc.
Summary of Historical Common Size Income Statements

Year End December	1996	1997	1998	1999	2000
Sales	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of Sales	74.15%	76.71%	76.03%	74.64%	72.68%
Gross Profit	25.85%	23.29%	23.97%	25.36%	27.32%
Operating Expenses:					
Officers' Compensation	2.51%	2.22%	2.50%	2.53%	2.56%
Other Salaries & Wages	7.43%	7.74%	8.26%	7.33%	6.87%
Rent	2.03%	1.58%	1.60%	2.00%	1.82%
Payroll Taxes	0.90%	1.01%	1.00%	0.87%	0.80%
Auto & Truck Expenses	0.17%	0.14%	0.14%	0.12%	0.12%
Insurance	0.40%	0.33%	0.60%	0.80%	0.86%
Selling Expenses	0.57%	0.54%	0.74%	0.78%	0.78%
Professional Expense	0.22%	0.16%	0.28%	0.29%	0.33%
Travel & Entertainment	0.54%	0.37%	0.38%	0.29%	0.29%
Other Operating Expenses	1.71%	1.96%	2.49%	2.54%	2.43%
Total Operating Exp	16.48%	16.05%	17.99%	17.55%	16.86%
Operating EBITDA	9.37%	7.24%	5.98%	7.81%	10.46%
Depreciation & Amortization	1.43%	1.23%	1.35%	1.60%	1.65%
Operating Inc (Loss) - EBIT	7.94%	6.01%	4.63%	6.21%	8.81%
Miscellaneous (Inc) Exp	0.03%	0.01%	0.21%	0.19%	-0.02%
Interest Expense	1.01%	0.79%	0.72%	0.60%	0.44%
Income (Loss) Before Taxes	6.90%	5.21%	3.70%	5.42%	8.39%
Income Taxes	2.62%	1.90%	1.29%	2.01%	2.86%
Net Income (Loss)	4.28%	3.31%	2.41%	3.41%	5.53%

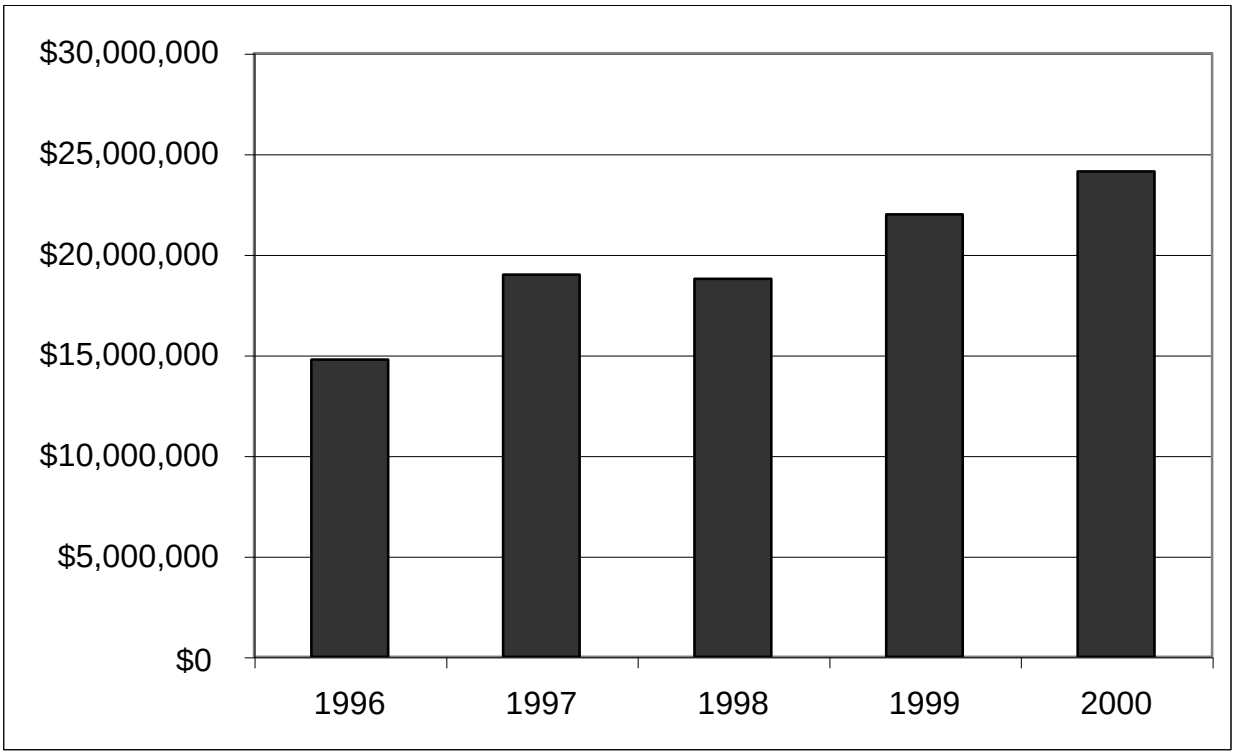
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EXHIBIT 3-6

GRAPHS OF SELECTED HISTORICAL INCOME STATEMENT LINE ITEMS

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Exhibit 3-6
Adler-Cottino Wood Furniture Inc.
Income Statement—Historical Summary
Net Sales



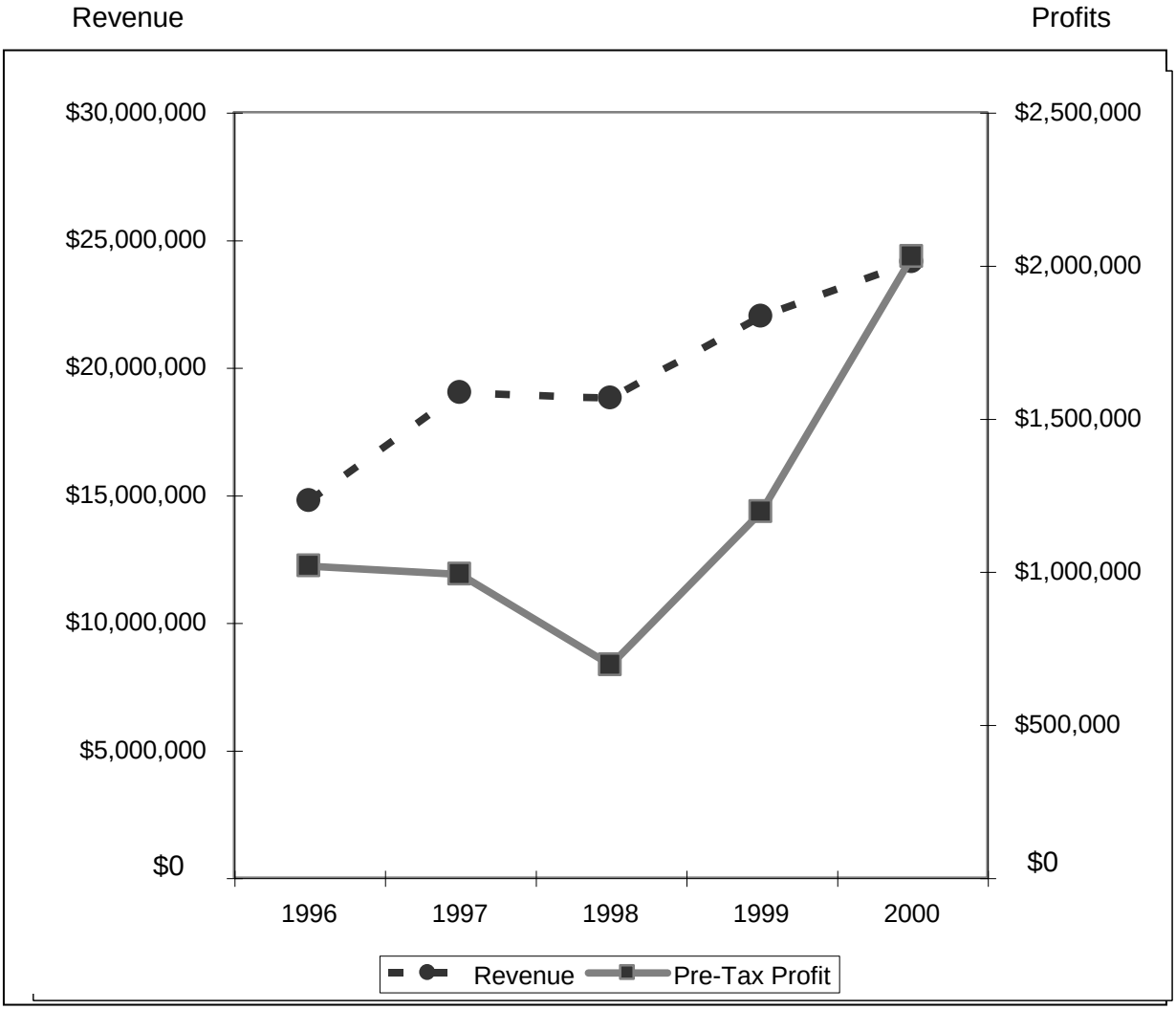
Management Query: What appears to management to be the reason for the dip in revenue in 1998?

Management Response: Plant expansion; our management team concentrated more resources to plant expansion and less to revenue generation.

Analyst Disposition: Fits the rest of data being gathered. Note for comment in final report.

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Exhibit 3-6 Continued
Adler-Cottino Wood Furniture Inc.
Income Statement—Historical Summary
Revenue and Pre-Tax Profit



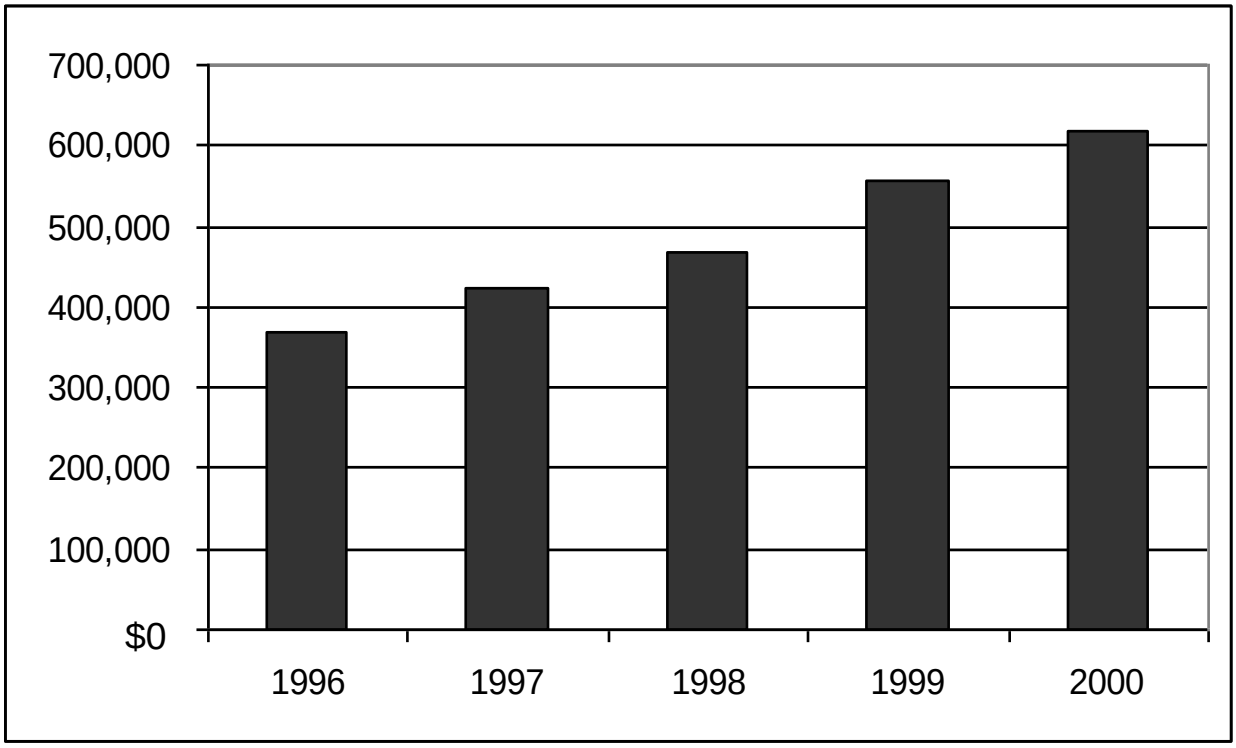
Management Query: 1998 and 1999—the years of facility expansion.

Management Response: Yes, as you can see, much of our time and energy and monies were involved in the expansion. We could see profits suffering, but felt in the long run, the expansion and adding a new line of products would prepare Adler for the future, and even increase our profits – by both increased sales and lowered costs.

Analyst Disposition: Noted, reviewed, and pass adjustment.

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Exhibit 3-6 Continued
Adler-Cottino Wood Furniture Inc.
Income Statement—Historical Summary
Officers Compensation



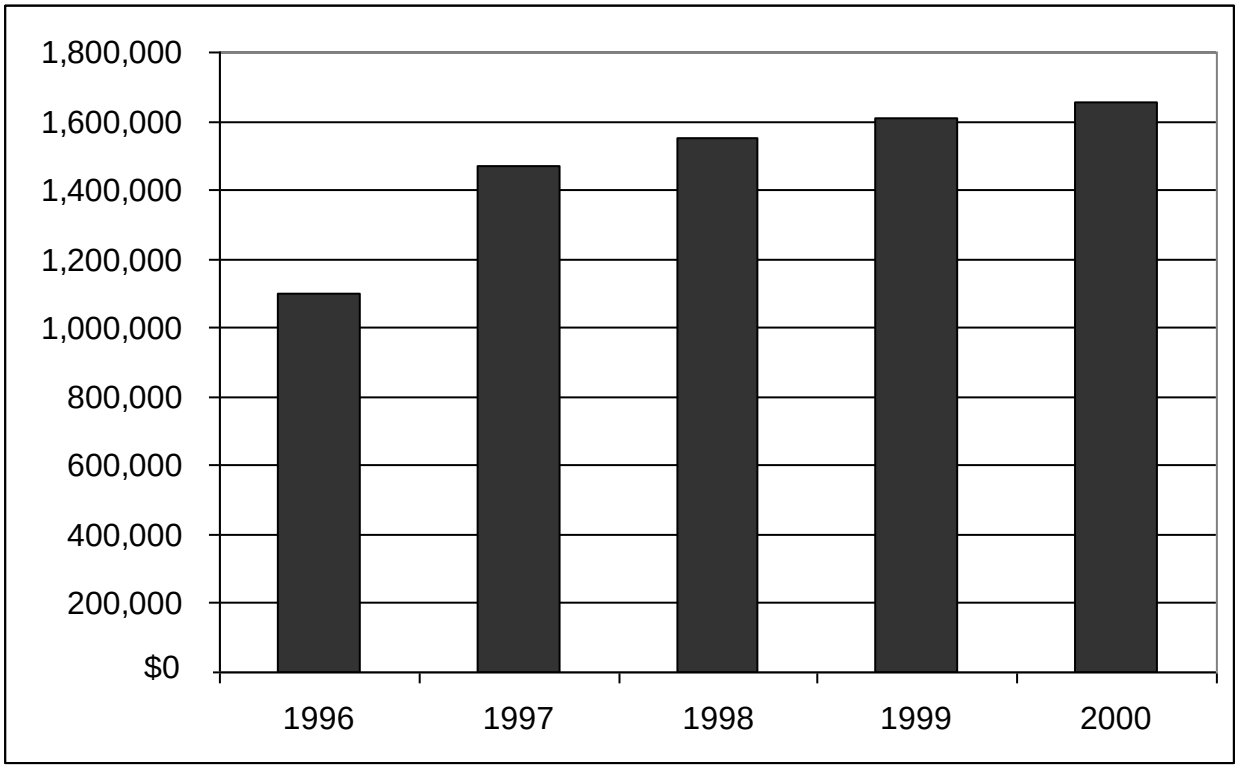
Management Query: Is compensation for Raymond included in this line item?

Management Response: Yes.

Analyst Disposition: Adjust for Raymond in this line item and in benefits and related areas. Check related items such as automobile payments, etc., to adjust as needed.

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Exhibit 3-6 Continued
Adler-Cottino Wood Furniture Inc.
Income Statement—Historical Summary
Other Salaries & Wages



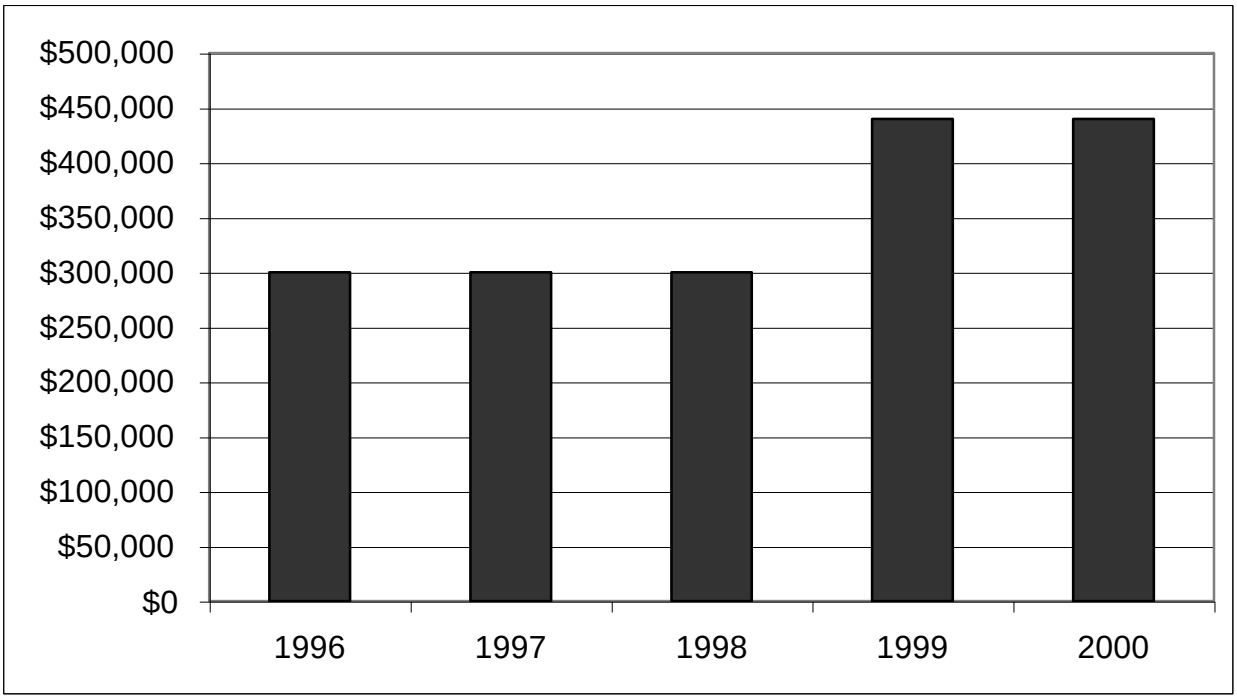
Management Query: Are there costs for Raymond in this account?

Management Response: No.

Analyst Disposition: Note, review and pass adjustments.

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Exhibit 3-6 Continued
Adler-Cottino Wood Furniture Inc.
Income Statement—Historical Summary
Rent



Management Query: To whom does Adler pay rent?

Management Response: Adler-Cottino Real Estate Development Company, LLP

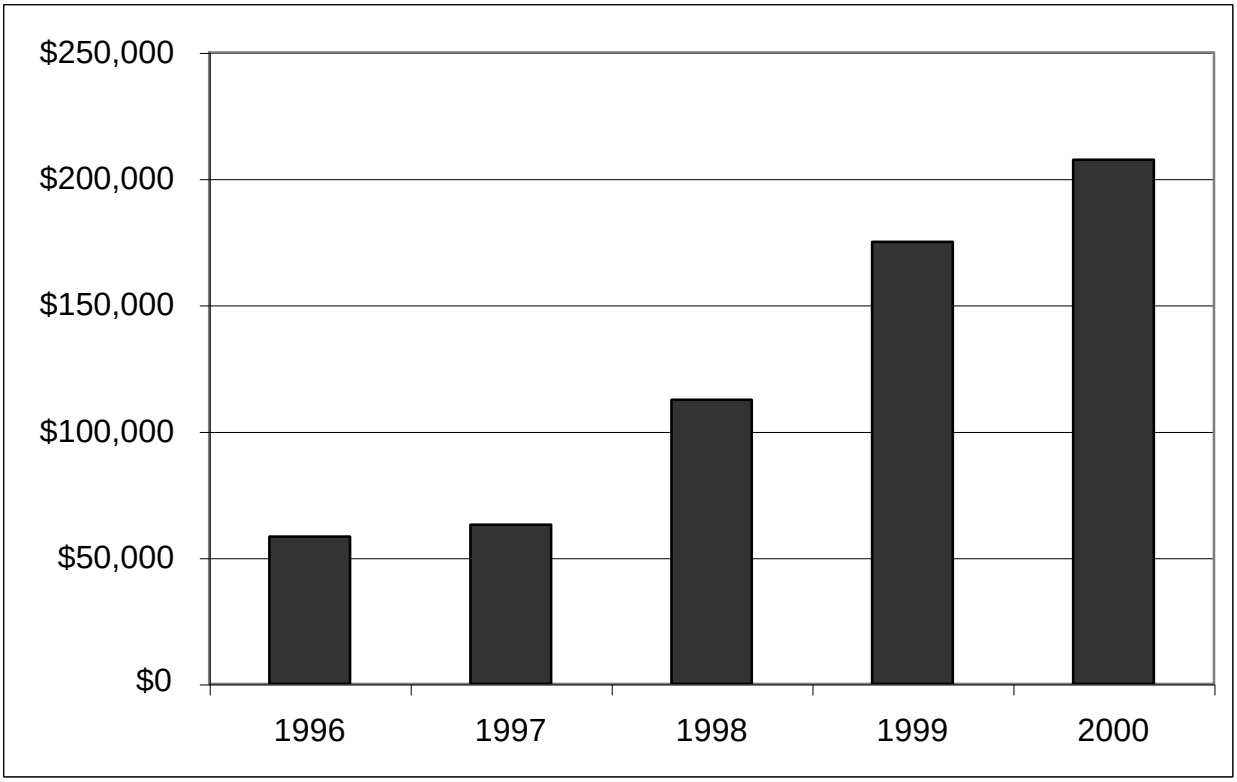
Management Query: Who owns the real estate company?

Management Response: Mrs. Raymond Harrison, first name is Anabelle, and David (her son). Other family members may have some interest in the RE company.

Analyst Disposition: Not part of estate. Need to check on current rents in the area to see if amount paid is comparable to others in the area.

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Exhibit 3-6 Continued
Adler-Cottino Wood Furniture Inc.
Income Statement—Historical Summary
Insurance



Management Query: What is the cause of the jump in insurance? What is in this line item?

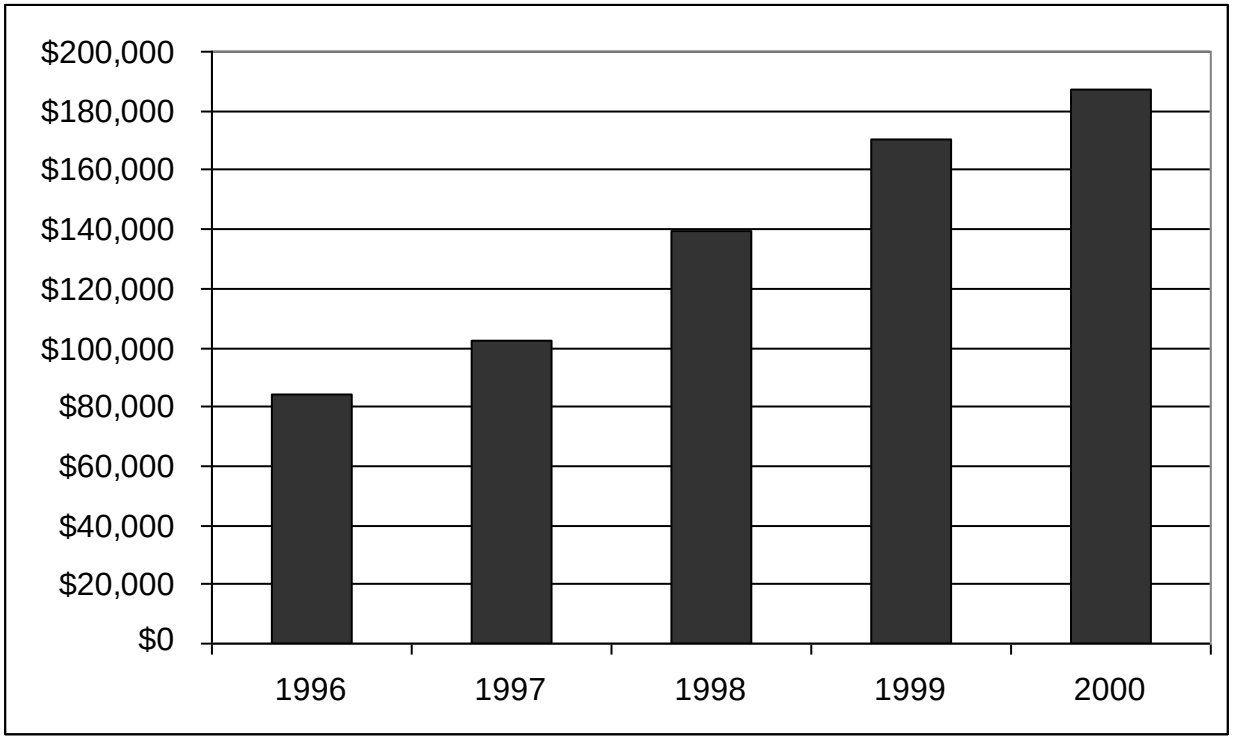
Management Response: Several items—salesmen's automobiles, trucks for delivery, workers compensation and insurance related to potential environmental problems.

To date, no major claims are on file or expected.

Analyst Disposition: Review in detail for any item related to Raymond and adjust as needed.

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Exhibit 3-6 Continued
Adler-Cottino Wood Furniture Inc.
Income Statement—Historical Summary
Selling Expenses



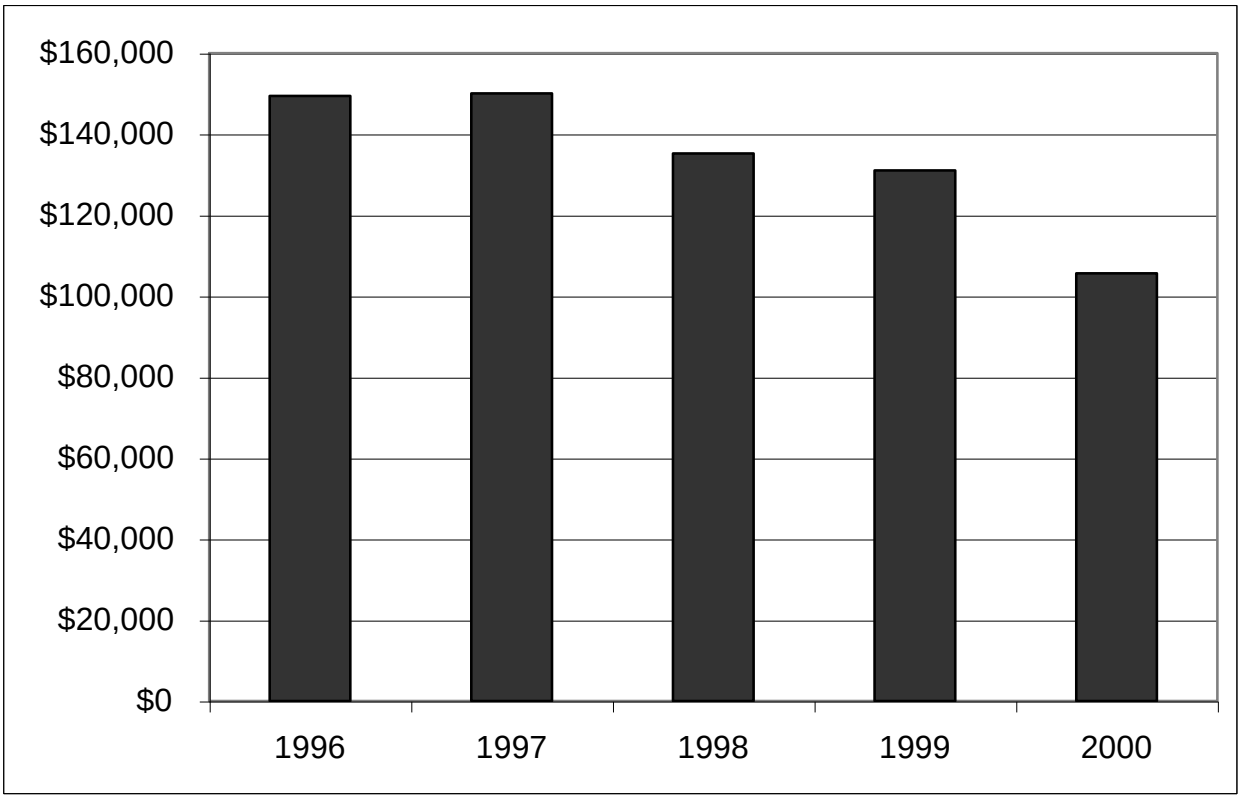
Management Query: Selling expense continues to climb.

Management Response: Yes, we see this and discuss in our management meetings. It is a trend we are watching closely since the expansion, to see where these costs are generated and how we might better control them. It is a trend we do not like, but do not want to react to until we are more certain of the reasons.

Analyst Disposition: Note.

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Exhibit 3-6 Continued
Adler-Cottino Wood Furniture Inc.
Income Statement—Historical Summary
Interest Expense



Management Query: Interest expense is heading down.

Management Response: Yes, a trend we like. We attribute to the change in funding of our business and the decrease in the short-term loans with their higher rates.

Analyst Disposition: Logical; check and if reasonable, pass adjustments.

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EXHIBIT 3-7

COMPARATIVE ANALYSIS OF HISTORICAL FINANCIAL STATEMENTS

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Exhibit 3-7
Adler-Cottino Wood Furniture, Inc.
Comparative Analysis of Historical Financial Statements[5]

	1997			1998			1999			2000		
SELECTED ITEMS	RMA	INTEGRA	CO	RMA	INTEGRA	CO	RMA	INTEGRA	CO	RMA	INTEGRA	CO
ASSETS												
Current Assets:												
Cash	3.3%	7.0%	11.2%	6.2%	6.9%	10.7%	6.3%	6.9%	9.5%	2.6%	6.9%	10.3%
Marketable Securities		0.0%	0.0%		0.1%	0.0%		0.0%	0.0%		0.1%	0.0%
Accounts Receivable	26.1%	27.2%	25.6%	22.9%	26.9%	25.1%	25.0%	26.7%	25.3%	26.9%	26.9%	25.0%
Inventory	37.7%	36.1%	38.0%	36.8%	35.7%	37.1%	37.6%	35.5%	34.7%	31.2%	35.8%	34.6%
Prepaid Expenses	0.7%	3.1%	0.7%	1.3%	3.0%	1.0%	1.1%	2.9%	0.9%	1.5%	3.0%	1.0%
Total Current Assets	67.8%	73.4%	75.5%	67.2%	72.6%	73.9%	70.0%	72.0%	70.4%	62.2%	72.7%	70.9%
Property & Equipment - Net			18.0%			20.4%			24.8%			24.7%
Land			0.0%			0.0%			0.0%			0.0%
Net Fixed Assets	26.3%	21.9%	18.0%	26.7%	22.7%	20.4%	21.4%	23.4%	24.8%	30.6%	23.6%	24.7%
Other Assets:												
Intangible Assets	1.3%	0.8%	0.0%	1.2%	0.8%	0.0%	2.3%	0.9%	0.0%	1.4%		0.0%
Investments		2.4%	0.0%		2.4%	0.0%		2.3%	0.0%		2.3%	0.0%
Other Assets	4.6%	1.5%	6.5%	4.9%	1.5%	5.7%	6.3%	1.4%	4.8%	5.8%	1.4%	4.4%
Total Other Assets	5.9%	4.7%	6.5%	6.1%	4.7%	5.7%	8.6%	4.6%	4.8%	7.2%	3.7%	4.4%
Total Assets	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
LIAB. & S/Hs EQUITY												
Current Liabilities:												
Short Term Debt	23.8%	10.8%	14.4%	17.4%	11.0%	9.4%	23.5%	11.0%	5.7%	26.4%	11.0%	4.3%
Accounts Payable	11.8%	12.7%	20.4%	12.0%	12.8%	20.5%	12.5%	12.8%	19.7%	15.1%	12.7%	13.1%
Other Current Liabilities	7.2%	9.5%	8.1%	10.7%	9.6%	8.2%	9.5%	9.4%	8.4%	8.3%	9.4%	8.9%
Total Current Liab	42.8%	33.0%	42.9%	40.1%	33.4%	38.1%	45.5%	33.2%	33.8%	49.8%	33.1%	26.3%
Long-Term Liabilities:												
Long-Term Debt	14.1%	12.5%	9.5%	13.0%	12.8%	7.4%	13.5%	13.0%	10.6%	19.1%	13.1%	8.0%
Loans from Shareholders		7.3%	0.0%		7.6%	0.0%		7.7%	0.0%		7.7%	0.0%
Other Liabilities	4.5%	1.2%	9.6%	3.3%	1.2%	13.3%	3.7%	1.3%	10.1%	6.1%	1.2%	6.8%
Total-Long-Term Liabilities	18.6%	21.0%	19.1%	16.3%	21.6%	20.7%	17.2%	22.0%	20.7%	25.2%	22.0%	14.8%
Total Liabilities	61.4%	54.0%	62.0%	56.4%	55.0%	58.8%	62.7%	55.2%	54.5%	75.0%	55.1%	41.1%
Shareholders' Equity:												
Capital Stock			0.1%			0.1%			0.1%			0.1%
Additional Paid-In Capital			4.4%			4.0%			3.5%			3.5%
Retained Earnings			33.5%			37.1%			41.9%			55.3%
Total S/Hs Equity	38.6%	46.0%	38.0%	43.6%	45.0%	41.2%	37.3%	44.8%	45.5%	25.0%	44.9%	58.9%
Total Liabilities.& S/Hs Equity	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

[5] Source: SIC Code 2511, NAICS Code 337122, RMA Annual Statement Studies, average of about 32 companies with total sales between $10M-$25M; Integra Business Profiler, 42 companies with sales between $10M-$25M.

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EXHIBIT 3-8

SELECTED UNADJUSTED RATIO SUMMARY

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Exhibit 3-8
Adler-Cottino Wood Furniture Inc.
Selected Unadjusted Ratio Summary

	Median RMA 2000	Integra 2000	2000	1999	1998	1997	1996
LIQUIDITY RATIOS:							
Current Ratio	1.2	2.2	2.7	2.1	1.9	1.8	1.5
Quick (Acid-Test) Ratio	0.5	1.0	1.3	1.0	0.9	0.9	0.7
Revenue/Accounts Receivable	9.2	7.5	11.1	10.5	10.2	11.0	12.3
Average Collection Period	39.7	48.7	32.9	34.8	35.8	33.2	29.7
Inventory Turnover	4.6		5.9	5.7	5.3	5.7	5.0
Days' Inventory	79.3	0.0	61.9	64.0	68.9	64.0	73.0
COGS/Payables	16.6		15.4	10.1	9.5	10.6	8.1
Days' Payables	22.0	0.0	23.7	36.1	38.4	34.4	45.1
Revenue/Working Capital	22.8	5.1	6.2	7.3	7.2	8.7	11.1
COVERAGE RATIOS:							
Times Interest Earned	2.4	4.3	20.2	10.1	6.1	7.6	7.8
NI+Non-Cash Expenditures / Current L.T. Debt	4.5		13.6	6.6	6.8	9.1	9.9
LEVERAGE RATIOS:							
Fixed Assets/Tangible Worth	0.5		0.4	0.5	0.5	0.5	0.6
Debt-to-Tangible Net Worth	3.0	1.2	0.7	1.2	1.4	1.6	2.0
Debt-to-Equity	1.0		0.7	1.2	1.4	1.6	2.0
OPERATING RATIOS:							
Gross Profit Margin	23.30%		27.32%	25.36%	23.97%	23.29%	25.85%
EBT/Tangible Worth	14.20%	12.40%	39.76%	31.74%	23.05%	38.70%	52.72%
EBT/Total Assets	5.20%	5.60%	23.38%	14.44%	9.49%	14.69%	17.83%
Fixed-Asset Turnover	9.6	8.5	11.3	10.7	12.6	15.6	12.4
Total Asset Turnover	2.4	2.0	2.8	2.7	2.6	2.8	2.6
EXPENSE TO REVENUE RATIOS:							
% Deprtn., Depltn., Amort./Revenue	0.00%		1.65%	1.60%	1.35%	1.23%	1.43%
% Officer's &/or Owner's Compensation/Revenue	N/A	4.00%	2.56%	2.53%	2.50%	2.22%	2.51%

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EXHIBIT 3-9

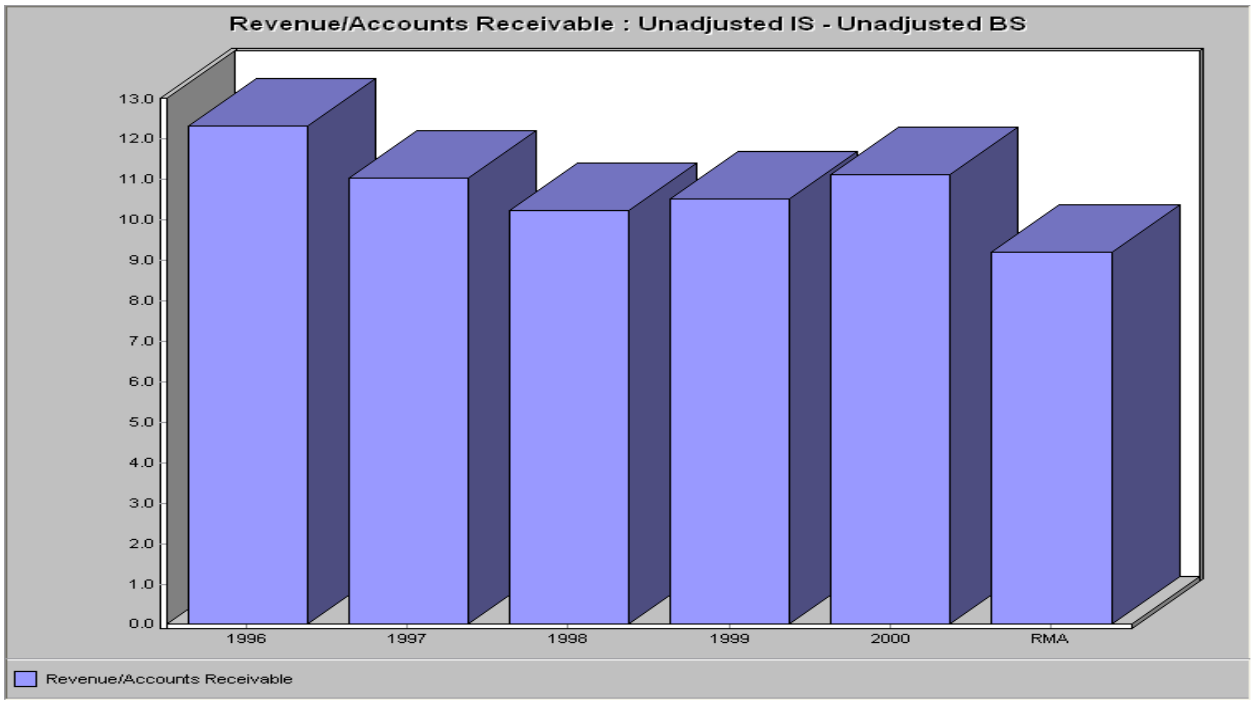
SELECTED RATIO GRAPHS

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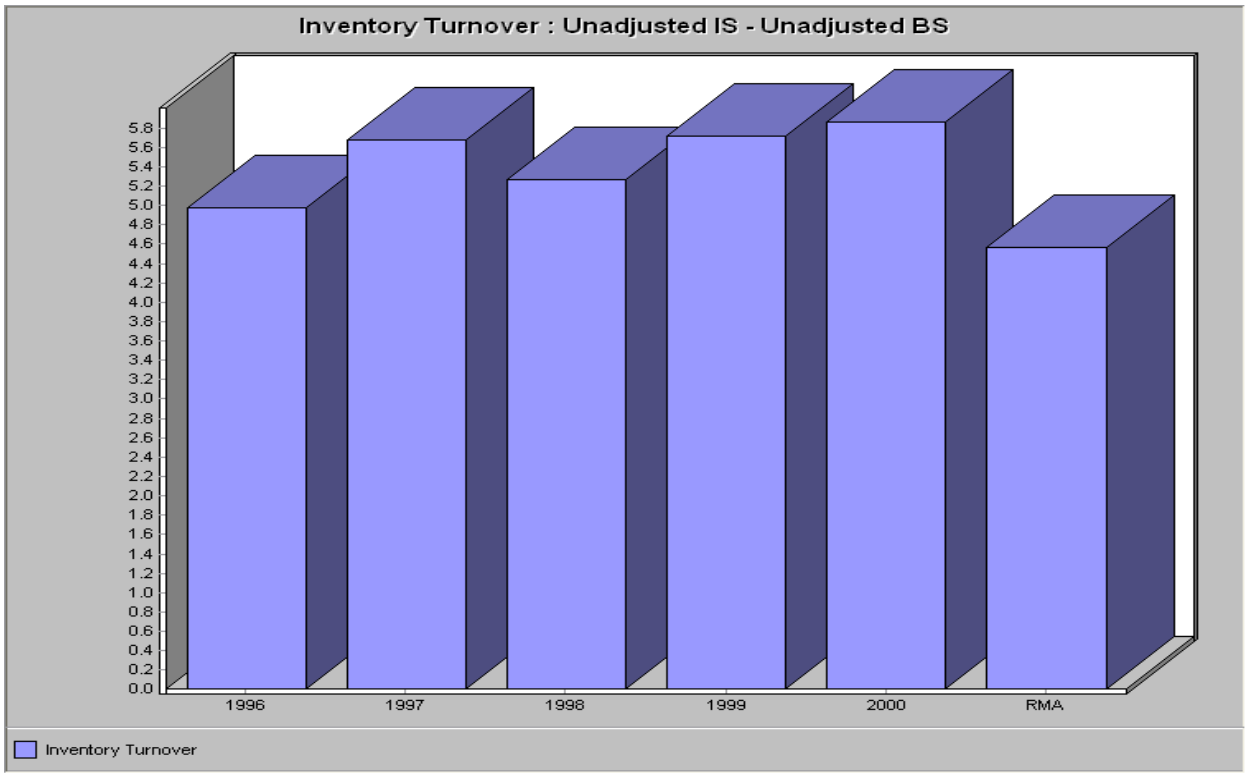
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Exhibit 3-9
Adler-Cottino Wood Furniture Inc.

Unadjusted Ratios: Sales/Receivables



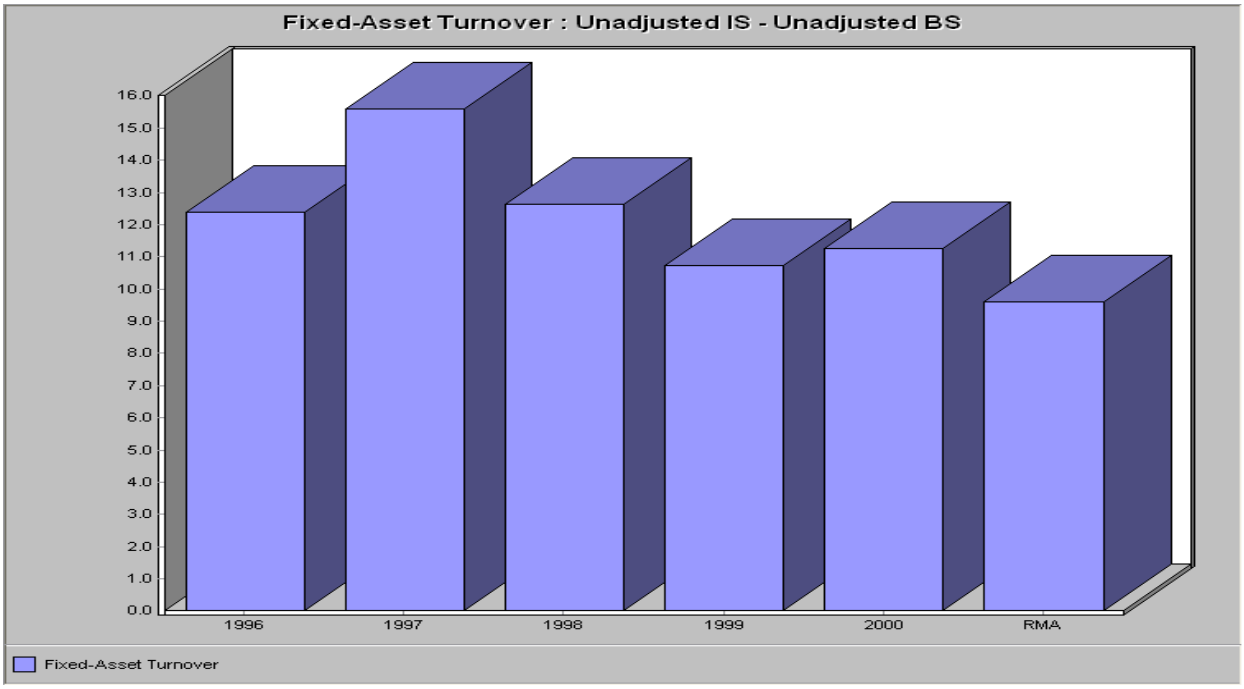
Unadjusted Ratios: Inventory Turnover



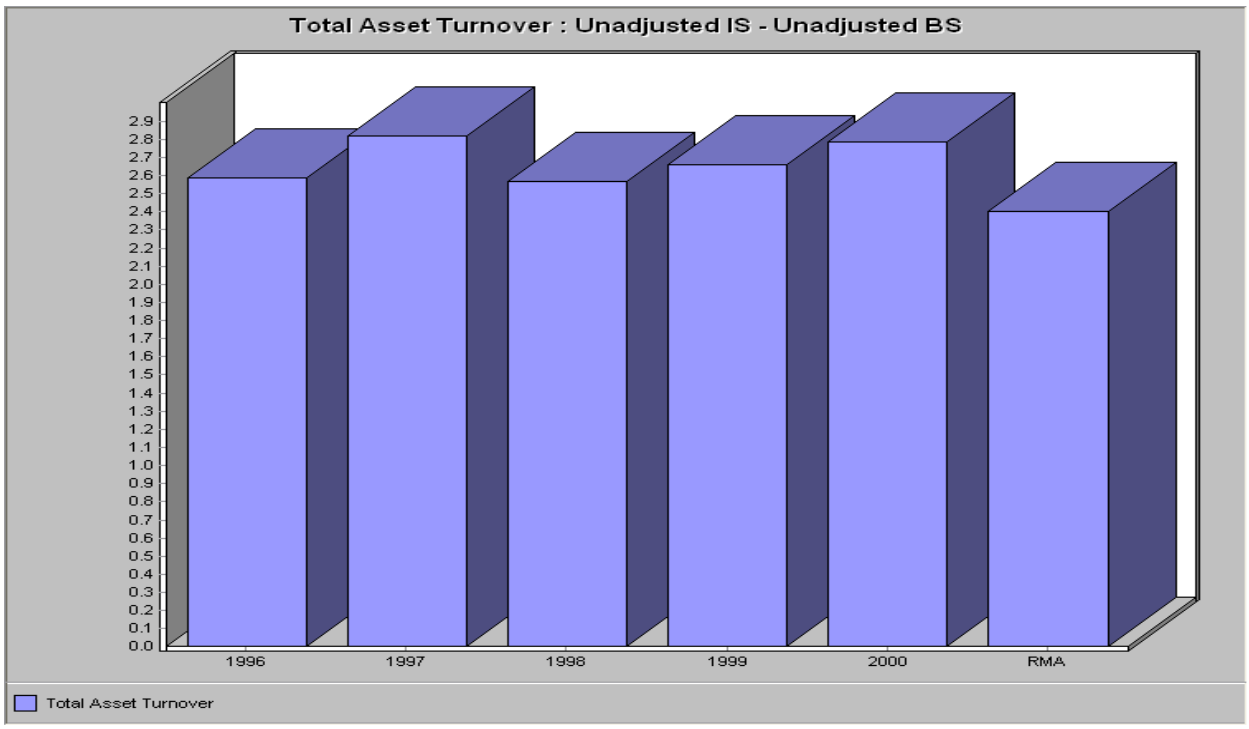
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Exhibit 3-9 Continued
Adler-Cottino Wood Furniture Inc.

Unadjusted Ratios: Sales/Fixed Assets (Fixed Asset Turnover)



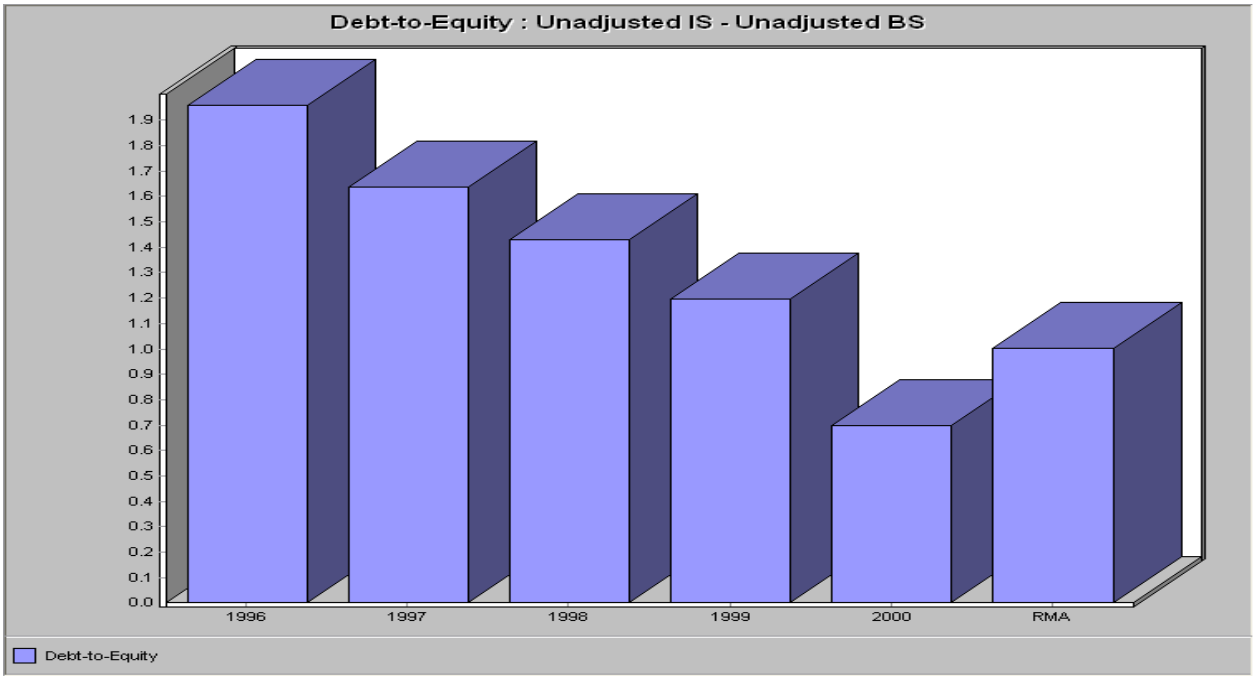
Unadjusted Ratios: Sales/Total Assets



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Exhibit 3-9 Continued
Adler-Cottino Wood Furniture Inc.

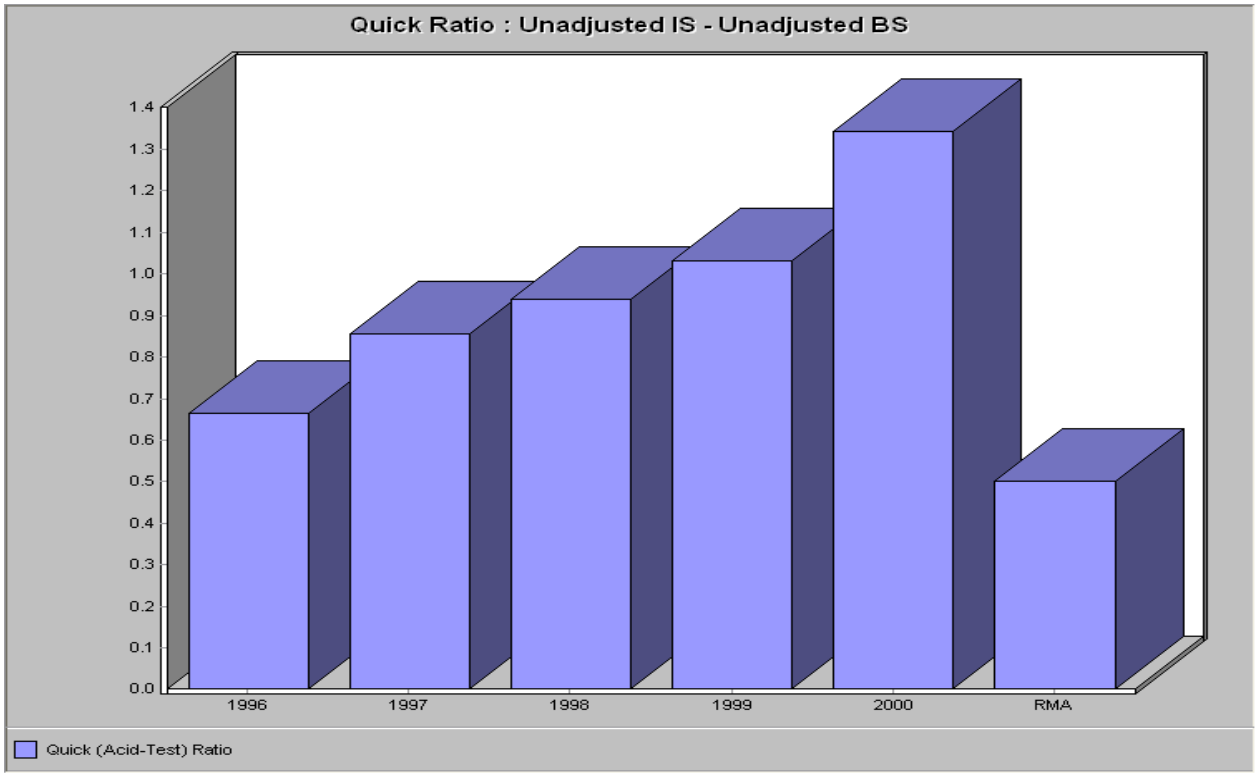
Unadjusted Ratios: Total Debt/Equity



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Exhibit 3-9 Continued
Adler-Cottino Wood Furniture Inc.

Unadjusted Ratios: Quick Ratio



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EXHIBIT 3-10

Comprehensive Business Valuation Development Checklist

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Comprehensive Business Valuation Development Checklist

Use of this document in obtaining the necessary information and addressing the specific areas of development to conduct your analysis in the performance of a business valuation in a valuation engagement, and will help in complying with the Development Standards promulgated by the National Association of Certified Valuators and Analysts (NACVA) and the American Institute of Certified Public Accountants (AICPA) in their Statement on Standards for Valuation Services No. 1 (SSVS). Both standards have an effective implementation date of January 1, 2008.

Disclaimers:

1) **Though this document is quite comprehensive, one should not construe it to suggest that every item noted herein is required to be obtained or addressed in the development of a business valuation. Each engagement and each business is different. Thus, some or many items noted herein may not be necessary for consideration in the given circumstances.**

2) By no means is the use of this document intended to replace the User's responsibility for having read and being fully conversant with both NACVA's and the AICPA's standards. The authors of this document are fallible and it is very possible that items have been overlooked. Thereby, we disclaim any and all liability for one's use of this document should it turn out that the valuation report produced while using this Checklist is not in compliance with the aforementioned standards.

3) Provisions under SSVS #46 pertaining to "Calculation of Value" have been omitted.

4) This comprehensive checklist is designed for use in engagement to determine a "Conclusion of Value" to be communicated in either a "Detailed" or Summary" Report. Thus, depending on which type of report the engagement calls for will determine which items on this checklist are applicable or not applicable.

5) SSVS #24 states that the sequence of implementation of the Developmental Standards is at the option of the Valuation Analyst.

6) SSVS #45 provides that the Valuation Analyst should retain the documentation for a period of time sufficient to meet the needs of applicable legal, regulatory, or other professional requirements for records retention.

7) All SSVS references herein, are to paragraph numbers in the SSVS.

8) This document is a work in process and will be updated and improved on an ongoing basis. We appreciate any suggestions you may have. Please e-mail them to nacva1@nacva.com.

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Comprehensive Business Valuation Development Checklist

—— Table of Contents ——

I. ANALYSIS OF THE SUBJECT INTEREST OWNERSHIP INFORMATION 1
Company Information 1
Organizational Information 1
Shareholder Information 1
Ownership 1
Participation 2
Related Party Information 3
Recent Stock Sale Information 3
II. VALUATION ESSENTIALS 3
Purpose of Valuation 3
Standard/Premise of Valuations 3
Requesting Party 4
Contact Person 5
III. NON-FINANCIAL INFORMATION 5
Location Information 5
Employee Turnover 5
Family Involvement 6
IV. MANAGEMENT 6
Key Management 6
Basis of Officer/Owner Compensation 7
Officer/Owner Prerequisites 7
Board of Directors and Level of Involvement 7
Staffing 7
V. PRODUCTS / SERVICES AND MARKETS 7
Barriers to Entry 8
VI. COMPETITION AND PRODUCT DIFFERENTIATION 10
Major Competitors 10
Environmental Issues 11
Market Size and Share 11
VII. FINANCIAL INFORMATION 12
VIII. NATIONAL AND LOCAL ECONOMIC INFORMATION 15
National 15
Local and Regional 16
IX. NATIONAL AND LOCAL INDUSTRY INFORMATION 16
National 16
Local and Regional 18
X. VALUATION APPROACHES AND METHODS—CONSIDERATIONS 19
Income Approach 19
Asset Approach and Cost Approach 20
Market Approach 20

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—— Table of Contents ——

(continued)

XI. GUIDELINE PUBLIC COMPANY AND MARKET APPROACH 21
Guideline Company Search 21
Sales Transaction Search 21
XII. VALUATION ADJUSTMENTS 22
XIII. NON-OPERATING / EXCESS ASSETS 22
XIV. SUBSEQUENT EVENTS 22
XV. DOCUMENTATION 23
XVI. OTHER 23
Copyright Clearance 23
XVII. DOCUMENT AND DATA REQUEST CONTROL FORM 24
Subject Company Financial Data 24
Operational and Legal Documentation 25
EXHIBIT I 26
List of Assumptions and Limiting Conditions 26

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Workpapers Page Reference

I. ANALYSIS OF THE SUBJECT INTEREST OWNERSHIP INFORMATION

Company Information

Name: Adler-Cottino Wood Furniture Inc. Company: _____

Street address: 1111 South Birch Highway

City: Atlanta State: GA ZIP: 30309

Tel: (404) 486-0600 Fax: _____ Email: _____

DBA (if applicable): N/A

Organizational Information

- Corporation type: C-corp
- Date incorporated: 7/1/1980
- State of incorporation: Georgia
- S election: _____
- Merger date: _____
- Recapitalization _____
- Agreement: _____

Common Shares

- # of shares authorized: 100,000
- # of shares issued and outstanding: 100,000
- Restrictions, if any: None
- Voting or non-voting: _____

Treasury Shares

- # of shares held: None
- Date of purchase: _____
- Purchase price: _____
- Date of cancellation: _____

Preferred Shares

- # of shares authorized: None
- # of shares issued and outstanding: _____
- Description of preference: _____
- Dividend %: _____

Shareholder Information

	Common		Preferred		
Name	# of Shares	%	# of Shares	%	
Raymond C. Harrison	100,000	100%	N/A	N/A	
(Deceased 12/31/00)					
Totals:	100,000	100%	N/A	N/A	

This page and above addresses: SSVS 13b, 13c

Ownership

- Determine the type of ownership interest being valued and ascertain whether that interest exhibits control characteristics: _____

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Workpapers Page Reference

- Analyze the different ownership interests of other owners and assess the potential effect on the value of the subject interest: _____
- Understand the classes of equity ownership interests and rights attached thereto: _____
- Understand the rights included in, or excluded from, each intangible asset: _____

Understand other matters that may affect the value of the subject interest, such as:

- For a business, business ownership interest, or security: shareholder agreements, partnership agreements, operating agreements, voting trust agreements, buy-sell agreements, loan covenants, restrictions, and other contractual obligations or restrictions affecting the owners and the subject interest. _____
- For an intangible asset: legal rights, licensing agreements, sublicense agreements, non-disclosure agreements, development rights, commercialization or exploitation rights, and other contractual obligations:
- To the extent any of these agreements are applicable, request for our file: _____

Participation

Name	Title	% of Time Devoted to Business	Duties	
Raymond C. Harrison	Chairman, Sr. V.P.	3% at most	Advisor and Public Relations	

This page and above addresses: SSVS 23, 27, 28

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Related Party Information

Name	Relationship	Involvement Described	Workpapers Page Reference
None	None	None	

Recent Stock Sale Information

- Type of stock sold: N/A
- Sold to:
- # of shares sold:
- Price of shares sold:
- Date of sale:
- % sold:
- Restrictions, if any:
- Reason for sale:
- How valued:
- Stock options:
- Terms:
- Type:

- Type of stock sold: N/A
- Sold to:
- # of shares sold:
- Price of shares sold:
- Date of sale:
- % sold:
- Restrictions, if any:
- Reason for sale:
- How valued:
- Stock options:
- Terms:
- Type:

This page and above addresses: SSVS 13c, 29

II. VALUATION ESSENTIALS

Purpose of Valuation

- Purpose of valuation: Estate—file with tax form 706 (Fed)
- Valuation date: 12/31/2000
- # of shares to be valued: 100,000
- % of interest to be valued: 100%

Assumptions and limiting conditions: *use Exhibit I*

- Type of report to be issued:
- Use of specialists:
- Competency issue:

Standard/Premise of Valuation

- Define standard of value: FMV—REV. Ruling 59-60 must be addressed in valuation process and valuation report.

- Define premise of value: Going concern—In business since 1870, incorporated in 1980, in-place workers, factory customers.

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Workpapers Page Reference

- Are we valuing equity, invested capital or intangible assets? _____
- Is there a jurisdictional exception: _____
- Are there governmental regulations: _____
- AICPA professional standards: _____

Check those that apply:

- ❑ AICPA Code of Professional Conduct: _____
- ❑ Statement on Standards for Consulting Services: _____
- ❑ Consulting services: definitions & standards AICPA professional standards, Vol. 2, CS Sec 100: _____
- ❑ Rule 201-A professional competence of AICPA Code of Professional Conduct: _____

- Is this an attest client? If so, the firm is not able to perform the engagement unless the analyst meets all requirements of Interpretation 101-3: _____

This page and above addresses: SSVS 3, 12d (iii, iv), 12e, 13c, 14, 15, 20, 25

Requesting Party

Name: The estate executor: David B. Harrison Title: _____

Street address: _____

City: _____ State: _____ ZIP: _____

Tel: _____ Fax: _____ Email: _____

Relationship: _____

Describe understanding with client:

- Scope limitations: _____
- Restrictions: _____
- Hypothetical conditions: _____
- Obligation to update: _____
- Conflicts of interest: _____
- Independence issues: _____
- Due date: _____
- Client's responsibilities: _____
- Analyst's responsibilities: _____
- Assumptions: _____
- Report type: _____
- Nature, purpose and objective of valuation: _____

- Document terms of valuation engagement, procedural requirements, objectivity, and independence:

This page and above addresses: SSVS 13a, 14, 16, 17

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Contact Person | Workpapers Page Reference

Name: Mr. David B. Harrison Title: President—Adler-Cottino Wood Furniture Inc.
Street address: 1111 South Birch Highway
City: Atlanta State: GA ZIP: 30309
Tel: (404) 372-4545 Fax: Email:
Relationship: Executor of Raymond C. Harrison Estate

III. NON-FINANCIAL INFORMATION

- History / background: German & Italian woodcarver Friedrich H. Adler came to Chicago in 1806, worked for Baldwin Piano. Alberto R. Cottino also worked at Baldwin, their sons Raphael Cottino and Harrison Adler, also worked at Baldwin. In 1828 Harrison Adler married Isabella, Raphael's daughter. Skilled carvers add some tradesmen marking of their own to their creations, since 1870 Adler-Cottino has used an engraved eagle as their tradesman mark.

- Major historical events: 1865—Harrison & Isabella move to Georgia. 1870—opens Adler-Cottino Cabinet Making—a kind of guild, and adds "AC" to the tradesman mark. 1980—Raymond C. Harrison incorporates (7/1/80)(C-Corp) as Adler-Cottino Wood Furniture. 1999—adds ready-to-assemble furniture to the product line, which caused a need for factory expansion. Owns condo in Jonesboro NC, which is used to show furniture and to entertain during High Point convention. Leases factory space from Adler-Cottino Real Estate Development LLC (a separate affiliate).

- Annual gross revenues: $24 Million • Average # of employees: Approx. 100 (averaged)

Location Information

Location	Date Occupied	Leased/ Owned	Function
1111 South Birch Highway	1996 (75,000 sq ft)	Leased	Factory & Offices
Atlanta, GA 30309		month to	
Expanded (same address)	1999 (110,000 sq ft)	month	

- SIC code: 2511 • NAICS code:

- Principle activity: Manufacturing of wood furniture—high end—primarily household (some office) furniture. Added Ready-to-Assemble (RTA) in 1999.

Employee Turnover

- Describe management turnover:

- Describe non-management turnover:

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Family Involvement

- Does the company have family members working for the company?
- How many family members work for the company?
- What is the amount and basis for each family member's compensation?
- Do family members have proper education and experience for position held?
- Is there absentee management?
- Provide owners and family fringe benefits:
- Describe related party transactions:

This page and above addresses: SSVS 27

IV. MANAGEMENT

Key Management

Name	Title	Duties	Age / Health
David B. Harrison	President	General Management	36 / Excellent
Raymond C. Harrison	Chairman/Senior Vice Pres	(Deceased)	60 / Deceased
John Jones	Sales Manager	Sales and customer relations	50 / Excellent
Harry White	Production Manager	Manufacturing	58 / Excellent
Bob Black	Purchasing Manager	Purchasing	53 / Excellent

- Describe key management background, education, longevity, and experience:
  See copy of resumes in work paper file.

  Note: All members of key management have been with the company since its inception in 1980, and the above management are considered experts in the industry in their respective areas of reasponsibility.

- Are employment contracts in place? Yes* • Are key man policies in place? No
  Describe: *Unionized workforce only

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Identify Basis of Officer / Owner Compensation

Name	Title	Basis of Compensation	Workpapers Page Reference
Raymond C. Harrison (Deceased)	Chairman/Senior Vice Pres	$100,000 / year since 1992	

Identify Officer / Owner Prerequisites

Name	Title	Type of Benefit	Annual Cost	

Board of Directors and Level of Involvement

Name	Title	Basis of Compensation	
David B. Harrison	Board Member/President		
Raymond C. Harrison	Chairman/Senior Vice Pres		
Gary Anderson (Attorney)	Board Member/Attorney	250/hour = $2,000/year (legal fees)	
Paul Riddleman	Controller (CPA)	All others: None for Board involvement but	
N. Maddox	Ret. Senator	any direct expense paid, plus use of	
		townhome in Greensboro for golf outings.	

Staffing

	Total	Full-Time	Part-Time	
• Number of employees:				
• Number of managers:				
• Number of sales staff:				
• Number of service staff:				
• Number of clerical staff:				

This page and above addresses: SSVS 27, 29

V. PRODUCTS / SERVICES AND MARKETS

- Describe products / services *(indicate proprietary nature, if any)*:
  1) Uses trademark eagle, which is burned on underside or other hidden area
  2) Hardwood bedroom sets, dining sets, office furniture sets, and entertainment centers
  3) Hardwood Ready-to-Assemble (RTA) entertainment centers, bookcases, and computer desks
  4) Custom orders are accepted

- Describe customers: End customer is typically wealthy.
  1) Retail furniture stores—some direct distributors
  2) No outlet or office stores
  3) Custom orders—usually architects or designers
  4) Referrals—usually for custom orders

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- Describe market area: _____
  1) Mostly U.S. customers
  2) Some international—usually custom orders
  - Estimated total market: Ranks #460 of top 500
  - Estimated market share: (Not available)
- Describe cyclical or seasonal: Cyclical—tends to follow housing starts
- Describe distribution channels: National distributors—Retail outlets
- Summary of barriers to market entry: Industry is relatively highly capitalized. Requires skilled artisans. Unionized labor force.

Description of Barriers to Entry

- Describe the economies of scale: _____
- Describe the product differentiation: _____
- Describe the capital requirements: _____
- Describe the access to distribution channels: _____

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- Describe the cost disadvantages independent of scale: _____
- Describe the proprietary product technology: patents / trademarks: _____
- Describe the favorable access to raw materials: _____
- Describe the favorable locations: _____
- Describe the government subsidies: _____
- Describe the learning or experience curve: _____
- Describe the government policies applicable to the company: _____
- Describe the bargaining power of your suppliers: _____
- Describe the bargaining power of your customers: _____
- Describe the threat of substitute products: _____
- Describe the rivalry between incumbent companies in the industry: _____
- Describe the stability of earnings: _____

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VI. COMPETITION AND PRODUCT DIFFERENTIATION

Identify Major Competitors

Name	Location	Estimated Market Share	
Hooker	Virginia		
Basset	Virginia		

- Describe product differentiation from competition: Long history. Niche—Expensive to own, caters to high end client who can pay for solid, hand finished, hardwood furniture. One of the largest manufacturers of hardwood furniture in Atlanta.
- List competitive strengths: Long history, solid reputation, quality of product—no seconds, and craftsmen can replicate unique items.
- List competitive weaknesses: Rush orders not possible. No computerized manufacturing.
- List product lines: Hardwood bedroom sets, dining sets, office furniture sets, and entertainment centers. Hardwood Ready-to-Assemble (RTA) entertainment centers, bookcases, and computer desks.
- Describe the method of pricing competition:
- Describe any proprietary content:
- Describe any patents:
- Describe any copyrights:

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- Describe the product mix: _____

Environmental Issues

Describe any environmental issues related to the following:

- Asbestos: _____
- Polychlorinated biphenyl's (PCB's): _____
- Fuel/chemical tanks, drums, and pipelines: _____
- Water discharges: _____
- Air emissions: _____
- Waste disposal: _____
- Soil contamination: _____
- Agricultural property / pesticides, herbicides, or other agricultural chemicals: _____

Market Size and Share

- Describe customer's status in the industry and their estimated market share: _____
- Describe the market area that the company serves: _____

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VII. FINANCIAL INFORMATION

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- Describe financial statement generation (in-house, CPA, etc.): Accrual—prepared by an in-house CPA
- If CPA involvement, indicate type—GAAP, tax basis or other: XYZ, CPA's are retained to review the company's financial statements. There has not been a change in the CPA firm since 1982.
- What is the fiscal year-end of company: December 31st
- How often are financial statements generated: Annually
- Describe significant accounting policies: Inventories: LIFO lower of cost or market (not full absorption)
- Describe extent of GAAP compliance:
- Identify recent changes in accounting policies: None
- Describe book to tax adjustments:
- Are budgets or forecasts prepared: Yes
  - If so, how often: Annual
- How has company performed relative to budget: Management provided forecast
- Describe future planned capital expenditures: No plans for major capital expenditures
- Describe short-term financing arrangements: A line of credit was established with Bank of Wachovia, expires 9/30/01
- Describe long-term financing arrangements: Prime plus ½ point—used for expansion—Bank of Wachovia

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	Workpapers Page Reference
• Describe retirement plan:	
• Identify pending or threatened litigation: Attorney Gary Anderson of Anderson, Waldo & Jones—"No pending or threatened litigation." Ph: (801) 801-8010	
• Identify major customers: No customer large enough to be 5% of sales. No supplier a single source.	
• Identify major vendors: No supplier or vendor a single source.	
• Identify primary discretionary expenses: Townhome and compensation & benefits of Raymond C. Harrison, as his active involvement was limited to the High Point Furniture shows and related entertaining. He did attend most board meetings.	
• Identify major non-recurring and extraordinary expenses: Factory expansion	
• Identify non-operating assets & liabilities: In 1995 the Company purchased townhome in Greensboro, NC: cost $325,000. Art for townhome: $10,000. Cash: excess $200,000.	
• Are current appraisals of tangible assets available? Describe: Yes. Machinery & equipment appraisal for $2,500,000 on 12/31/00—will use letters & appraisal documents not part of report, appraisal documents on file at Adler. Artwork: $50,000. Townhome: $400,000.	
• Has company been denied credit? Describe: No.	
• Are there contracts of advantage or disadvantage to company? Describe:	
• Is company carrying assets not in use? Describe: No.	
• Are there any subsidiaries owned by the company? Describe:	

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◆ If yes, describe the subsidiaries (name, date acquired, ownership interest, etc.):	
• Describe leasing activities: Leases month-to-month facility from affiliate, market rate for area.	
• Describe government and/or environmental regulations: OSHA manufacturing facility. Paint, lacquer, varnish, fumes capture. Dust, woodchips capture.	
• Is company capital intensive? Describe: Yes. Mill working equipment. Professional grade planners, joiners & lathes. Paint, lacquer, varnish hoods and vents.	
• Is company labor intensive? Describe: Yes. Furniture is "hand finished." Hand carving and decorating.	
• Discuss condition of facilities and equipment: Excellent—No observed level of deferred maintenance. Appeared clean—no grease. Noise control equipment.	
• Describe merger authority:	
• Describe any tax issues:	
• Describe recent merger activity:	
• Contingent off balance sheet financing:	
• Describe the regulatory issues that impact the company:	
• Describe other significant matters: Unionized labor force. No computerized manufacturing or milling.	

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The valuation analyst should obtain, where applicable and available, financial information on the subject entity such as:

- Historical financial information (including annual and interim financial statements and key financial statement ratios and statistics) for an appropriate number of years: _____
- Prospective financial information (for example, budgets, forecasts, and projections): _____
- Comparative summaries of financial statements or information covering a relevant time period: _____
- Comparative common size financial statements for the subject entity for an appropriate number of years:
- Comparative common size industry financial information for a relevant time period: _____
- Income tax returns for an appropriate number of years: _____
- Describe recent merger activity: _____

This page and above addresses: SSVS 27, 29

VIII. NATIONAL AND LOCAL ECONOMIC INFORMATION

National

- Valuation date short-term bond yield: _____ Source: _____
- Valuation date intermediate bond yield: 5.9% 3-month Source: Federal Reserve Website
- Valuation date long-term bond yield: 5.6% 20-year Source: SBBI
- Expected inflation rate: _____ Source: _____
- Expected GNP growth: _____ Source: _____
- Current unemployment rate: 3.50% Source: KeyValueData

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- Describe current and/or expected major changes in tax law: None.

Source:

- General description of the economy: See Appendix VII

Source: KeyValueData, 4575 Galley Road, Suite 200E, Colorado Springs, CO 80915

Local and Regional

- Describe local and regional market: See Appendix VII

Source: KeyValueData, Ph: (800) 246-8488

- Describe personal income growth:

Source:

IX. NATIONAL AND LOCAL INDUSTRY INFORMATION

National

- Total market: Source:
- Short-term industry growth: Source:
- Long-term industry growth: Source:
- Growth industry stability: See Appendix VII

Source: KeyValueData

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Workpapers Page Reference

- Describe market trends: _____
  _____
  _____
  _____
  _____
  Source: _____
- Describe technology advancements: _____
  _____
  _____
  _____
  _____
  Source: _____
- Describe effects of government regulation: _____
  _____
  _____
  _____
  _____
  Source: _____
- Describe industry outlook: _____
  _____
  _____
  _____
  _____
  Source: _____
- Describe industry financial data: _____
  _____
  _____
  _____
  _____
  Source: _____
- Describe industry long-term prospects: _____
  _____
  _____
  _____
  _____
  Source: _____
- Source of industry financial data: _____
  _____
  - Period covered: _____

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Local and Regional

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- Total market: _____ Source: _____
- Short-term industry growth: _____ Source: _____
- Long-term industry growth: _____ Source: _____
- Describe: _____
- Growth industry stability: See Appendix VII

Source: KeyValueData

Describe: _____

- Describe local market trends: _____

Source: _____

- Describe effects of local government regulation: _____

Source: _____

Describe: _____

- Describe local industry outlook: _____

Source: _____

- Describe local industry long-term prospects: _____

Source: _____

- Source of local industry financial data: _____
  - Period covered: _____

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X. VALUATION APPROACHES AND METHODS—CONSIDERATIONS

Workpapers Page Reference

Income Approach:

- ❑ Capitalization of earnings / cash flow: _____ _____
- ❑ Normalization adjustments: _____ _____
- ❑ Non-recurring revenue and expense items: _____ _____
- ❑ Taxes: _____ _____
- ❑ Capital structure and financing costs: _____ _____
- ❑ Appropriate capital investments: _____ _____
- ❑ Non-cash items: _____ _____
- ❑ Qualitative judgments for risks used to compute discount and capitalization rates: _____ _____

  _____ _____
- ❑ Expected changes (growth or decline) in future benefits (for example, earnings, or cash flows): _____ _____

  _____ _____

Discounted future benefits method (for example, earnings, or cash flows). In addition to the items above, the valuation analyst should consider:

- ❑ Forecast/projection assumptions: _____ _____
- ❑ Forecast/projected earnings or cash flows: _____ _____
- ❑ Terminal value: _____ _____

For an intangible asset, the valuation analyst should consider:

- ❑ Remaining useful life: _____ _____
- ❑ Current and anticipated future use of the intangible asset: _____ _____
- ❑ Rights attributable to the intangible asset: _____ _____
- ❑ Position of intangible asset in its life cycle: _____ _____
- ❑ Appropriate discount rate for the intangible asset: _____ _____
- ❑ Appropriate capital or contributory asset charge, if any: _____ _____
- ❑ Research and development or marketing expense needed to support the intangible asset in its existing state: _____ _____

  _____ _____
- ❑ Allocation of income (for example, incremental income, residual income, or profit split income) to intangible asset: _____ _____
- ❑ Whether any tax amortization benefit would be included in the analysis: _____ _____
- ❑ Discounted multi-year excess earnings: _____ _____
- ❑ Market royalties: _____ _____
- ❑ Relief from royalty method: _____ _____

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Workpapers Page Reference

Asset Approach and Cost Approach:

When using the adjusted net asset method in valuing a business, business ownership interest, or security, the valuation analyst should consider, as appropriate, the following information related to the premise of value:

- ❑ Identification of the assets and liabilities: _____
- ❑ Value of the assets and liabilities (individually or in the aggregate): _____
- ❑ Liquidation costs (if applicable): _____

When using methods under the cost approach to value intangible assets, the valuation analyst should consider the type of cost to be used (for example, reproduction cost or replacement cost), and, where applicable, the appropriate forms of depreciation and obsolescence and the remaining useful life of the intangible asset.

- ❑ Describe: _____

Market Approach:

Three frequently used market approach valuation methods for intangible assets are:

- ❑ Comparable uncontrolled transactions method (which is based on arm's-length sales or licenses of guideline intangible assets)
- ❑ Comparable profit margin method (which is based on comparison of the profit margin earned by the subject entity that owns or operates the intangible asset to profit margins earned guideline companies)
- ❑ Relief from royalty method (which is based on the royalty rate, often expressed as a percentage of revenue that the subject entity that owns or operates the intangible asset would be obligated to pay to a hypothetical third-party licensor for the use of that intangible asset)

For the methods involving guideline intangible assets (for example, the comparable profit margin method), the valuation analyst should consider the subject intangible asset's remaining useful life relative to the remaining useful life of the guideline intangible assets, if available.

In applying the methods listed above or other methods to determine valuation pricing multiples or metrics, the valuation analyst should consider:

- ❑ Qualitative and quantitative comparisons
- ❑ Arm's-length transactions and prices
- ❑ The dates and, consequently, the relevance of the market data

Rules of thumb. Although technically not a valuation method, some valuation analysts use rules of thumb or industry benchmark indicators (hereinafter, collectively referred to as rules of thumb) in a valuation engagement. A rule of thumb is typically a reasonableness check against other methods used and should generally not be used as the only method to estimate the value of the subject interest.

- ❑ Describe: _____

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XI. GUIDELINE PUBLIC COMPANY AND MARKET APPROACH

Guideline Company Search

Name	Customer IP #	Exchanges	Historical Beta	Total Equity	Total Assets	Mil $ Net Sales	5-Year Earnings Growth	5-Year ROE	SIC
1. Bush	7020310	NYSE				451.2			2511
2. Basset Furniture, Inc.	23323010	NASDAQ				367.5			2511
3. Rowe	50573910	NASDAQ				348.4			2510
4. Stanley Furniture Co.	74535310	NASDAQ				283.1			2510
5. Chromecraft	85430520	NASDAQ				259.4			2511
6. Hooker	45850710	NYSE				250.8			2510

- Workpapers page reference: _____
- Source: _____
- Comments: _____

_____

_____

Sales Transaction Search

SIC	Description	Ask Price	Annual Gross	SDE	Sales Date	Sales Price
1. 2511	IBA			347,000	Oct-88	1,900,000
2. 2511	IBA			210,000	Mar-97	1,050,000
3. 2511	IBA			80,000	May-96	169,000
4. 2511	IBA			4,000	Oct-83	72,000
5. 2511	IBA			105,000	Aug-97	100,000
6. 2511	IBA			106,000	Jul-97	140,000
7. 2511	IBA			33,000	Aug-91	84,000
8. 2511	Done Deals			(4,200,000)	Sep-99	7,400,000
9. 2511	Done Deals			1,700,000	Feb-99	14,800,000
10. 2511	Done Deals			3,500,000	Jun-99	24,600,000
11. 2511	Pratt's Stats			7,173,000	Dec-01	122,000,000
12. 2511	Pratt's Stats			8,132,000	May-01	75,000,000
13. 2511	Pratt's Stats			426,000	Apr-01	1,200,000
14. 2511	Pratt's Stats			295,000	Oct-01	1,000,000
15. 2511	Pratt's Stats			75,000	Dec-99	555,000
16. 2511	BIZCOMPS			485,000	Oct-97	1,750,000
17. 2511	BIZCOMPS			210,000	Mar-97	1,310,000
18. 2511	BIZCOMPS			80,000	May-97	169,000

SDE—Seller's discretionary earnings

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% Down	Terms	Sales/Gross	Sales/Net	FF&E	Area
1.			4,150,000		
2.			2,500,000		
3.			1,496,000		
4.			570,000		
5.			469,000		
6.			320,000		
7.			254,000		
8.			54,700,000		
9.			19,300,000		
10.			165,900,000		
11.			503,912,000		
12.			149,665,000		
13.			3,566,000		
14.			2,780,000		
15.			674,000		
16.			3,702,000		
17.			2,500,000		
18.			1,496,000		

FF&E—Furniture, fixtures & equipment

- Workpapers page reference: _____
- Source: _____
- Comments: _____

  _____

  _____

  - Are they comparable? Describe: _____

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Workpapers Page Reference

XII. VALUATION ADJUSTMENTS

Examples of valuation adjustments for valuation of a business, business ownership interest, or security include a discount for lack of marketability or liquidity and a discount for lack of control. An example of a valuation adjustment for valuation of an intangible asset is obsolescence.

❑ Lack of control: _____

❑ Voting / non-voting: _____

❑ Lack of marketability or liquidity: _____

XIII. NON-OPERATING / EXCESS ASSETS

When valuing a controlling ownership interest under the income approach, the value of any non-operating assets, non-operating liabilities, or excess or deficient operating assets should be excluded from the computation of the value based on the operating assets and should be added to or deleted from the value of the operating entity. When valuing a non-controlling ownership interest under the income approach, the value of any non-operating assets, non-operating liabilities, or excess or deficient operating assets may or may not be used to adjust the value of the operating entity depending on the valuation analyst's assessment of the influence exercisable by the non-controlling interest. In the asset-based or cost approach, it may not be necessary to separately consider non-operating assets, non-operating liabilities, or excess or deficient operating assets.

❑ Comments: _____

This page and above addresses: SSVS 40, 41

XIV. SUBSEQUENT EVENTS

The valuation date is the specific date at which the valuation analyst estimates the value of the subject interest and concludes on his or her estimation of value. Generally, the valuation analyst should consider only circumstances existing at the valuation date and events occurring up to the valuation date. An event that could affect the value may occur subsequent to the valuation date; such an occurrence is referred to as a *subsequent event.* Subsequent events are indicative of conditions that were not known or knowable at the valuation date, including conditions that arose subsequent to the valuation date. The valuation would not be updated to reflect those events or conditions. Moreover, the valuation report would typically not include a discussion of those events or conditions because a valuation is performed as of a point in time-the valuation date-and the events described in this subparagraph, occurring subsequent to that date, are not relevant to the value determined as of that date.

❑ Comments: _____

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XV. DOCUMENTATION

Workpapers Page Reference

Documentation is the principal record of information obtained and analyzed, procedures performed, valuation approaches and methods considered and used, and the conclusion of value. The quantity, type, and content of documentation are matters of the valuation analyst's professional judgment. Documentation may include:

- ❑ Document understanding with client _____
- ❑ Information gathered and analyzed to obtain an understanding of matters that may affect the value of the subject interest _____
- ❑ Assumptions and limiting conditions _____
- ❑ Any restriction or limitation on the scope of the valuation analyst's work or the data available for analysis _____
- ❑ Basis for using any valuation assumption during the valuation engagement _____
- ❑ Valuation approaches and methods considered _____
- ❑ Valuation approaches and methods used including the rationale and support for their use _____
- ❑ If applicable, information relating to subsequent events considered by the valuation analyst _____
- ❑ For any rule of thumb used in the valuation, source(s) of data used, and how the rule of thumb was applied to the engagement by the valuation analyst _____
- ❑ Other documentation considered relevant to the engagement by the valuation analyst _____
- ❑ The analyst should read and evaluate information to determine that it is reasonable for the purposes of the engagement _____

This page and above addresses: SSVS 16, 17, 43, 44

XVI. OTHER

- ❑ Management representation letter: _____ _____

Copyright Clearance

- ❑ RMA: _____ _____
  _____ _____
  _____ _____
- ❑ Other: _____ _____
  _____ _____
  _____ _____

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XVII. DOCUMENT AND DATA REQUEST CONTROL FORM

Workpapers Page Reference

Request from: David B. Harrison Title: President

Requested by: Jerry Mills Title: Senior Staff B/G and Company

Subject Company Financial Data

Description	Date Requested	Date Received	Comments
Engagement letter:	1/15/01	1/31/01	Signed
Financial statements for 5 years:	2/1/01	4/30/01	1996 – 2000
Federal & state income tax returns for 5 years:	2/1/01	4/30/01	1996 - 2000
Historical budget vs. actual report for ____ years:	No		
Prospective budget report for year:	No		
Accounts receivable aging report:	3/26/01	4/16/01	
Inventory summary reports and costing method summaries:	2/1/01	4/16/01	
Detailed schedule of fixed assets:	3/26/01	4/16/01	
Schedule of investments:	2/1/01	4/16/01	
Accounts payable aging report:	3/26/01	4/16/01	
Schedule of accrued liabilities:	2/1/01	1/15/01	
Schedule of notes payable, equipment, or real property leases & other term debt:	2/1/01	4/16/01	
Appraisal reports: - Real Estate	3/26/01	4/16/01	
- Equipment	3/26/01	4/16/01	
- Other (trademarks & patents)	3/26/01	4/16/01	
Key-man life policies:	No		
Other:	No		

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Operational and Legal Documentation

Description	Date Requested	Date Received	Comments	Workpapers Page Reference
Organizational chart:	None			
Buy / Sell agreements:	None			
Stockholders agreements:	None			
Stock subscription agreements:	None			
Public or private offering memoranda:	None			
Employment contracts:	None			
Pension / profit sharing plans:				
Other Benefit Plans:				
Schedule of pension / profit sharing funding for _____ years:	None			
Significant contracts:				
Property tax returns for _____ years:	None			
Client representation letter:				
Legal representation letter:				
Other: · a) _____				
· b) _____				
· c) _____				
· d) _____				
· e) _____				
· f) _____				
· g) _____				
· h) _____				
· i) _____				
· j) _____				
· k) _____				

This page and above addresses: SSVS 13d, 13e, 18 (Appendix A), 25

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EXHIBIT I

Workpapers Page Reference

List of Assumptions and Limiting Conditions

- Comments: Furniture composition: Bedroom sets can include bed triple, armoires, high boys, jewelry stand, cedar benches, night tables, mirrors, and quilt stands. Dining sets can include table, arm chairs, chairs, buffet, side boards, silver carts, hutches (corner, single, double, triple), tea carts, and serving carts. Entertainment centers for TV, DVD, videos, & stereo. Bookcases (open end with doors), file cabinets (letter, legal, and lateral), roll-top desks, executive desks, computer desks, office chairs. Can convert two-table lines to conference form with matching chairs and padded leather cushions. Ready-to-assemble line is simple construction by hand—wood is tongue-n-groove fitted. Includes bookcases, computer desks, and entertainment centers, all in pre-finished oak.

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BUSINESS VALUATIONS: APPLICATIONS AND CALCULATIONS USING THE INCOME & ASSET APPROACHES

CHAPTER 3

REVIEW QUESTIONS

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BV : APPLICATIONS AND CALCULATIONS USING THE INCOME AND ASSET APPROACHES

CHAPTER REVIEW QUESTIONS

Chapter 3: Search for Adjustments

1. After the historical financial statements have been adjusted for economic or normalizing items the analyst should begin a thorough financial analysis of the adjusted financial statement data. Such analysis helps to identify all of the following trends except?

    a. Where has the company been?
    b. Where is the company today?
    c. What are the current and future management needs?
    d. Where might the company be in the future?

2. When adjustments have been made to increase the value of assets to their appraised or market value, a corresponding adjustment recognizing the amount of deferred income taxes should also be made. There have been conflicting arguments for doing so in valuation literature. What is the most often cited argument *against* recording deferred income taxes on the increased value of assets over book values?

    a. When selling the stock of an entity and not the asset itself, the assets do not have to be adjusted to fair market value, therefore deferred taxes would not need to be adjusted.
    b. Deferred taxes are only booked for timing issues related to the recognition of income statement items.
    c. Deferred taxes should not be recorded unless the company has specific plans to liquidate within a reasonable period following the date of the valuation.
    d. The tax court has ruled in the Estate of Dunn, Estate of Davis and the appeal of Dunn that no discount was given for taxes.

3. Which of the following are categorized as "Risk" ratios of a company?

    a. Accounts Receivable Turnover Ratios and Current Liabilities as a % of assets.
    b. Total Debt as a % of Assets, and Long-Term Debt as a % of Assets.
    c. Operating Profit as a % of Sales and Interest Coverage Ratio.
    d. Current Ratio and Quick Ratio.

4. When comparing Adler-Cottino to the Industry in Exhibit 3-7, Chapter 3, which of the following statements are true?

    a. The Company's current, quick and debt/equity ratios are all significantly favorable relative to the industry.
    b. The Company has a different asset mix than the companies that make up the median of the RMA data.
    c. The Company's long-term debt as a percentage of assets is lower than the industry median.
    d. The Company's operating performance is much better than the industry on average and is superior to the industry relative to financial strength, leverage and liquidity.
    e. All of the above.

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5. A Comparative Analysis utilizes information from two sources and can involve either a comparison of the subject company with specific comparable companies or with industry averages for a historical period of one or more years. Which two sources of the subject company are used to perform a Comparative Analysis?

    a. RMA and Integra.
    b. Common Size Analysis and Ratio Analysis.
    c. Historical and Normalized Financial Statements.
    d. Forecasted and Budgeted Financial Statements.

6. Normalized financial statements should allow the valuator to:

    a. Present a financial picture which represents market values
    b. Present a financial picture to appease the client
    c. Present a financial picture to reflect a predetermined answer
    d. To increase a valuator's fees

7. What is the best way to determine if a normalizing adjustment should be made to accounts receivable?

    a. Common size the balance sheet
    b. Use trend analysis
    c. Look at accounts receivable aging
    d. Discuss with management

8. In Exhibit 3-2, what would be a good reference source to use as a bench mark to determine excess cash?

    a. Ibbotson
    b. BizComps
    c. RMA
    d. An inquiry with management provides enough support

9. Ratio Analysis can be an effective tool to compare how well a company is performing to industry benchmarks.

    a. True
    b. False

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CHAPTER FOUR

ESTIMATING THE FUTURE BENEFIT STREAM

I. THE PROCESS

After completing the financial analysis of the company, normalizing the historical earnings, analyzing the economic and industry conditions and forecasts, and evaluating the company's internal and external risk factors, the analyst can estimate the future benefit stream. The estimated future benefit stream is determined based on the following criteria:

- What type of benefits will be used as a measurement of economic income?
- Do we use historical or projected economic income to estimate future benefits?
- What method is used to calculate the estimated future benefits?

If earnings are selected as the type of benefits used to measure economic income, the analyst must have determined and documented that the future earnings and net cash flow are approximately the same and the discount/capitalization rate has been converted by the cash to earnings factor. The type of earnings to choose from can include the following:

- Income from operations
- Income before taxes
- Net income (after-tax)

The earnings to use will generally depend upon which level of earnings the analyst believes provides the greatest level of stability and reliability. Many valuators prefer to use income from operations because they believe these earnings are the most stable and reliable level of company earnings. In any case, the discount/capitalization rate must be consistent with the earnings. If pre-tax earnings are used, then the discount/capitalization rate must be on a pre-tax basis. Correspondingly, if after-tax earnings are used, then the discount/capitalization rate must be on an after-tax basis.

A. UNWEIGHTED AVERAGE METHOD

The method of averaging historical economic income to determine the estimated future benefit stream is not in and of itself a methodology that will determine the appropriate future benefits. The analyst must first determine that an average of the historical economic income serves as a good proxy of the future expected benefits. Whether to use weighted or unweighted averages of the historical economic income depends on the relative representation of each year's historical economic income or the trend in historical economic income to the future expected benefits. An unweighted average method is typically used when the analyst concludes all of the past earnings are representative of the expected future benefits and no existing pattern or trend would suggest that any one year or years results are any more indicative than the rest of the historical data. A

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weighted average method is typically used when the analyst concludes certain past earnings are more representative of the expected future results or the historical earnings demonstrate a trend that is expected to continue in the future.

The unweighted average method, sometimes referred to as the "average method" of estimating expected future earnings, is based on the simple average or arithmetical mean of the historical economic earnings, which is calculated by taking the sum of a set of values and dividing the sum by the number of values used in deriving the sum.

$$\frac{\text{Sum of Variables}}{\text{Number of Variables}}$$

The unweighted average of the historical economic earnings is most appropriately used for estimating the amount of future earnings when there is no apparent pattern or trend in the past earnings history, or if it appears an existing pattern cannot be reasonably expected to continue. Generally, this method would be used for companies that are mature and whose earnings are constant or represent a business cycle of peaks and valleys that are expected to continue.

In other words, the analyst has not discovered any information or data, which would lead to the belief any one of the years in the analysis, is more or less typical of the future.

B. WEIGHTED AVERAGE METHOD

The weighted average method is used when the analyst concludes one or more of the historical years are more representative of the future estimated benefits or that a trend or pattern exists and is expected to continue. The weighted average method of estimating the expected future benefit stream is based on the average or arithmetical mean. Taking the sum of a set of values that has been multiplied by some index or weighting factor calculates this. Then the sum of these products is divided by the sum of the weights.

$$\frac{ew_1 + ew_2 + ew_n}{w_1 + w_2 + w_n} \qquad \frac{\text{e = earnings in a given period}}{w_1\ w_n = \text{weight factor assigned}}$$

The weighted average of historical economic earnings is most appropriately used for calculating future earnings when there appears to be a general pattern that may be extrapolated into the future. The pattern may be positive or negative. Generally the analyst applies a heavier weight to the most recent year's earnings and a lesser weight to the earlier years.

The analyst should be careful in applying weights and implying that if a year has a heavier weighting, it is more indicative of the future. This may lead the reader to believe the analyst knows more about the future than is the case. In the event the analyst places a disproportionate weight on any particular year or years, the analyst should explain the rationale for the weighting in the report.

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Exercise

You have analyzed reasonable compensation based on executive compensation studies and determined that the excess officers' compensation and benefits are $110,000 per year and your analysis of non-operating expenses indicated the non-operating expenses are $18,326 in 2001, $23,017 in 2002, $23,217 in 2003, $23,417 in 2004, and $23,617 in 2005. The Sample Company's effective federal, state and local income tax rate is 37%, round to nearest $10. Please enter normalized adjustments and calculate the unweighted average and weighted average normalized net income. For the weighted average calculation, weight the most recent year the greatest, declining by 1 for each prior year and the oldest year the least. Round your average and weighted average net income to the nearest dollar.

Sample Company
Financial Information

	2001	2002	2003	2004	2005	Total	Average	Weighted Average
Operating income EBITDA	$1,383,372	$1,377,400	$1,121,562	$1,718,470	$2,524,314	$8,125,118		
Deprecation and amortization	211,400	234,312	253,100	352,500	396,900	1,448,212		
Operating income EBIT	1,171,972	1,143,088	868,462	1,365,970	2,127,414	6,676,906		
Miscellaneous (income) expense	5,126	2,617	39,417	40,817	(5,983)	81,994		
Interest expense	149,413	150,048	135,195	131,038	105,643	671,337		
Income before tax	1,017,433	990,423	693,850	1,194,115	2,027,754	5,923,575		
Normalized adjustments								
Excess officers' compensation								
Non-operating expenses								
Total normalized adjustments								
Normalized income before tax								
Income taxes (37%)								
Normalized net income								

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Sample Company
Schedule of Unweighted Average Normalized Net Income
December 31, 2005

2005	$ 1,361,661
2004	836,342
2003	521,057
2002	707,770
2001	721,829
	$ 4,148,659
	÷ 5
Unweighted average (Rounded)	$ 829,700

Sample Company
Schedule of Weighted Average Normalized Net Income
December 31, 2005

	Weight		Weighted
2005	5	$ 1,361,661	$ 6,808,305
2004	4	836,342	3,345,368
2003	3	521,057	1,563,171
2002	2	707,770	1,415,540
2001	1	721,829	721,829
	15		$13,854,213
			÷ 15
Weighted average (Rounded)			$ 923,600

II. NET CASH FLOWS VS. GAAP EARNINGS

When using an income approach, some valuators prefer net cash flows as the type of earnings to use as a measurement of economic income. The reasons net cash flows are generally preferred are:

- Net cash flows represent the type of earnings most investors are seeking and expect to receive from their investments.
- Most of the cost of capital derived from the capital markets and other empirical data that is used to derive the discount rate represents net cash flows as the type of earnings to measure economic income. For example, the data used in the Ibbotson Build-up Method to derive the discount rate is based on net cash flows as the measurement of economic income.
- Net cash flows bring into the income approach the expected future changes in the balance sheet. Net cash flows will take into consideration the future expected working capital needs, capital expenditures, and changes in long-term debt necessary to support the projected earnings of the company.

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GAAP earnings (or net income) are sometimes used as the type of benefits to measure economic income when the valuation analyst expects the future earnings will approximate the future net cash flows. Normally, this will be the case when the capital expenditures, net working capital requirements and changes in long-term debt to support the company's projected operations are insignificant in relationship to the earnings. In addition, even when capital expenditures are significant, this will be the case when depreciation expense approximates capital expenditures.

When determining whether to use net cash flows or net income, the analyst needs to carefully analyze the future expected trends for earnings and cash flows. The analyst must determine the future working capital needs, capital expenditures, and borrowings and repayments of long-term debt to support the expected future operations in order to determine the economic benefits available to the equity holder. If earnings are used, the analyst needs to explain in the report why he/she expects the future earnings will approximate the future cash flows of the company. If material, the valuator may convert the discount/capitalization rate derived from net cash flow data by the cash to earnings factor when using net income as your measure of economic income.

A. OTHER TYPES OF EARNINGS

Other benefits streams used as a measurement of economic income include earnings before interest and taxes (EBIT), earnings before interest, taxes, depreciation and amortization (EBITDA), seller's discretionary cash flow, operating gross cash flows, net cash flows, etc. These types of benefits are generally used as a measurement of economic income when applying a market approach. This is because these types of benefits are generally capitalized based on pricing multiples derived from transactional data of comparable companies.

B. SELECTING THE TYPE OF BENEFITS AS A MEASUREMENT OF ECONOMIC INCOME

Practice Pointer

It is important to distinguish net cash flow to equity from net cash flow to invested capital and understand which is most appropriate.

Net cash flow to equity is also referred to as the Direct Equity Method. It is "direct to equity" because debt has been serviced (in the calculation below, net income is derived after subtracting both interest expense, and future debt repayments). Hence, what remains is net cash flows available to equity owners.

Net cash flow to invested capital is also referred to as the Invested Capital Method. This is the cash flow available to service invested capital (e.g., equity and interest bearing debt).

As indicated above, net cash flows are generally preferred by most valuators as the type of benefits used as a measurement of economic income. This is true whether using net cash flows to value the equity only or net cash flows to invested capital to value the total invested capital.

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1. Net Cash Flow to Equity

In valuing equity by either discounting or capitalizing expected cash flows (keeping in mind the difference between discounting and capitalizing), we define net cash flow to equity as follows:

	Net Income (after-tax)
+	Non-cash charges (e.g., depreciation, amortization, deferred revenue, deferred taxes)
–	Capital expenditures necessary to support projected operations
–	Additions (deletions) to net working capital necessary to support projected operations
+	Changes in long-term debt from borrowings necessary to support projected operations
–	Changes in long-term debt for repayments necessary to support projected operations
=	**Net cash flow to equity**
–	**Dividends paid to preferred shareholders**
=	**Net cash flow to common shareholders' equity (after-tax)**

2. Net Cash Flow to Invested Capital

In valuing the entire **invested capital** of a company, project, or division by discounting or capitalizing expected cash flows, we define net cash flow to invested capital as follows:

	Net income (after-tax)
+	Non-cash charges (e.g., depreciation, amortization, deferred revenue, deferred taxes)
–	Capital expenditures necessary to support projected operations
–	Additions (Deletions) to net working capital necessary to support projected operations
+	Interest expense net of the tax benefit resulting from interest as a tax deductible expense
=	**Net cash flow to invested capital (after-tax)**

Practice Pointer

When discounting net cash flow to equity, the appropriate discount rate is the cost of equity.

When discounting net cash flow to invested capital, the appropriate discount rate is the weighted average cost of capital (WACC).

When calculating the net cash flows, the analyst must determine the components of cash flows based on the cash flows necessary to support projected operations. Analysts commonly make mistakes when the components of cash flows are determined based on historical data. The analyst must base the non-cash charges, capital expenditures, net working capital and long-term debt borrowings and repayments on the cash flow necessary to support the projected operations.

For example, if the company needs to expand its facilities, upgrade equipment, invest in new technologies, expand their distribution network, increase working capital to correct current working capital deficiencies or support anticipated growth, borrow debt to finance capital expenditures, repay current debt obligations as well as anticipated future borrowings, etc., the components of net cash flows need to adequately reflect the expected levels of operations and capital requirements to support the estimated future benefit stream.

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When valuing an equity interest, the valuation analyst will generally use the net cash flow to equity as the type of benefits used as a measurement of economic income.

However, in cases where the capital structure of the company is significantly different from the capital structures of the comparable industry or capital markets used to derive the discount/capitalization rate, the analyst should consider using the net cash flow to invested capital as a measurement of economic income. When using net cash flow to invested capital to value equity capital, the analyst will need to consider the weighted cost of capital for all types of invested capital and deduct the firm's actual debt capital from the total invested capital to arrive at the value of the equity capital. For companies that are highly leveraged or those with little to no debt, the analyst should consider selecting net cash flow to invested capital as the type of benefits to adequately consider the capital structure.

If earnings are selected as the type of benefits used to measure economic income, the analyst must have determined and documented that the future earnings and net cash flows are approximately the same or that the discount/capitalization rate has been converted by the cash to earnings factor (see Chapter Five). The types of earnings to choose from include, but are not limited to, the following:

a) Income from operations
b) Income before taxes
c) Net income (after-tax)

The type of earnings to use will generally depend upon which level of earnings the analyst believes provides the greatest level of stability and reliability. Many valuation analysts prefer to use income from operations because they believe this type of earnings is the most stable and reliable level of earnings of the company. In any case, the discount/capitalization rate must be consistent with the type of earnings.

Practice Pointer

If pre-tax earnings are used, then the discount/capitalization rate must be on a pre-tax basis. Correspondingly, if after-tax earnings are used, then the discount/capitalization rate must be on an after-tax basis.

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Exercise

Using the unweighted average net income below, calculate the net cash flows to equity. Assume non-cash charges are $400,000, capital expenditures are $300,000, additions to working capital are $100,000, long-term borrowings are $-0-, and long-term debt repayments are $100,000.

2005	$ 1,361,661
2004	836,342
2003	521,057
2002	707,770
2001	721,829
	4,148,659
	5
Unweighted average (Rounded) normalized net income	$ 829,700

Sample Company
Unweighted Net Cash Flows to Equity
December 31, 2005

Unweighted average normalized net income	$ 829,700
Non-cash charges (e.g. depreciation, amortization, deferred revenue, deferred taxes)	
Capital expenditures necessary to support projected operations	
(Additions) deletions to net working capital necessary to support projected operations	
Changes in long-term debt from borrowing necessary to support projected operations	
Changes in long-term debt from repayments necessary to support projected operations	
Unweighted net cash flows to equity	

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Exercise

Using the weighted average net income below, calculate the net cash flows to equity. Assume depreciation is $400,000, capital expenditures are $300,000, additions to net working capital are $100,000, changes in long-term debt borrowing are $-0-, and long-term debt repayments are $100,000.

	Weight		Weighted
2005	5	$ 1,361,661	$ 6,808,305
2004	4	$ 836,342	3,345,368
2003	3	$ 521,057	1,563,171
2002	2	$ 707,770	1,415,540
2001	1	$ 721,829	721,829
	15		$ 13,854,213
			15
Weighted average (Rounded) normalized net income			$ 923,600

Sample Company
Weighted Average Net Cash Flows to Equity
December 31, 2005

Weighted average normalized net income	$ 923,600
Non-cash charges (e.g. depreciation, amortization, deferred revenue, deferred taxes)	
Capital expenditures necessary to support projected operations	
(Additions) deletions to net working capital necessary to support projected operations	
Changes in long-term debt from borrowing necessary to support projected operations	
Changes in long-term debt for repayments necessary to support projected operations	
Weighted net cash flow to equity	

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Exercise

Using the unweighted average net income from below, calculate the net cash flows to invested capital. Assume the depreciation is $400,000, capital expenditures are $300,000, additions to net working capital are $100,000, and interest expense is $100,000 before the tax affect from using interest as a tax deduction (use 40% tax rate).

2005	$ 1,361,661
2004	836,342
2003	521,057
2002	707,770
2001	721,829
	4,148,659
	5
Unweighted average (Rounded) normalized net income	$ 829,700

Sample Company
Unweighted Net Cash Flows to Invested Capital
December 31, 2005

Unweighted average normalized net income	$ 829,700
Non-cash charges (e.g. depreciation, amortization, deferred revenue, deferred taxes)	
Capital expenditures necessary to support projected operations	
(Additions) deletions to net working capital necessary to support projected operations	
Interest expense (net of tax deduction resulting from interest as a tax deductible expense)	
Unweighted net cash flows to invested capital	

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Exercise

Using the weighted average net income from below, calculate the net cash flows to invested capital. Assume depreciation is $400,000, capital expenditures are $300,000, additions to net working capital are $100,000 plus $60,000 interest expense net of the deduction resulting from interest as a tax deduction.

	Weight		Weighted
2005	5	$ 1,361,661	$ 6,808,305
2004	4	$ 836,342	3,345,368
2003	3	$ 521,057	1,563,171
2002	2	$ 707,770	1,415,540
2001	1	$ 721,829	721,829
	15		$ 13,854,213
			15
Weighted average (Rounded) normalized net income			$ 923,600

Sample Company
Weighted Average Net Cash Flows to Invested Capital
December 31, 2005

Weighted average normalized net income	$ 923,600
Non-cash charges (e.g. depreciation, amortization, deferred revenue, deferred taxes)	
Capital expenditures necessary to support projected operations	
(Additions) deletions to net working capital necessary to support projected operations	
Interest expense (net of tax deduction resulting from interest as a tax deductible expense)	
Weighted net cash flow to invested capital	

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Exercise

Management provided you with the following projected statements of income. Your assignment is to calculate normalized income and net cash flow to equity. Assume excess officers' compensation of $110,000 per year, non-operating expenses of $23,817 in 2006 and increasing $200 per year thereafter. Use a 37% effective income tax rate (round to nearest $100). Assume additions to net working capital are $100,000 per year, capital expenditures are $300,000 per year and debt repayments are $100,000 per year. Assume officers' compensation and non-operating expenses are included in the operating expenses below.

	Assumptions	2006	2008	2008	2009	2010
Sales	3.00% growth	$24,851,400	$25,596,900	$26,364,800	$27,155,700	$27,970,400
Cost of Sales	72.75% of sales	18,079,390	18,621,740	19,180,390	19,755,770	20,348,470
Gross profit	27.25% of sales	6,772,010	6,975,160	7,184,410	7,399,930	7,621,930
Operating expenses	16.90% of sales	4,199,900	4,325,900	4,455,700	4,589,300	4,727,000
Operating EBITDA		2,572,110	2,649,260	2,728,710	2,810,630	2,894,930
Depreciation and amortization	400,000 per year	400,000	400,000	400,000	400,000	400,000
Operating income EBIT		2,172,110	2,249,260	2,328,710	2,410,630	2,494,930
Miscellaneous (income) expense	16,400 per year	16,400	16,400	16,400	16,400	16,400
Interest expense	6,000 reduction/yr	99,600	93,600	87,600	81,600	75,600
Income before taxes		2,056,110	2,139,260	2,224,710	2,312,630	2,402,930
Normalized adjustments:						
Excess officers' compensation						
Non-operating expenses						
Total normalized adjustments						
Normalized income before tax						
Income taxes						
Normalized net income						
Cash flow adjustments:						
Depreciation and amortization						
Less additions to working capital						
Less capital expenditures						
Less debt payments						
Normalized net cash flow to equity						

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Exercise

Calculate the net present value of the future cash flows and terminal value. Assume a discount rate of 21.5%, mid-period convention and a 3% long-term sustainable growth rate.

Sample Company
Present Value of Future Cash Flows and Terminal Value
December 31, 2005

Net cash flow to equity discount rate: 21.5%
NPV Formula: (1/(1 + Discount rate)^(N-.5))

2006	$ 1,279,627	90.7181%[1]	
2008	1,332,177	74.6590%	
2008	1,386,127	61.4427%	
2009	1,441,647	50.5659%	
2010	1,498,647	41.6146%	
Net present value of future cash flows			
Net cash flow to equity capitalization rate next year			
2010	$ 1,498,647		
Growth factor	3%		
Cash flows with growth			
Cap rate			
Terminal		41.6146%	
Net present value of business			

Used mid-period discounting
Assumes business will continue into perpetuity
Terminal Value Calculated using Gordon Growth Model assuming liquidity event occurs January 1, 2011

[1] Note: Discount factor calculated with Excel. If you use a financial calculator, like HP, you may come up with slightly different numbers.

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BUSINESS VALUATIONS:

APPLICATIONS AND CALCULATIONS

USING THE INCOME AND ASSET APPROACHES

CHAPTER 4

REVIEW QUESTIONS

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BV: APPLICATIONS AND CALCULATIONS USING THE INCOME AND ASSET APPROACHES

CHAPTER REVIEW QUESTIONS

Chapter 4: Estimating the Future Benefit Stream

1. Which statement is correct when earnings are selected as the benefits type used to measure economic income?

   a. If pre-tax earnings are used, the discount/cap rate must be on an after-tax basis.
   b. When using earnings as the benefit stream, the analyst must have determined and documented that the future earnings and net cash flow are approximately the same and the discount/cap rate has been converted by the cash to earnings factor.
   c. The method of averaging historical economic income to determine the estimated future benefit stream is the specific methodology to use.
   d. Historical earnings demonstrate a trend that is expected to continue.

2. Which one of following criteria is the estimated future benefit stream *not* based on?

   a. The type of benefits used as a measurement of economic income.
   b. The use of historical or projected economic income to estimate future benefits.
   c. The method used to calculate the estimated future benefits.
   d. The years projected prior to calculating a terminal value.

3. What is the most appropriate method to use for calculating future earnings where there appears to be a historical pattern or trend that is expected to continue into the future?

   a. Unweighted Average
   b. Weighted Average
   c. Net Cash Flows to Equity
   d. Net Cash Flows to Invested Capital

4. Which method of estimating expected future earnings is calculated by taking the sum of a set of values, and dividing the sum by the number of values used in deriving the sum? (Sum of Variables / Number of Variables)

   a. Net Cash Flows to Equity
   b. Net Cash Flows to Invested Capital
   c. Weighted Average
   d. Unweighted Average

5. What earnings type does the following formula represent? (After-tax net income + Non-cash charges – Capital expenditures – Additions (Deletions) to net working capital + After-tax interest expense)

   a. Net Cash Flows to Equity
   b. Net Cash Flow to Invested Capital
   c. Total Cash Flow to Marketability
   d. B and C above

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6. Which of the following is the most preferred measure of economic income to use with a cost of capital analysis?

   a. Net Income
   b. Pre-tax Income
   c. Net Cash Flow
   d. Gross Cash Flow

7. What are the most common mistakes analysts make when determining future cash flows?

   a. The analyst uses the unweighted average instead of the weighted average historical cash flows.
   b. The analyst uses pre-tax earnings with an after-tax discount rate.
   c. The analyst does not consider the effects of annual economic growth.
   d. The analyst bases the components of cash flows on historical data and does not adjust for capital expenditures and working capital requirements to support the projected operations.

8. When valuing an equity interest, what type of benefit stream will the analyst normally use as a measurement of economic income?

   a. Net Cash Flows to Invested Capital
   b. Net Cash Flows to Equity
   c. After-tax Earnings
   d. Income from Operations

9. When are earnings used as the type of benefits to measure economic income?

   a. When there is an expectation of heavy borrowing for capital expenditures
   b. When using the Ibbotson Build-up Method to derive a capitalization rate
   c. When calculating a terminal value for the business
   d. When the valuator expects the future earnings will approximate the future net cash flows

10. Most of the cost of capital derived from the capital markets and other empirical data that are used to derive the discount rate represents what earnings type to measure economic income?

    a. Pre-tax earnings
    b. After-tax cash flows
    c. EBITDA
    d. After-tax earnings

11. Net cash flow to equity will result in what type of value?

    a. Invested capital
    b. Equity
    c. Controlling interest
    d. Minority interest

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12. When discounting cash flow to invested capital the appropriate discount rate is:

    a. Cost of Equity
    b. Weighted Average Cost of Capital
    c. Capital Asset Pricing Model
    d. Ibbotson Buildup Method

13. Generally, estimated future benefits are based on historical economic income when:

    a. There is a lack of historical information
    b. Start up or development stage companies
    c. Future benefits stream is non linear
    d. Future benefits are linear

14. A linear benefit stream is a stream of future benefits that is expected to grow or decline at a variable rate.

    a. True
    b. False

15. Two most commonly used methods to estimate future benefits based a linear benefit stream are:

    a. Weighted Average Method and Unweighted Average Method
    b. Weighted Average Method and Projected Cash Flow Method
    c. Unweighted Average Method and Projected Cash Flow Method
    d. Projected Cash Flow Method and Projected Earnings Method

16. Using a weighted average method to determine future benefits a valuator assigns more weight to the most recent years. This indicates:

    a. The valuator determined the most recent year is the most indicative of future years.
    b. All of the past earnings are representative of the expected future benefits.
    c. No existing pattern or trend would suggest that any one year or years is more indicative than the rest of the historical data.
    d. There is no apparent trend in the historical earnings.

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CHAPTER FIVE

CAPITALIZATION/DISCOUNT RATES

I. BUILD-UP METHOD

Based in the theory reflected in the Capital Asset Pricing Model the build-up method starts with the risk free rate and adds expected risk premiums designed to reflect the additional risk of an equity investment, as follows:

The primary formula is: $K_e = R_f + ERP + IRP_i + SP + SCR$ *where:*

K_e	=	*cost of equity*
R_f	=	*risk free rate of return*
ERP	=	*expected equity risk premium, or the amount by which investors expect the future return on equity securities to exceed the risk free rate*
IRP_i	=	*expected industry risk premium for industry i reflecting the relative risk of companies in that industry (if appropriate)*
SP	=	*size premium*
SCR	=	*specific company risk for the company*

The elements of the build-up method can be obtained from a number of sources. This material presents some of the more common sources used by valuation professionals.

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The table[1] shown below is reproduced from Ibbotson's *SBBI: Valuation Edition*. Starting in 2014, Ibbotson's SBBI Valuation Edition Yearbook data is no longer being published. However, starting in 2014 a new publication is providing the same data in a similar format. *The Valuation Handbook—Guide to Cost of Capital* published by Duff & Phelps presents data similar to this in Appendix 3, "CRSP Deciles Size Premia Study: Key Variables." The table will change according to data gathered in any given year.

KEY VARIABLES IN ESTIMATING THE COST OF CAPITAL

	Value
Yields (Riskless Rates) [2]	
Long-term (20-year) U.S. Treasury Coupon Bond Yield	4.8%
Equity Risk Premium [3]	
Long-horizon expected equity risk premium (historical): large company stock total returns minus long-term government bond income returns	7.2
Long-horizon expected equity risk premium (supply side): historical equity risk premium minus price-to-earnings ratio calculated using three-year average earnings	6.1

Size Premium[4]

Decile	Market Capitalization of Smallest Company (in millions)		Market Capitalization of Largest Company (in millions)	Size Premium (Return in Excess of CAPM)
Mid-Cap, 3-5	$1,607.931	-	$6,241.953	0.95%
Low-Cap, 6-8	$506.410	-	$1,607.854	1.81
Micro Cap, 9-10	$1.393	-	$505.437	4.02
Breakdown of Deciles 1-10				
1- Largest	$14,099.878	-	$342,087.219	-0.37
2	$6,258.530	-	$14,096.886	0.60
3	$3,473.335	-	$6,241.953	0.75
4	$2,234.146	-	$3,464.104	1.07
5	$1,607.931	-	$2,231.707	1.44
6	$1,098.284	-	$1,607.854	1.75
7	$746.249	-	$1,097.603	1.61
8	$506.410	-	$746.219	2.36
9	$262.974	-	$505.437	2.86
10-Smallest	$1.393	-	$262.725	6.41
Breakdown of the 10th Decile				
10a	$144.122	-	$262.725	4.54
10b	$1.393	-	$143.916	9.90

[1] Used with permission, *SBBI: Valuation Edition 2005 Yearbook*, updated annually; all rights reserved.
[2] As of December 31, 2004. Maturity is approximate.
[3] See Chapter 5 of *SBBI Valuation Edition 2005 Yearbook* for complete methodology.
[4] See Chapter 7 of *SBBI Valuation Edition 2005 Yearbook* for complete methodology.

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A. RISK-FREE RATE

This rate represents the return available in the market on an investment free of default risk. This is the starting point of the build-up method since any investment should return at least as much as a "riskless" asset. The assumption is that there is an investment asset perceived by all investors as having no risk. There is significant debate among economists regarding what that investment asset actually is and even whether such an asset even exists. For purposes of this method the appraiser must accept that such an asset does exist.

The risk-free rate and the Equity Risk Premium (see next section) are interrelated concepts. Since estimates for ERP are always expressed in relationship to a risk-free rate, it is important for the practitioner to use the same measure of return on risk free investments as used by the source of the Equity Risk Premium.

B. EQUITY RISK PREMIUM

The International Glossary of Business Valuation Terms defines Equity Risk Premium (ERP) as a rate of return added to a risk-free rate to reflect the additional risk of equity instruments over risk free instruments (a component of the cost of equity capital or equity discount rate) The historical equity risk premium shown in the table above is calculated as the arithmetic average return an investor would have received on the S&P 500 in excess of the return on 20-year U.S. government bonds, during the period from 1926 through the present.

Why focus on the long-term period? *The Valuation Handbook* offers the following observations:

1. Long-term historical returns have shown surprising stability.
2. Short-term observations may lead to illogical forecasts.
3. Focusing on the recent past ignores dramatic historical events and their impact on market returns. We don't know what major events lay ahead.
4. Law of large numbers: more observations lead to a more accurate estimate.

In addition to these observations, another justification of using long-term data is that investments in closely held businesses generally represent long-term investments. Thus, uses of Ibbotson's equity risk premia are more likely to match investment horizons than the use of premiums calculated with short-term data.

Inherent in this discussion is the assumption that past returns provide a valid estimate of current (and future) cost of capital. Recent research suggests that this assumption may be invalid. Ibbotson notes that there has been a recent (over the past 20 years) increase in the average price to earnings ratio (P/E), and this increase accounts for part of the historical equity risk premium. Since similar increases in P/E ratio are not expected, future equity risk premiums are expected to be lower. This lower expected premium can be seen in the "supply side" equity risk premium calculation in the table above.[5]

[5] For a more thorough discussion of this and other possible adjustments to the historical equity risk premium, see Ibbotson's *SBBI Valuation Edition* and Ibbotson and Chen's *Stock Market Returns in the Long Run: Participating in the Real Economy*.

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Much research has been done, and is ongoing, evaluating the reliability of historical returns as an estimate of future performance. The supply side calculation is one result of that research. Other approaches to estimating ERP contemplate issues such as single-period returns vs. multi-year compound returns, geometric vs. arithmetic averages, correcting for World War II interest rate bias, etc.

C. SIZE PREMIUM

The correlation between company size and return has been well documented by Ibbotson and other researchers. Over long periods of time, returns on investments in smaller firms have consistently and significantly exceeded returns on investment in larger firms. The size premium is the extra return a willing investor would expect to receive by investing in smaller equity securities on the NYSE/AMEX/NASDAQ over the large equity security. Since virtually all closely held companies are smaller than even the smallest of the S&P 500 companies, an analyst should consider the inclusion of a size premium in the build-up model.

Long-term returns for all publicly traded stocks are calculated in *The Valuation Handbook*. These returns are then ranked, based on company size, into deciles. The resulting table (shown on the previous page) clearly illustrates that average returns for small publicly traded companies have been consistently and significantly higher than average returns for large corporations. Since the typical closely held business would fall into the tenth decile in terms of size, the risk premium for this decile is of great interest for the valuation analyst.

To gain greater insight into the small stock risk premium, the tenth decile (containing the smallest companies) is split in half, calculating returns on the smallest five percent (decile 10b) and second smallest five percent (decile 10a) of public companies. The results are striking. As can be seen in the exhibit, the size premium for the smallest five percent (10b) is more than double the premium for the 10a companies. 10a and 10b are then split into two groups each so that 10z reflects the smallest 2.5%. A comparison of size premiums of the smallest 2.5% to the premium for the smallest 10% possibly suggests that there may be a need for additional size consideration when developing a return rate for a small closely held business.

D. INDUSTRY RISK PREMIUM

The equity risk premium and size premia presented in *The Valuation Handbook* are not industry specific. Since some industries are inherently riskier than others, inclusion of an industry specific risk premium can result in a more precise estimate of the cost of capital.

The Valuation Handbook presents an industry premium methodology that valuators may now reference and cite in their valuation reports. This methodology relies on the full information beta estimation process outlined in Chapter 5 of *The Valuation Handbook*. The full information beta methodology uses data from companies participating in an industry to evaluate the risk characteristics of that industry. The full information approach provides a risk index for each industry. The risk index compares the risk level of a specific industry to the total market.

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Only industries with full information beta were included in the analysis, with a minimum of five companies in each industry. The equation is as follows:

$RP_i = (FIB \times ERP) - ERP$ where:

IRP_i	=	Industry risk premium
$FIBRI_i$	=	Full Information Beta for the industry
ERP	=	The expected equity risk premium

Source: *The Valuation Handbook—Guide to Cost of Capital, Formula 5.5*

Exhibit 5.7 in the *The Valuation Handbook—Guide to Cost of Capital* provides the valuator with industry premia by SIC code. It is highly recommended that the valuator read the material in the book to understand the methodology of developing the premium and the relevance of the data to the specific valuation engagement.

In addition, this additional risk premium or discount may be determined by focusing on how the general economy compares with expectations for the particular industry. Key questions include: How has this industry reacted to similar general economic conditions in the past? What are the industry forecasts and how do they relate to this company? What is its position in the industry? In addition to answering the aforementioned questions, it is necessary to compare the financial analysis of the company to the industry financial analysis; and finally, to assess additional company specific risk based on the financial analysis of the company.

E. SPECIFIC COMPANY RISK PREMIUM

The final variable in the build-up mmethod addresses company specific risk factors. If used correctly, the previous four factors (risk free rate, equity risk premium, size premium, and industry premium) should yield the estimated cost of capital for an equity investment in a smaller, typical company in the identified industry. To assume that this estimated cost of capital is appropriate for the analyst's company would be to ignore possibly critical aspects of that company.

For example, the target company could be relatively new or it could have a lengthy record of strong performance and a dominant position in its market. Other characteristics, such as poor planning, the quality of management, lack of capital, access to debt and inadequate business experience must be considered. A thorough analysis of the company's risk ratios and how they compare with industry norms can help identify these company specific risks.

The specific company risk described above is referred to as "unsystematic risk." This risk measures the uncertainty of returns arising from characteristics of the industry and the individual company. In a well-balanced economic portfolio the unsystematic risk can be eliminated through diversification. This is not the case with an investment in one closely held company's stock.

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In evaluating company specific risks, the authors of Practitioners Publishing Company's *Guide to Business Valuation* suggest that the following factors be considered in the specific company risk premium:

1. The Company's Financial Risk

The term financial risk is defined broadly in this context to include not only risks from debt financing, but also the relative risk from all means of financing the business. This would include current liabilities and the choice to liquidate non-cash assets into cash to finance capital investment or pay a dividend. An assessment of financial risk therefore involves all of the following:[6]

a) Interest-bearing leverage and coverage ratios
b) Total leverage ratios, such as total liabilities to equity
c) Liquidity ratios, such as the current and quick ratio
d) Volatility of earnings:

   Forecasting future earnings growth may add an additional risk premia to the calculations of a discount rate. Estimating growth in earnings should only be undertaken in situations where the analyst has strong reason to believe there is a high likelihood of continued growth (see Chapter Four). If this is the case, then much of the risk of forecasting growth is eliminated.

e) Turnover ratios, such as inventory and receivables turnover

A company that runs too lean, or is too highly leveraged with debt, will generally be riskier than a company that is not so highly burdened.

2. The Diversification of the Company's Operations

Generally, the more diversified a company is in terms of products, customer base, geographic locations, etc., the less the relative risk compared to other companies.

3. Other Operational Characteristics

The analyst should also assess all other factors that could lead to additional positive or negative adjustments. Such factors often include key-man issues and management depth and competence.

[6] See Practitioners Publishing Company's *Guide to Business Valuation, 15th Edition.*

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Exercise

Using the data found on page 2 calculate the discount and capitalization rates using the Build-up Method Use the historical equity risk premium and a size premium based on the 10th decile. The industry risk premium is a *negative* 2.40%. Your analysis of unsystematic risk (based on your ratio analysis, industry statistical comparisons, financial analysis, industry analysis and economical analysis of the sample company) determined that the company specific risk factors are the following:

- 1.00 percent for additional size
- 1.25 percent for earnings volatility
- 1.50 percent for difference in the debt structure of the company compared to the industry (leverage)
- 1.75 percent for other specific factors

Additionally:

- Use a long-term sustainable growth rate of 3 percent and an income tax effective rate of 40 percent.
- Use the cash to earnings factor of 6.1 percent and an intangible earnings factor of 5 percent.

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Sample Company
Build-Up Method
December 31, 2004

Risk-free long-term U.S. Government bond rate			+		Note A
Equity risk premium	+				Note B
Size Premium	+				Note C
Return in excess of risk-free rate	=		+		
Industry risk premium			+		Note D
Risk premium for company specific risk:					
Additional risk for size premia	+				Note E
Leverage/liquidity	+				Note E
Earnings volatility	+				Note E
Other factors peculiar to entity	+				Note E
Total risk premium for company specific risk	=		+		
After-tax net cash flow discount rate			=		
Long-term sustainable growth rate			-		Note F
After-tax net cash flow capitalization rate for next year			=		
Adjustment to current year (1 plus growth rate)			÷		
After-tax net cash flow capitalization rate for current year			=		
Cash to earnings factor			+		Note G
After-tax net income capitalization rate for the current year			=		
Intangible earnings factor			+		Note H
After-tax intangible capitalization rate for the current year			=		
Tax effect [1-tax rate (40%)]			÷		
Pre-tax net income capitalization rate for the current year			=		
Pre-tax intangible capitalization rate for the current year			=		

Note A	20-year yield to maturity on U.S. government bonds at the valuation date, from *Wall Street Journal.*
Note B	Long-horizon expected equity risk premium (historical) from *Stocks, Bonds, Bills, and Inflation: Valuation Edition: 2005 Valuation Edition,* ©2005 Ibbotson Associates, Inc.
Note C	10th decile size portfolios of NYSE/AMEX/NASDAQ, size premium, from *Stocks, Bonds, Bills and Inflation: 2005 Valuation Edition* ©2005 Ibbotson Associates, Inc.
Note D	Consider using: Industry premia estimates from *Stocks, Bonds, Bills, and Inflation: 2005 Valuation Edition,* ©2005 Ibbotson Associates, Inc.
Note E	Subjective risk premium for company-specific risks.
Note F	Long-term sustainable growth rate of economic equity returns based on industry outlook and discussions with management.
Note G	Increment to convert to net earnings; EPS less dividend per share, or company's actual increment.
Note H	Additional subjective risk premium associated with intangible earnings.

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Exercise

Calculate the cash to earnings factor. Assume the after-tax net cash flow capitalization rate for the current year using the Build-Up Method is 17.97%, (see the Build-Up Method exercise on the previous page). Proof your cash to earnings factor.

Sample Company
Cash to Earnings Factor

	Earnings	Depr	Working Capital	CapX	Debt	Cash Flow	Factor
2005	$ 1,361,661	$ 396,900	$ (100,000)	$ (300,000)	$ (100,000)	$ 1,258,561	92.43%
2004	836,342	352,500	(100,000)	(300,000)	(100,000)	688,842	82.36%
2003	521,057	253,100	(100,000)	(300,000)	(100,000)	274,157	52.62%
2002	707,770	234,312	(100,000)	(300,000)	(100,000)	442,082	62.46%
2001	721,829	211,400	(100,000)	(300,000)	(100,000)	433,229	60.02%
	$ 4,148,659	$1,448,212	$ (500,000)	$(1,500,000)	(500,000)	$ 3,096,871	
Averages	$ 829,730	$ 289,640	$ (100,000)	$ (300,000)	(100,000)	$ 619,370	74.65%

After-tax net income capitalization rate for the current year (_____% / 74.65%) _____

After-tax net cash flow capitalization rate for the current year _____

Cash to earnings factor _____

Proof

	Earnings	Cash Flow
Benefit Stream	$ 829,730	$ 619,370
Capitalization Rate		
Enterprise Value (rounded)	$	$

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II. MODIFIED CAPITAL ASSET PRICING MODEL (CAPM)

The Modified CAPM, by definition, is an equilibrium asset pricing theory that shows that equilibrium rates of expected return on all risky assets are a function of their co-variance with the market portfolio.[7]

This method for determining a capitalization or discount rate is based on the theory that investors in risky assets require a rate of return above a risk-free rate as compensation for bearing the risk associated with holding the investment.

A. ASSUMPTIONS

These are the assumptions underlying the capital asset pricing model:

1. Investors are risk averse.
2. Rational investors seek to hold portfolios, which are fully diversified.
3. All investors have identical investment holding periods.
4. All investors have the same expectations regarding expected rate of return and how capitalization rates are generated.
5. There are no transaction costs.
6. There are no taxes.
7. The rate received from lending money is the same as the cost of borrowing,
8. The market has perfect diversity and liquidity so an investor can readily buy or sell any fractional interest.

B. CALCULATION OF EXPECTED RETURN

Expected return = Risk-free rate + Beta x { Expected return on a market portfolio — Risk-free rate }

Abbreviated, the variables and the equation appear as follows:

$ER_i = R_f + \beta(ER_m – R_f)$

The risk-free (R_f) rate is represented by the 30-day Treasury bill rate. The expected return on a market portfolio (R_m) is the actual capital appreciation of the S&P 500 Index. The beta coefficient (β or beta) is a key variable in the CAPM equation. In the standard CAPM calculation, it represents the covariance of the rate of return on the subject security, with the rate of return on the market divided by the variance of the market. More simply, it measures the volatility of the subject security as compared to the market.

[7] The International Glossary of Business Valuation Terms defines the CAPM as "a model in which the cost of capital for any stock or portfolio of stocks equals a risk-free rate plus a risk premium that is proportionate to the systematic risk of the stock or portfolio."

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To understand beta fully, two terms must be understood:

1. Variance is a measure of the squared deviation of the actual return of a security from its expected return.
2. Covariance is a statistical measure of the interrelationship between two securities.

In the standard calculation of CAPM, beta is computed using the return on investment (ROI) of the subject security. Since ROI is calculated using the stock price, the analyst rarely uses the standard CAPM. If the stock price is known, is there a need for valuation?

Some analysts alter the CAPM model by modifying certain variables. The risk-free rate (R_f) is represented by the intermediate term (five to 10 year) Treasury bond yield rate. Beta (*B*) is modified so that it represents the co-variance of the pre-tax return on equity (ROE) of the subject company, with the ROE of other specific companies or industry averages divided by the variance of the ROE of the industry. Finally, rather than using the expected return on a market portfolio as the ER_m, it is represented by the average pre-tax ROE of the specific companies or the industry in which the subject company operates.

C. CALCULATION OF BETA (β)[8]

A beta[9] of 1.0 would indicate the subject company is no more or no less volatile than the industry. In this example the beta of 0.8501 indicates that the subject company is less volatile than the industry. As such, it would appear to be a better risk. Thus, a total risk-premium less than the industry would probably be appropriate for the company. Based on this analysis, it can be seen that the expected rate of return for a company should be positively related to its beta.

D. SECURITY MARKET LINE (SML)

The expected return on a security with a beta of zero is the risk-free rate, since a zero beta indicates no relative risk. The expected return on a security with a beta of one is the expected return of the market, since a beta of one indicates that the security has the same relative risk as the market.

A shortcoming of CAPM is the fact that it utilizes some amounts of comparative information in its various forms. Since it may be extremely difficult to locate industry data, it may be difficult to use CAPM to develop a discount/capitalization rate. It is equally as difficult to find specific comparable company data for a closely held company.

E. IS MODIFIED CAPM A PRE-TAX OR AN AFTER-TAX METHOD? THE ANSWER: IT DEPENDS

CAPM describes the cost of equity for a given company, and is equal to the risk-free rate plus some amount to compensate for the risk involved in excess of the risk-free rate. Thus, there are several elements to CAPM coming from both sides of the tax equation. This risk-free rate is usually a government bond rate, which is pre-tax to the investor. The expected return on a market portfolio is generated from after corporate tax average returns of the market, usually comparing the return to that of the S&P 500. Beta is public market volatility, generated by stock transactions, which is after corporate tax (but again, pre-investor tax). These companies'

[8] β or *b* often (but not always) indicate beta in financial equations.
[9] Historical beta research can be performed by KeyValueData.

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10K forms do consider known tax liabilities in their bottom lines. However, this liability may not be the actual tax. In valuing a closely held company, beta is generally developed from comparable public companies or is calculated using the average pre-tax ROE (for equity capital) or ROI (for investment) of the specific company. ROI, as used to develop beta, is calculated as:

$$\frac{\text{(Ending Stock Price - Beginning Stock Price) + Dividends}}{\text{Beginning Stock Price}}$$

This generates an after-tax rate (or variable) as the capacity to pay dividends (a key element) is based on after-tax earnings.

When you use CAPM to generate a capitalization rate, the risk rate for the general public market is an after-tax rate; therefore, CAPM is an after-tax method. Ibbotson considers its build-up method, loosely based on CAPM, to be an after-tax calculation. If you use RMA's ROE, it is pre-tax. Be certain you identify your variables if you use CAPM to quantify a capitalization/discount rate.

F. GROWTH RATE SHOULD EQUAL INFLATION PLUS REAL GROWTH THAT CAN BE ACHIEVED WITHOUT ADDITIONAL CAPITAL INVESTMENT

It is generally accepted that an Expected Long-Term Average Growth Rate is impossible to sustain into perpetuity if it exceeds inflation plus population growth. The rate does not include growth in overall company cash flows dependent on future capital investment. A common error is to use a rate of growth that could not be achieved without additional capital investment(s). Often, this is related to the position of the company in its life cycle. What is its state of maturity? Is it experiencing rapid growth, slow growth, stagnation, or decline?

Capitalization models are inherently sensitive to the choice of growth rate, and the analyst should be careful to select a rate that is reasonable. Remember, this is not a short-term growth rate, this must be a long-term sustainable growth rate! To demonstrate how sensitive the model is, consider a company with normalized earnings of $100,000. Assuming the build-up method yields a cost of equity capital of 20 percent, the use of a three percent growth rate will result in a conclusion of value of $588,235. However, use of a more aggressive six percent perpetual growth rate results in a conclusion of value of $714,286, more than 21 percent higher.

The analyst should be careful to select a rate that is reasonable, particularly when using business valuation software which may default to the company's historical growth rate. Many valuators believe the long-term sustainable growth rate for mature companies should be in the range of three to four percent.

Capitalization and discount rates are sometimes referred to, and used, as if they are interchangeable. This is not the case. A capitalization rate is used to value a static or historical benefit stream while a discount rate is used for projected future benefits. The difference between the two can best be described, and remembered, as follows:

$$\text{Capitalization Rate} = \text{Discount Rate} - \text{Growth Rate}$$

$$\text{Discount Rate} = \text{Capitalization Rate} + \text{Growth Rate}$$

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Example of a Calculation of the Cash to Earnings Factor

Assume the after-tax net cash flow capitalization rate for the current year using the Build-Up Approach is 14.02%, see the Build-Up Approach on the next page.

Sample Company
Cash to Earnings Factor
Ibbotson CAPM Build-Up Approach

	Earnings	Depr	Working Capital	CapX	Debt	Cash Flow	Factor
2005	$ 1,361,661	$ 396,900	$ (100,000)	$ (300,000)	$ (100,000)	$ 1,258,561	92.43%
2004	836,342	352,500	(100,000)	(300,000)	(100,000)	688,842	82.36%
2003	521,057	253,100	(100,000)	(300,000)	(100,000)	274,157	52.62%
2002	707,770	234,312	(100,000)	(300,000)	(100,000)	442,082	62.46%
2001	721,829	211,400	(100,000)	(300,000)	(100,000)	433,229	60.02%
	$ 4,148,659	$1,448,212	$ (500,000)	$(1,500,000)	(500,000)	$ 3,096,871	
Averages	$ 829,730	$ 289,640	$ (100,000)	$ (300,000)	(100,000)	$ 619,370	74.65%

After-tax net income capitalization rate for the current year (14.02% / 74.65%)	18.78%
After-tax net cash flow capitalization rate for the current year	14.02%
Cash to earnings factor	4.76%

Proof

	Earnings	Cash Flow
Benefit Stream	$ 829,730	$ 619,370
Capitalization Rate	18.78%	14.02%
Enterprise Value (rounded)	$ 4,400,000	$ 4,400,000

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Exercise

Using the data on page 2 of this chapter, calculate the discount and capitalization rates using the Build-Up Method. The Industry beta is 1.15. Use a size premia of 2.86%, which is the 9th decile. Your analysis of unsystematic risk based on your ratio analysis, industry statistical comparisons, financial analysis, industry analysis and economic analysis of the sample company determined that the company specific risk factors are 0.5% for additional size premia, 0.75% for earnings volatility, 0.25% for difference in the debt structure of the Company compared to the industry (leverage), and 0.0% for other specific factors. Use a long-term sustainable growth rate of 3.0% and an income tax effective rate of 40.0%. Use the cash to earnings factor of 4.76% and an intangible earnings factor of 5.0%.

Sample Company
Modified CAPM Build-Up Method
December 31, 2004

Risk-free long-term U.S. Government bond rate			+	_____	Note A
Equity risk premium	+	_____			Note B
Beta	x	_____			Note B1
Average company comparative return	=	_____			
Size premium	+	_____			Note C
Return in excess of risk-free rate	=		+	_____	
Risk premium for company specific risk:					
Additional risk for size premia	+	_____			Note D
Leverage/liquidity	+	_____			Note D
Earnings volatility	+	_____			Note D
Other factors peculiar to entity	+	_____			Note D
Total risk premium for company specific risk	=		+	_____	
After-tax net cash flow discount rate			=	_____	
Long-term sustainable growth rate			-	_____	Note E
After-tax net cash flow capitalization rate for next year			=	_____	
Adjustment to current year (1 plus growth rate)			÷	_____	
After-tax net cash flow capitalization rate for current year			=	_____	
Cash to earnings factor			+	_____	Note F
After-tax net income capitalization rate for the current year			=	_____	
Intangible earnings factor			+	_____	Note G
After-tax intangible capitalization rate for the current year			=	_____	
Tax effect [1-tax rate (40%)]			÷	_____	
Pre-tax net income capitalization rate for the current year			=	_____	
Pre-tax intangible capitalization rate for the current year			=	_____	

Note A	20-year yield to maturity on U.S. government bonds at the valuation date, from *Wall Street Journal.*
Note B	Long-horizon expected equity risk premium (historical) from *Stocks, Bonds, Bills, and Inflation: 2005 Valuation Edition*, ©2005 Ibbotson Associates, Inc.
Note B1	Source: Standards & Poors
Note C	9th decile size portfolio of NYSE/AMEX/NASDAQ, size premium, from *Stocks, Bonds, Bills and Inflation: 2005 Valuation Edition* ©2005 Ibbotson Associates, Inc.
Note D	Subjective risk premium for company-specific risks.
Note E	Long-term sustainable growth rate of economic equity returns based on industry outlook and discussions with management.
Note F	Increment to convert to net earnings; EPS less dividend per share, or company's actual increment.
Note G	Additional subjective risk premium associated with intangible earnings.

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III. EQUITY RISK PREMIUM: DUFF & PHELPS, LLC RISK PREMIUM REPORT AND RISK PREMIUM CALCULATOR[10]

Another source of equity risk premiums (ERPs) used in the development of discount and capitalization rates can be found in the annual *Risk Premium Report* (formerly known as the *Standard & Poor's Corporate Value Consulting Risk Premium Report*) published by Duff & Phelps, LLC. The Duff & Phelps Risk Premium Report is an invaluable resource for developing equity risk premiums for small companies. An example of the 2005 report is located in Appendix X.

A premium resource for determining discount rates, the Risk Premium Report provides equity risk premiums for companies sized by eight different criteria: market capitalization, book value, net income, market value of invested capital, total assets, EBITDA, sales, and number of employees. The underlying data for the Risk Premium Report is drawn from both the CSRP and Compustat databases, covering 47 years (1963-2010) of financial reports from companies listed on the New York Stock Exchange, the NASDAQ, and the AMEX. The web-based Risk Premium Calculator is both easy to use and will save the appraiser time in calculating cost of equity (COE) for the subject company's size and risk characteristics, the Risk Premium Calculator will: 1) Automatically estimate levered and unlevered cost of equity; 2) Automatically make an Equity Risk Premium (ERP) adjustment to account for differences between ERP as of valuation date and market risk premium used to calculate the risk premiums published in the Risk Premium Report; 3) Automatically generate an Executive Summary of COE estimates in Word, including CAPM, Build-Up, and unlevered COE, which includes Excel output of the values and calculations. The Report consists of two parts; Part I presents data related to historical equity risk premiums and company size and Part II presents data quantifying the relationship between historical equity risk premiums and company risk.

A. COMPANIES INCLUDED IN THE DATA

Companies included in the measurement data must meet certain criteria including the following:

1. Must be included in both the CRSP and the Compustat databases
2. Excludes financial service companies (Standard Industrial Classification = 6)
3. Must be publicly traded for 5 years
4. Must have sales greater than $1 million in any of the previous 5 years
5. Must have a positive 5-year average earnings before interest, taxes, depreciation and amortization (EBITDA) for the previous five fiscal years

Duff & Phelps also created a separate "high financial risk" portfolio consisting of companies:

1. Identified by Compustat as in bankruptcy or liquidation
2. With 5-year average net income available to common equity for the previous five years less than zero
3. With 5-year average operating income for the previous five years less than zero
4. With negative book value of equity at any of the previous five fiscal year-ends
5. With debt-to-total capital of more than 80%

[10] Duff & Phelps Risk Premium Report and Risk Premium Calculator is available from NACVA (800-677-2009) and ValuSource (800-825-8763).

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B. SIZE MEASUREMENT

Company data is sorted by eight measures of size and each measurement of size is included as a separate exhibit in the Report. The measures of size include:

1. Market value of common equity (common stock price times number of common shares outstanding)
2. Book value of common equity (does not add back the deferred tax balance)
3. 5-year average net income for previous five fiscal years (net income before extraordinary items)
4. Market value of invested capital (market value of common equity plus carrying value of preferred stock plus long-term debt (including current portion) and notes payable)
5. Total assets (as reported on the balance sheet)
6. 5-year average EBITDA for the previous five fiscal years
7. Sales (net)
8. Number of employees (either at year-end or yearly average, including part-time and seasonal workers)

Companies that meet the criteria noted above are then divided evenly into twenty-five portfolios for each measure of size. Companies included in the high financial risk portfolio are shown as a separate line item in each of the size measurement categories.

C. DATA PRESENTATION

The Duff & Phelps data are presented in a series of exhibits in Appendix IX.

Part I of the Report[11] includes:

Exhibits A-1 through A-8	ERP vs. company size (eight measures of size)
Exhibits B-1 through B-8	Premiums over Capital Asset Pricing Model (CAPM) vs. company size (eight measures of size)

Part II of the Report includes:

Exhibits C-1 through C-8	Relation between size and company risk (eight measures of size)
Exhibits D-1 through D-3	ERP vs. company risk (three measures of risk)

The three company risk measures are as follows:

- Operating margin (the lower the margin, the greater the risk)
- Coefficient of Variation in Operating Margin (the greater the coefficient of variation, the greater the risk)
- Coefficient of Variation in Return on Equity (the greater the coefficient of variation, the greater the risk)

[11] Duff & Phelps Risk Premium Report and Risk Premium Calculator is available from NACVA (800-677-2009) and ValuSource (800-825-8763).

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D. DATA USE

The ERPs developed by the Duff & Phelps data can be used to calculate a discount cost of equity using a build-up model (using the data reported in Exhibits A-1 through A-8) or the Modified Capital Asset Pricing Model (MCAPM) (using the data reported in Exhibits B-1 through B-8).

The Report suggests that the "smoothed" average premium is the most appropriate indicator for most of the portfolio groups. The "smoothed" premium refers to how the premium is determined, that being from a regression analysis with the average historical ERP as the dependent variable and the logarithm of the average sorting criteria as the independent variable. One benefit of the use of the "smoothed" premium is that if an analyst is estimating the required rate of return for a company that is significantly smaller than any of the companies found in the smallest of the 25 portfolios, it is appropriate to extrapolate the ERP using the slope and constant terms from the regression relationships used in deriving the "smoothed" premiums.

E. BUILD-UP METHOD

An example of using the build-up method to determine a required rate of return on equity, assume that the subject company has the following characteristics:

Eight Measures of Size	**Amount**
Market value of equity	$120 million
Book value of equity	$100 million
5-year average net income	$10 million
Market value of invested capital	$180 million
Total assets	$300 million
5-year average EBITDA	$30 million
Sales	$250 million
Number of employees	200

Using each of the exhibits A-1 through A-8 (for each of the size measurements) we extract the following ERP data:

Eight Measures of Size	**Company Size**	**Exhibit**	**Guideline Portfolio**	**Smoothed Average ERP ***
Market value of equity	$120 million	A-1	24	12.3%
Book value of equity	$100 million	A-2	24	11.3%
5-year average net income	$10 million	A-3	23	11.4%
Market value of invested capital	$180 million	A-4	24	12.0%
Total assets	$300 million	A-5	23	11.2%
5-year average EBITDA	$30 million	A-6	24	11.8%
Sales	$250 million	A-7	23	11.1%
Number of employees	200	A-8	25	12.6%
Mean				11.7%
Median				11.6%

* over the riskless rate

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The Report[12] states that it has used the Ibbotson Associates' income return on long-term Treasury bonds as their measure of the historical riskless rate, therefore a 20-year Treasury bond yield is the most appropriate measure of the riskless rate to use with the Duff & Phelps ERPs.

So, if we have a riskless rate of 4.7% as of the valuation date, the Duff & Phelps data would indicate a required rate of return on equity ranging from 15.8% to 17.3%, with an average of 16.4%. From this point, the valuator needs to consider the company specific risk factor. For more, refer to discussion on this subject earlier in this Chapter.

Observation
It is important, as with all other methodologies presented in this course, to acquire and read the underlying analysis and supporting data provided in the Duff & Phelps report before using the data.

[12] Duff & Phelps Risk Premium Report and Risk Premium Calculator is available from NACVA (800-677-2009) and ValuSource (800-825-8763).

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Exercise

Using the Duff & Phelps[13] 25th portfolio data provided, calculate the Average Risk Premium. Weight each factor equally except for Book Value of equity and Total Assets as you have determined that those are not relevant size measures.

Size Characteristic	Smoothed Average ERP	Weight	Weighted ERP
MV of Equity	13.79%		
BV of Equity	12.56%		
5 Year Ave. Net Income	13.11%		
MV of Invested Capital	13.40%		
Total Assets	12.85%		
5 Year Ave. EBITDA	13.02%		
Total Sales	12.40%		
Number of Employees	12.61%		
		Average Duff & Phelps Equity Risk Premium	%

Solution

Using the Duff & Phelps 25th portfolio data provided, calculate the Average Risk Premium. Weight each factor equally except for Book Value of equity and Total Assets as you have determined that those are not relevant size measures.

Size Characteristic	Smoothed Average ERP	Weight	Weighted ERP
MV of Equity	13.79%	1	13.79%
BV of Equity	12.56%	0	-
5 Year Ave. Net Income	13.11%	1	13.11%
MV of Invested Capital	13.40%	1	13.40%
Total Assets	12.85%	0	-
5 Year Ave. EBITDA	13.02%	1	13.02%
Total Sales	12.40%	1	12.40%
Number of Employees	12.61%	1	12.31%
		Average Duff & Phelps Equity Risk Premium	13.06%

[13] Duff & Phelps Risk Premium Report and Risk Premium Calculator is available from NACVA (800-677-2009) and ValuSource (800-825-8763).

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IV. WEIGHTED AVERAGE COST OF CAPITAL (WACC)

Another calculation used to develop a discount or capitalization rate is known as the weighted average cost of capital, or WACC. A company's capital structure can be made up of the following in any number of combinations:

- Common Equity
- Preferred Equity
- Long-term Debt

As its name implies, WACC actually blends a company's cost of equity with its cost of debt to arrive at the company's overall cost of capital. WACC is used when the valuation analyst wants to determine the value of the entire capital structure of a company such as in an acquisition scenario.

WACC adds versatility to the valuation in that it can be developed based on a number of assumptions involving the company's debt in its capital structure. These assumptions can include greater debt, less debt, or debt under different terms.

A. CALCULATION OF THE WEIGHTED AVERAGE COST OF CAPITAL

Assuming a simple capital structure consisting only of common equity and long-term debt, the formula to develop WACC is as follows:

$WACC = (k_e \times W_e) + (k_{d/(pt)} [1\text{-}t] \times W_d)$ where:

WACC	=	Weighted Average Cost of Capital
k_e	=	Cost of common equity capital
W_e	=	Percentage of common equity in the capital structure, *at market value*
$K_{d/(pt)}$	=	Cost of debt capital (pre-tax) for the company
t	=	Effective income tax rate for the company
W_d	=	Percentage of debt in the capital structure, *at market value*

Note that if the capital structure of the company includes preferred equity, the formula would change to reflect the third component as follows:

$$WACC = (k_p \times W_p) + (k_e \times W_e) + (k_{d/(pt)} [1\text{-}t] \times W_d)$$

Where k_p is the cost of preferred equity and W_p is the percentage of preferred equity in the capital structure at market time.

The WACC as computed is an "after-tax WACC" as it is normally applied to cash flows after entity-level taxes.

An important point to note in calculating the WACC for a privately-held company is that since no market values exist for the capital structure weightings, the analyst must *estimate* the market values in order to eventually arrive at their market value. Another point to note that the analyst will typically assume that the book value of the debt approximates its market value, particularly if the debt is from a third-party institution (i.e., bank).

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Calculation of the WACC for a privately-held company is a circular process and can be illustrated as follows:

Example:

Assume the following information applies to Terra Company:

1. *Book value* of long-term debt = $300,000 (30%)
2. *Book value* of common equity = $700,000 (70%)
3. Interest rate on the long-term debt = 5.0%
4. Cost of equity (using a build-up method) = 22%
5. Effective tax rate = 40%
6. Net cash flow to invested capital = $250,000

First Iteration

The analyst must first *estimate* the market values of the capital structure weightings and include the estimations in the formula. For this example, the book values are the first estimate of the market value weights. Applying the estimates to the WACC formula, the result is as follows:

$$\begin{aligned} WACC &= (k_e \times W_e) + (k_{d/(pt)} [1\text{-}t] \times W_d) \\ &= (0.22 \times 0.70) + (0.05 [1 - 0.40] \times 0.30) \\ &= (0.154) + (0.03 \times 0.30) \\ &= 0.154 + 0.009 \\ &= 0.163 \\ &= 16.3\% \end{aligned}$$

Proof – First Iteration

With the first iteration resulting in a WACC of 16.3%, the analyst then applies this to the net cash flow to invested capital to calculate a value. For this example a capitalization valuation model is used although a discounting valuation model could also be used. Using an assumed growth rate of 3.0% to calculate a capitalization rate, the proof calculation is as follows:

$$\begin{aligned} \text{Estimated value} &= \text{Net cash flow to invested capital} / (\text{WACC} - \text{Growth Rate}) \\ &= \$250{,}000 / (0.163 - 0.03) \\ &= \$250{,}000 / 0.133 \\ &= \$1{,}879{,}699 \end{aligned}$$

Subtracting the book value of the debt, $300,000, from the estimated value of $1,879,699 implies a market value of the equity of $1,579,699. This results in capital structure weights of 16% for debt and 84% for equity. The calculated weights are significantly different from the book value weights of 30% for debt and 70% for equity that the analyst started with. Therefore, the analyst must adjust the weightings and recalculate using a second iteration.

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Second Iteration

The calculated weights were lower for debt (15% vs. 30%) and higher for equity (85% vs. 70%) than the assumed weights. Using the first iteration as a guide, the analyst may adjust the capital structure weights to 20% for debt and 80% for equity. Including these amounts in the formula yields the following WACC calculation:

$$\begin{aligned} \text{WACC} &= (k_e \times W_e) + (k_{d/(pt)}\,[1\text{-}t] \times W_d) \\ &= (0.22 \times 0.80) + (0.05\,[1 - 0.40] \times 0.20) \\ &= (0.176) + (0.03 \times 0.20) \\ &= 0.176 + 0.006 \\ &= 0.182 \\ &= 18.2\% \end{aligned}$$

Proof – Second Iteration

Once again using an assumed growth rate of 3.0%, the proof of the second iteration is as follows:

$$\begin{aligned} \text{Estimated value} &= \text{Net cash flow to invested capital / (WACC – Growth Rate)} \\ &= \$250{,}000 / (0.182 - 0.03) \\ &= \$250{,}000 / 0.152 \\ &= \$1{,}644{,}737 \end{aligned}$$

The resulting calculated capital structure weights are:

Common equity	=	($1,644,737 - $300,000) / $1,644,737	=	81.7%
Long-term debt	=	$300,000 / $1,644,737	=	18.2%

Note that the calculated weights are much closer to the assumed weights, 81.7% vs. 80% for equity and 18.2% vs. 20% for debt, than in the first iteration. This implies that a WACC of 18.2% is reasonable for this company.

Additional iterations may be performed in order to arrive at calculated weights that are even closer to the assumed weights.

Practice Pointer

The process of going through these iterative calculations is greatly simplified by use of automated spreadsheet functions such as the Iteration function in Excel or BVM *Pro* will perform the iteration automatically.

Alternatively, here is an algebraic formula that bypasses the iterations:

$$E_{FMV} = \frac{NCF_{I/C} - D\,(C_D - g)}{C_E - g}$$

Legend:
E_{FMV} – Fair Market Value of Equity
$NCV_{I/C}$ – Net Cash Flow to Invested Capital
D – Total Interest Bearing Debt
C_D – After Tax Interest Rate
C_E – Cost of Equity
g – Long Term Sustainable Growth Rate

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B. WACC—WHICH CAPITAL STRUCTURE TO USE

As noted earlier, use of the WACC can add versatility to the valuation in that it can be developed based on a number of assumptions involving the company's debt in its capital structure. These assumptions can include greater debt, less debt, or debt under different terms and be based on the existing capital structure, a potential buyer's capital structure, an industry-average capital structure, or an optimal capital structure.

For example, if a controlling interest is being valued and the standard of value being used is fair market value, then the analyst can use an industry-average capital structure since a controlling interest would have the ability to change the capital structure of the company. On the other hand, if a non-controlling (minority) interest is being valued, the existing capital structure should be used as a non-controlling (minority) interest would not have the ability to change the existing capital structure.

If the analyst is valuing a controlling interest for a possible sale of the company and a potential buyer is known (investment value standard), then the potential buyer's capital structure or an optimal capital structure may be warranted for the calculation.

C. WACC—DETERMINING THE VALUE OF EQUITY

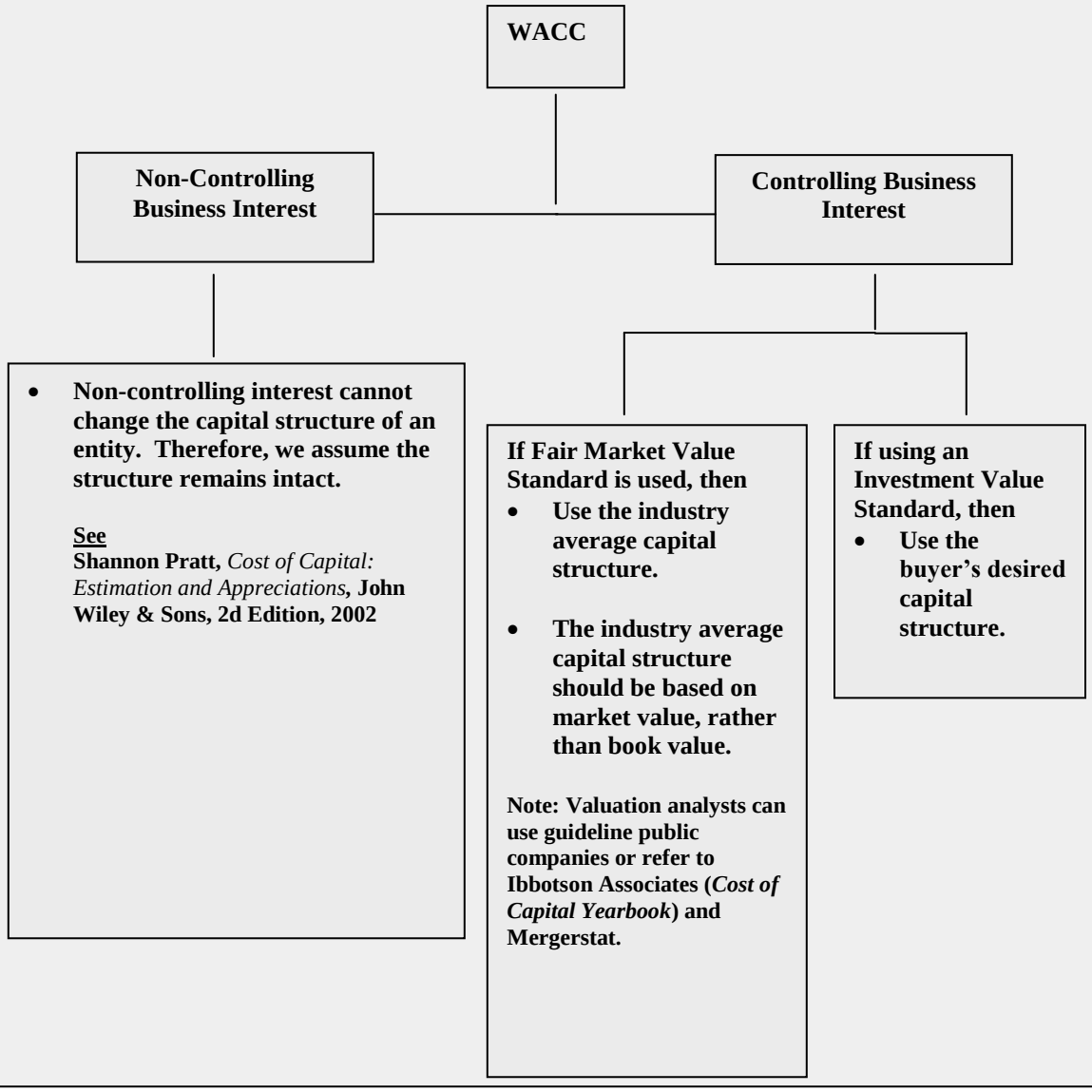
WACC is used primarily when the analyst is valuing the entire capital structure (debt plus equity) of a company and is applied to net cash flow to invested capital (see Chapter Four). WACC can still be used to value only the equity of a company. This is accomplished by calculating the value of the entire capital structure and then subtracting the company's debt, resulting in the value of the company's equity.

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Practice Pointer

- **The Weighted Average Cost of Capital (WACC) used to value a closely held business may differ depending on whether non-controlling or controlling interest is being purchased.**

  The following flow chart provides an overview of current practice



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Exercise

Calculate the WACC. Assume debt is $1,516,337, book value of shareholder's equity is $3,912.997, cost of debt is 7.0 percent, tax rate is 37.0 percent, risk-free rate is 4.8 percent, Beta is 1.15, equity risk premium is 7.2 percent, small stock premium is 2.86 percent and the company specific risk premium is 1.5 percent. Assume a weighted average net cash flow to invested capital of $983,600. In order to arrive at the market value of the equity the valuator will perform numerous reiterations or use the average industry capital structure. For this exercise, use $5,255,000 as the market value of the equity. This was arrived at by performing numerous reiterations of the WACC.

	Weight		**Weighted**
2005	5	$ 1,361,661	$ 6,808,305
2004	4	$ 836,342	3,345,368
2003	3	$ 521,057	1,563,171
2002	2	$ 707,770	1,415,540
2001	1	$ 721,829	721,829
	15		$ 13,854,213
			15
Weighted average (Rounded)			$ 923,600

Weighted average adjusted net income	$ 923,600
Non-cash charges (e.g. depreciation, amortization, deferred revenue, deferred taxes)	400,000
Capital expenditures necessary to support projected operations	(300,000)
(Additions) deletions to net working capital necessary to support projected operations	(100,000)
Interest expense (net of tax deduction resulting from interest as a tax deductible expense)	60,000
Weighted net cash flows to invested capital	$ 983,600

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Exercise

Calculate the weighted average cost of capital. Assume debt is $1,516,337 and book value of equity is $3,912,997, cost of debt is 7.0%, tax rate is 37.0% risk free rate is 4.8%, Beta is 1.15, equity risk premium is 8.28%, small stock premium is 2.86% and the company specific risk premium is 1.5%. Assume a weighted average net cash flow to invested capital of $983,600. Assume the equity at market value is $6,864,862. Use a long-term sustainable growth rate of 3.0%. Round percentages to four digits.

Sample Company
Weighted Average Cost of Capital (WACC)
December 31, 2005

	Amount	Percent
Debt	$	%
Equity (at market value)	$	%
Total	$	%

	Weight		Cost		1-Tax Rate		
Cost of Debt	%	x	%	x		=	%

	RF		ERP		SSP		SCR		
Cost of Equity		+		+		+		=	%
Weight								x	%
								=	%
Cost of Debt									%
Cost of Equity									%
WACC									%

Reiteration	
Weighted average net cash flow to invested capital	$ 983,600
Times 1 plus growth rate	1.03
Weighted average net cash flow to invested capital times growth rate	
WACC (discount rate)	%
Less growth rate	
WACC (capitalization rate)	
Total invested capital	
Less debt	
Market value of equity	

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V. MARKET MULTIPLES

Market multiples can help an analyst compare a privately held company to the market, based on expectations the public has of similar publicly traded companies. The valuation analyst will need to determine which, if any, of the market-based multiples might apply to the subject company. Using market data, the valuation analyst calculates a number of ratios, such as Price/Earnings, Price/Cash Flow, Price/Revenue, Dividend/Price and Price/Book Value, and uses these same ratios, if applicable, to calculate the value of a share in a privately held company.

A. PRICE EARNINGS RATIO (P/E)

Price Earnings is probably the most commonly used market method to describe the price of a share of stock. This method utilizes price/earnings (P/E) ratios of comparable publicly traded companies involved in the same industry as the subject company. The rate is determined by taking the inverse of the P/E ratios of publicly traded companies and calculating the weighted average of these inverted ratios, possibly using multiple time periods.

Proponents of this method argue that the inverse or reciprocal P/E ratio of public companies in the same industry as the subject company is the best available comparable capitalization or discount rate to utilize in valuing a small closely held business. P/E ratios are the inverse of the capitalization rate.

This method has some appeal due to the fact that P/E ratios for thousands of publicly traded companies are published daily.

The primary argument against this method is that large, diversified, publicly traded companies are not reasonably comparable for a smaller closely held business. Some reasons contributing to this conclusion are:

1. Minority interests versus controlling interest
2. Capital structure
3. Stock market fluctuations
4. Supply versus demand for particular stocks
5. Diversity in reported financial information

P/E ratios are based on earnings after depreciation, amortization, interest on all debt, compensation to all employees (including stockholder/employees) and all federal and state corporate income tax. In order to use a P/E ratio, the analyst must be working with an earnings figure that is similar in all respects.

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Exercise

Convert the Public Company P/E ratio to a capitalization rate

Sample Company
Historical Comparable Price Earnings Ratio
December 31, 2005

	Weights	2001	2002	2003	2004	2005
Weights		1	2	3	4	5
Category:						
Basset Furniture, Inc.	3	14.0	20.0	17.5	15.5	18.0
LADD Furniture	1	38.0	65.5	44.0	N/A	N/A
Kimbell	2	13.0	20.5	16.0	13.5	15.5
Pulaski	4	20.0	13.5	22.5	12.0	12.0
Weighted average price/earnings ratio multiplier						16.2
Convert public company P/E ratios to percentage (capitalization rate) (1 ÷ 16.2)						

B. PRICE/CASH FLOW (P/CF)

Price per share divided by cash flow.

1. Cash flow is typically defined, for purposes of this calculation, to be net income plus depreciation and amortization.
2. This measure is considered relevant for companies with high non-cash charges reflected in the income statement—usually found in depreciation and amortization.

C. PRICE/REVENUE (P/R)

Price per share divided by the revenue.

1. This multiple works well for service type companies, or those with few assets. These kinds of companies will often sell at prices related to their revenues.
2. The assumption behind this ratio is that a certain level of revenue will generate a certain "level" of earnings, or earnings potential. The higher the return on revenue (earnings divided by revenue) the higher the price to revenue will be.
3. A regression analysis can often be fit nicely to this market multiple.

D. DIVIDEND/PRICE (D/P)

Dividend divided by price is usually called the dividend yield.

1. Most closely held companies do not pay dividends due to the double taxation, making this approach to pricing a share of closely held stock difficult.
2. Some public stocks do not sell well based on dividend yield, as the companies pay minimal dividends or none at all. Others, such as Real Estate Investment Trusts (REITs), pay a high proportion of earnings as dividends and will have a correspondingly high yield. In either

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case, the decision to pay or not pay a dividend is not influenced by any minority owner, so the approach is probably irrelevant when valuing a minority interest.

3. Public or private companies, who do not pay dividends, may have the capacity to pay a dividend, which can be calculated. If the analyst can show such a payout would not appreciably deny the company its ability to finance operations and growth, price to dividend might be applicable.

An example of the Dividend Yield Capitalization Method is shown below:

Sample Company
Schedule of Dividend Yield Capitalization Method
December 31, 2005

	Weights	2001	2002	2003	2004	2005
Period weights		1	2	3	4	5
Puluski Furniture	4	2.00	1.00	2.50	2.80	3.00
Bassett Furniture	3	2.40	2.20	2.70	3.00	3.30
LADD Furniture	1	-	1.10	1.60	1.90	-
Kimball International	2	3.20	2.90	2.90	3.60	3.40
Additional (+) or (-) adjustments				-		
Weighted average dividend yield (capitalization rate)				2.67		

(As applied to dividends or dividend paying capacity)

Sample Company
Value Line or Standards & Poor's Guide (either may be used)
December 31, 2005

Year	Dividends (Adj)*	Net Income After Tax*	Percent	Weight	Weight x%
2001	57.200	238,985	24.00%	1	24.00%
2002	61.200	347,600	18.00%	2	36.00%
2003	61.200	404,600	15.00%	3	45.00%
2004	61.200	380,940	16.00%	4	64.00%
2005	57.200	380,837	15.00%	5	75.00%
				15	244.00%
					÷ 15
Weighted Average					16.27%

*The dividend payouts of publicly traded companies are reported on a pre-tax basis after corporate income tax. Therefore, the dividend paying capacity method is an after-tax method which is consistent with the type of earnings selected for the method of valuation. The dividend payouts for the comparable publicly traded companies were obtained from Value Line Investment Survey.

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E. PRICE/BOOK VALUE (P/BV)

The market price per share divided by book value per share.

1. Book value, or common equity, per share is total owners' equity minus preferred stock divided by the number of common shares outstanding.
2. The purpose of this ratio is to test whether the market price is worth more (or less) than the cost of the assets. If the result is greater than one, it indicates market value exceeds book value and can often be used as a sign of competent management.

F. EARNINGS PER SHARE (EPS)

EPS is net income minus preferred stock dividends divided by the number of common shares outstanding.

1. A trailing EPS is calculated for the past year.
2. The valuation analyst must also decide whether to make this calculation based on fully diluted earnings or primary (undiluted) earnings.

VI. THE RISK RATE COMPONENT MODEL (RRCM)

The RRCM[14] is a business build-up model designed to identify an appropriate capitalization rate based on the perceived risks associated with an enterprise. Many valuation analysts believe that a business build-up model is a better approach to use when the enterprise is considered too small for market data methods.

The RRCM begins by taking a safe or reasonable rate of return (e.g., intermediate term bond rate) and adds to that rate a weighted average risk premium for each of the following general risk factor categories:

Primary Factors

- Competition
- Financial strength
- Management ability and depth
- Profitability and stability of earnings

Other Factors to Consider

- National economic effects
- Local economic effects

The Risk Rate Component Model identifies more specific risk factors that fall within the four primary risk factor categories. Each of these specific risk factors is evaluated and assigned a risk premium percentage and then weighted according to the relative degree of influence it has on the general category where it resides. Then a weighted average of all of the specific risk factors for each category is calculated. These weighted averages then become the risk premium factors for each of

[14] Available in BVMPro.

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the general risk factor categories. The general risk categories can then be weighted relative to the perceived importance that each general category has relative to the others.

Section 5 of Revenue Ruling 59-60 requires the valuation analyst to use informed judgment when weighing the various factors or components. The valuation analyst using the RRCM should document in working papers how each component has been considered. Valuation analysts can reduce the subjective nature of the analysis of the various components by conducting site visits, gathering industry information, conducting interviews with managements and other informed persons and performing detailed analytical analysis through ratio analysis. Risk can be quantified in several ways: as weak, no effect, or strong; or High, Medium, Low and No Risk, or; Heavy, Moderate, Light, None. The valuation analyst setting up a quantification chart should be consistent in his or her application.

Each risk factor that can be analyzed in ratio analysis should, where possible, be compared to similar ratios from industry publications (e.g., RMA, etc.) in order to compare the position/performance of the subject company to comparable companies.

A. RRCM RISK FACTORS

The four general risk factor categories: Competition, Financial Strength, Management Ability and Depth and Profitability and Stability of Earnings are synthesized from the Black/Green Build-up Summation Method, the James Schilt Risk Premium Guidelines, The Complete Guide to Buying a Business by Arnold Goldstein (1983), How to Value a Small Business, Real Estate Today, by Harold S. Olafson (1984), Selling Your Business, Business Week, Bradley Hitchings (1985) and the BNA Tax Management: Estates, Gifts and Trusts Portfolios (221d) (1985).

The following table lists suggested underlying risk components the analyst should review for each category: Each risk component can be analyzed by ratio analysis [R], questionnaires to be completed with management [Q] or through other analysis and worksheets [A] [15].

[15] Suggested questionnaires and analytical worksheets can be found in The Value of Risk© 2001 and 2002, Hanlin and Claywell.

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RRCM Risk Factors

Competition		**Financial Strength**	
Q	Proprietary content, including patents and copyrights	R	Current ratio
A	Relative size of company	R	Quick ratio
Q	Relative product or service quality	R	Sales to working capital ratio
Q	Product or service differentiation	R	Accounts receivable to working capital ratio
Q	Covenant not to compete	R	Inventory to working capital ratio
Q	Market strength—competition	R	Net sales to inventory turnover
A	Market size and share	R	Total sales to assets
Q	Pricing competition	R	Net fixed assets to net worth
Q	Ease of market entry	R	Miscellaneous assets to net worth
	Other pertinent factors specific to the subject company	R	Total debt to net worth
		R	Total assets to total equity
Management Ability and Depth		R	Total debt to assets
R	Accounts receivable turnover	R	Long-term debt to equity
R	Accounts payable turnover	R	Interest coverage
R	Inventory turnover		Other pertinent factors specific to the subject company
R	Fixed asset turnover		
R	Total asset turnover	**Profitability and Stability of Earnings**	
R	Employee turnover	Q	Years in business
R	Management depth	Q	Industry life cycle
Q	Facilities condition	R	Return on sales (before taxes)
Q	Family involvement	R	Return on assets
Q	Books and records—quality and history	R	Return on equity
Q	Contracts for sales	R	Operating earnings growth rate
Q	Contracts for purchases	R	Sales growth rate
Q	Contracts for management	R	Trading ratio (sales to net worth)
Q	Contracts—other	R	Standard deviation
R	Gross margin		Other pertinent factors specific to the subject company
R	Operating margin		
R	Operating cycle		
	Other pertinent factors specific to the subject company		

The RRCM assumes the risk premiums and the safe rate of return are on a pre-tax basis; therefore, this method generates a capitalization rate for use on a pre-tax basis. If the valuator using the RRCM desires a discount rate, then a factor for long-term growth should be added.

A business build-up summation capitalization method below shows how the RRCM can work.

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Sample Company
Build-Up Summation Capitalization Method
December 31, 2005

Risk Factor (by General Category):	
Competition	6.44
Financial Strength	4.00
Management Ability and Depth	5.33
Profitability and Stability of Earnings	4.00
Total Weighted Average Risk Factor Premiums	19.77
Calculation of Capitalization Rate:	
Total weighted average risk factor premium	19.77
Assumed safe rate of return (Standard & Poors)	4.80
National economic premium (or discount)	2.00
Local economic premium (or discount)	2.00
Indicated pre-tax capitalization rate (rounded)	28.57

	Risk Index	**Weight**	
Competition			
Proprietary content	8.00	1.00	8.00
Relative size of company	8.00	1.00	8.00
Relative products/service quality	4.00	1.00	4.00
Product/service differentiation	6.00	1.00	6.00
Market strength	8.00	1.00	8.00
Market size and share	8.00	1.00	8.00
Pricing competition	6.00	1.00	6.00
Ease of market entry	2.00	1.00	2.00
Patent/copyright protection	8.00	1.00	8.00
Other considerations	-	-	-
Competition weighted average		9.00	6.44
Financial			
Total debt to assets	4.00	1.00	4.00
Long-term debt to equity	4.00	1.00	4.00
Current ratio	4.00	1.00	4.00
Quick ratio	4.00	1.00	4.00
Interest coverage	4.00	1.00	4.00
Other considerations	-	-	-
Financial weighted average		5.00	4.00

Continued on next page

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	Risk Index	Weight	
Management			
Accounts receivable turnover	8.00	1.00	8.00
Inventory turnover	6.00	1.00	6.00
Fixed asset turnover	6.00	1.00	6.00
Total asset turnover	6.00	1.00	6.00
Employee turnover	4.00	1.00	4.00
Management depth	4.00	1.00	4.00
Facilities condition	2.00	1.00	2.00
Family involvement	6.00	1.00	6.00
Books and records quality and history	2.00	1.00	2.00
Contracts	8.00	1.00	8.00
Gross margin	8.00	1.00	8.00
Operating margin	4.00	1.00	4.00
Other considerations	-	-	-
Management weighted average		12.00	5.33
Stability			
Years in business	4.00	1.00	4.00
Industry life cycle	4.00	1.00	4.00
Return on sales	4.00	1.00	4.00
Return on assets	4.00	1.00	4.00
Return on equity	4.00	1.00	4.00
Other considerations	-	-	-
Stability weighted average		5.00	4.00

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BUSINESS VALUATIONS:

APPLICATIONS AND CALCULATIONS

USING THE INCOME AND ASSET APPROACHES

CHAPTER 5

REVIEW QUESTIONS

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BV: APPLICATIONS AND CALCULATIONS USING THE INCOME AND ASSET APPROACHES

CHAPTER REVIEW QUESTIONS

Chapter 5: Capitalization/Discount Rates

1. When using the Build-Up Method, which of the following would be used as "Equity Risk Premium"?

   a. Short-term expected risk on large equity securities on the S&P 500
   b. Expected mid-capitalization equity size premium
   c. Long-term U.S. Treasury Bond Yield
   d. Long-horizon expected equity risk premium: Large company stock returns minus long-term government bond income returns

2. Regarding the equity risk premium and size premiums found in the Ibbotson data, which of the following statement(s) is correct?

   a. The specific company risk is also considered systematic risk.
   b. The short-term arithmetic average equity risk premium is the best proxy for today's equity risk premium.
   c. The Ibbotson premiums are not industry specific.
   d. You do not have to calculate specific company risk when the company you value does not approach the size of a publicly traded company.

3. The specific company risk is also defined as the unsystematic risk? What does this risk measure?

   a. This risk measures the uncertainty of returns arising from other factors such as industry and individual company factors.
   b. This risk measures the well-balanced rate of return that the investor wants.
   c. This risk measures the stability of long-term historical returns.
   d. This risk measures the size premium risk of mid-cap equities.

4. Which of the following would not be considered a Company Specific Factor when calculating specific company risk premium?

   a. The expected return on the security
   b. Abnormal present or pending competition
   c. Pending regulatory changes
   d. Concentration of customer base

5. By definition, the Build-Up Method using Ibbotson or Duff & Phelps data calculates a rate to be applied to which of the following?

   a. After-Tax Net Income
   b. After-Tax Net Cash Flows
   c. Pre-Tax Net Income
   d. EBITDA

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6. What method for determining a capitalization or discount rate is based on the theory that investors in risky assets require a rate of return above and beyond a risk-free rate as compensation for bearing the risk associated with holding the investment?

    a. Build-Up
    b. Modified CAPM
    c. WACC
    d. RRCM

7. Which of the following is probably the most commonly used market method to describe the price of a share of stock?

    a. WACC
    b. Dividend/Price
    c. S & P 500
    d. Price/Earnings Ratio

8. What is the primary argument against using the Price/Earnings Ratio method to value closely held companies?

    a. Large, diversified, publicly traded companies are not reasonably comparable for a smaller closely held business.
    b. P/E ratios are based on earnings after interest and taxes.
    c. P/E ratios are the inverse of the capitalization rate.
    d. P/E ratios are difficult to calculate for public companies.

10. Which of the following statements are true for the RRCM (buildup summation capitalization method)?

    a. This build-up method uses the large-capitalization and small-capitalization premiums from Ibbotson.
    b. RRCM risk factors are Competition, Financial Strength, Management Ability and Depth, and Profitability and Stability of Earnings.
    c. The RRCM method is favored over Ibbotson or CAPM for valuing small businesses.
    d. No working paper documentation is required with the RRCM method.

11. The following is the primary formula for the Build-Up Method using Ibbotson data:

    a. Rf + ERP + IRPi + SP + SCR
    b. Rf +B(ERm-Rf)+SP
    c. Rf +B(ERm-Rf)+SP+SCR
    d. (ke x We) + (Kd/(pt)(1-t)x Wd)

12. The Size Premium found in the Ibbotson data is:

    a. The return an investor would have received in excess of the return on Treasury securities by the S&P 500.
    b. The extra return a willing investor would expect to receive over the large equity security by investing in smaller equity securities.
    c. Risk associate with specific industries.
    d. Risk associated with characteristics of the Company.

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13. Using the Build-Up Method to determine the capitalization rate for the current year, a valuator would:

    a. Do nothing. The Build-Up Method provides a capitalization rate based on current year cash flow.
    b. Divide by 1-the growth rate
    c. Multiply by 1 – growth rate.
    d. Divide by 1+ the growth rate

14. Which of the following is not an assumption of the Capital Asset Pricing Model?

    a. Investors are risk adverse
    b. Rational investors seek to hold portfolios, which are fully diversified.
    c. Not all investors have identical investment holding periods
    d. All investors have the same expectations regarding the expected rate of return.

15. The difference between CAPM and Modified CAPM:

    a. Modified CAPM does not include company specific risk
    b. Modified CAPM takes into consideration company specific risk
    c. Beta
    d. Size premium

16. Duff & Phelps can be used to determine:

    a. An appropriate risk free rate
    b. The supply side adjustment
    c. The equity risk premium
    d. Company specific risk

17. Which of the following is not a criterion companies must meet to be included in the Duff & Phelps equity risk premium?

    a. Must be included in both the CRSP and CompUSA data base
    b. Must be publicly traded for 5 years
    c. Must have sales greater than $1 Million
    d. Must have a positive 5 year EBITDA

18. Duff & Phelps has a separate equity risk premium exhibit specifically for CAPM.

    a. True
    b. False

19. Which methodology to determine a capitalization rate, considers debt and equity of a company?

    a. Build up
    b. Duff & Phelps
    c. Weighted Average Cost of Capital
    d. Capital Asset Pricing Model.

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CHAPTER SIX

VALUATION METHODS

I. ASSET-BASED APPROACH: ADJUSTED NET ASSETS METHOD

The Adjusted Net Assets Method is an asset-oriented approach. This method is used to value a business based on the difference between the fair market value (FMV) of the business assets and its liabilities. Depending on the particular purpose or circumstances underlying the valuation, this method sometimes uses the replacement or liquidation value of the company's assets less the liabilities. Under this method, the analyst adjusts the book value of the assets to fair market, replacement, or liquidation values, and then reduces the total adjusted value of assets by the FMV of any recorded or unrecorded liabilities. Tangible as well as intangible assets are valued in determining total adjusted net assets. If the analyst will be relying on other professional appraisers for values of certain tangible assets, the analyst should be aware of the standard of value used for the appraisal. This method is used to derive a total value for the business or for component parts of the business.

The Adjusted Net Assets Method is a sound method for estimating the value of a non-operating business, e.g., holding or investment companies. It is also a good method for estimating the value of a business that continues to generate losses or which is to be liquidated.

Some valuators believe the Adjusted Net Assets Method sets a "floor value" for determining total entity value. In a valuation of a controlling interest where the business is a going concern, there would have to be a reason why the controlling owner would be willing to take less than the business's asset value. However, if the Adjusted Net Asset Method results in a higher value than the income or market approaches, you need to carefully review the fair market value of the assets to determine whether the fair market values are overstated. This might occur where the assets are underperforming, resulting in a value estimate less than the adjusted net assets value but more than the liquidation value.

The negative aspect to this method is that it ignores the business's operating earnings. Therefore, it would be inappropriate to use this method to value intangible assets, such as patents or copyrights, which are typically valued and based on operating earnings, e.g., royalties. However, replacement cost methodology may be utilized in determining values of intangibles, e.g., patents.

Exercise

Calculate the adjusted net assets. Assume that your analysis of the net assets indicated that $200,000 of the cash is excess cash, reserve for bad debts is $163,000, LIFO reserve is $312,600, fair market value of the property, plant and equipment is $2,500,000, the fair market value of the art and condo (non-operating assets) is $450,000. You should treat the excess cash, art and condo as non-operating assets. Net present value of deferred taxes on built-in gains is $190,000, of which $50,000 is attributable to the non-operating assets.

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Sample Company
Schedule of Adjusted Assets
December 31, 2005

Assets	Book Value	Adjustments	Market Value
Current assets			
Cash	$ 896,406	$	$
Accounts receivable	2,166,908		
Inventories	2,994,742		
Other current assets	88,600		
Total current assets	6,146,656		
Property, plant and equipment (net of depreciation)			
Property, plant and equipment	2,144,453		
Land	-		
Total property, plant and equipment	2,144,453		
Other assets			
Deposits	110,000		
Art and condo – net of depreciation	270,406		
Total other assets	380,406		
Total assets	$ 8,671,515	$	$

Sample Company
Schedule of Adjusted Liabilities
December 31, 2005

Liabilities	Book Value	Adjustments	Market Value
Current liabilities			
Notes payable	$ 247,800	$	$
Accounts payable	1,137,600		
Current maturity of long-term debt	127,285		
Other current liabilities	769,200		
Total current liabilities	2,281,885		
Long-term liabilities			
Notes payable	695,793		
Other long-term debt	593,259		
Deferred income taxes	-		
Total long-term liabilities	1,289,052		
Total liabilities	$ 3,570,937	$	$
Net book value	$ 5,100,578		
Net operating assets			
Non-operating assets (fair market value net of deferred tax)			
Adjusted net tangible assets			$

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Sample Company
Adjusted Net Asset Method Summary
December 31, 2005

Adjusted net asset value (from previous exercise)	$	5,595,319	
Shares outstanding			
Per share value			
Discount – First discount or premium:			
Lack of control discount percentage			%
Lack of control discount			
Adjusted per share value			
Discount – Second discount or premium:			
Lack of marketability discount percentage			%
Lack of marketability discount			
Adjusted per share value			
Number of shares valued			
Value of 100% equity (on a non-marketable basis)			

Assumptions:
1 Sales of 100% equity interest
2 Business brokering commissions would be between 3% and 4%.
3 Professional services for the sale of the Company would be between 1% and 2%
4 Use marketability discount of 5%. No control premium
5 Total shares outstanding are 100,000

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II. INCOME APPROACH: CAPITALIZATION OF EARNINGS METHOD

The Capitalization of Earnings Method[1] is an income-oriented approach. This method is used to value a business based on the future estimated earnings to be generated by the company. These estimated future earnings are then capitalized using an appropriate capitalization rate. This method assumes all of the tangible or intangible assets are indistinguishable parts of the business and does not attempt to separate the two values. In other words, the critical component to the business value is its earnings. This method expresses a relationship between the following:

- Estimated future earnings amount
- Yield (rate of return) on the total investment (capitalization rate)
- Estimated business value

Any income or expense items generated from non-operating related assets and liabilities should be removed prior to applying this method.

This method is more theoretically sound in valuing a profitable business where the investor's intent is to provide for a return on investment (ROI) above a reasonable compensation amount, and future benefits streams or earnings are likely to be even.

Exercise

Calculate the value of 100% equity interest using the capitalization of earnings methodology. Use the following benefit stream in your calculation. Use the assumptions below the exercise to complete the calculation.

Weighted average net income	$	923,600
Non-cash charges (e.g. depreciation, amortization, deferred revenue, deferred taxes)		400,000
Capital expenditures necessary to support projected operations		(300,000)
(Additions) deletions to net working capital necessary to support projected operations		(100,000)
Changes in long-term debt from borrowing necessary to support projected operations		-
Changes in long-term debt for repayments necessary to support projected operations		(100,000)
Weighted net cash flows to equity	$	823,600

[1] BVM *Pro* provides this important income method. BVM *Pro* is available from NACVA (800-677-2009) and ValuSource (800-825-8763).

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Sample Company
Capitalization of Earnings Method
December 31, 2005

Benefit stream	$	
Capitalization rate		
Value of the business before non-operating assets		
Non-operating assets		
Value of the business		
Shares outstanding		
Per share value		
Discount – First discount or premium:		
Lack of control discount percentage		%
Lack of control discount		
Adjusted per share value		
Discount – Second discount or premium:		
Lack of marketability discount percentage		%
Lack of marketability discount		
Adjusted per share value		
Number of shares valued		
Value of 100% equity (on a non-marketable basis)	$	

Assumptions:

1 Sale of 100% equity interest
2 Business brokering commissions would be between 3% and 4%
3 Professional services for the sale of the Company would be between 1% and 2%
4 Use marketability discount of 5%. No control premium
5 Total shares outstanding are 100,000
6 Type of benefit stream – weighted average of net cash flows to equity
7 Capitalization rate is 17.97% – see Ibbotson Build-Up Method – Chapter Five
8 Long-term sustainable growth rate of 3%
9 Non-operating assets are $600,000

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Exercise

Calculate the value of 46% equity interest using the capitalization of earnings methodology. Use the following benefit stream in your calculation. Use the assumptions below the exercise to complete the calculation:

Unweighted average net income	$	829,700
Non-cash charges (e.g. depreciation, amortization, deferred revenue, deferred taxes)		400,000
Capital expenditures necessary to support projected operations		(300,000)
(Additions) deletions to net working capital necessary to support projected operations		(100,000)
Changes in long-term debt from borrowing necessary to support projected operations		-
Changes in long-term debt for repayments necessary to support projected operations		(100,000)
Unweighted net cash flows to equity	$	729,700

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Sample Company
Capitalization of Earnings Method
December 31, 2005

Benefit stream	$	
Capitalization rate		
Value of the business before non-operating assets		
Non-operating assets		
Value of the business		
Shares outstanding		
Per share value		
Discount – First discount or premium:		
Lack of control discount percentage		%
Lack of control discount		
Adjusted per share value		
Discount – Second discount or premium:		
Lack of marketability discount percentage		%
Lack of marketability discount		
Adjusted per share value		
Number of shares valued		
Value of 46% equity (on a non-marketable basis)	$	

Assumptions:

1 Sale of 46% equity interest
2 Minority interest discount of 20%
3 Marketability discount of 28%
4 Type of benefit stream – unweighted average of net cash flows to equity
5 Total shares outstanding are 100,000
6 Capitalization rate use 14.02% – see capital asset pricing model – Chapter Five
7 Long-term sustainable growth rate of 3%
8 Non-operating assets are $600,000

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III. DISCOUNTED EARNINGS METHOD

The Discounted Earnings Method is sometimes referred to as the Discounted Cash Flow Method[2], which suggests the only type of earnings to be valued, using this method, would be some definition of cash flow, such as operating cash flow, after-tax cash flow, or discretionary cash flow. The Discounted Earnings Method is more general in its definition as to the earnings that can be used.

The Discounted Earnings Method allows several possible definitions of earnings. It does not limit the definition of earnings only to cash flows. The Discounted Earnings Method is an income-oriented approach. It is based on the theory that the business's total value is the present value of its projected future earnings plus the present value of the terminal value. This method requires a terminal value assumption be made. The amounts of projected earnings and the terminal value are discounted to the present using an appropriate discount rate rather than a capitalization rate.

A. DESCRIPTION

The Discounted Earnings Method of valuing a closely held business utilizes the following four steps:

1. Determine the estimated future earnings of the business. In this example, we have projected for five years and have assumed no growth beyond this period.
2. A terminal, or residual value, is often determined at the end of the fifth year. The often used terminal value is the fifth-year earnings projected into perpetuity.
3. The determined discount rate incorporates an appropriate safe rate of return, adjusted to reflect the perceived level of risk for the business being valued.
4. The estimated future earnings and the terminal value are discounted to the present using the discount rate determined in Step 3 and summed. The resulting figure is the total value of the business using this method.

[2] BVM *Pro* provides this income method. BVM *Pro* is available from NACVA (800-677-2009) and ValuSource (800-825-8763).

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Exercise

Calculate the value of a 100% interest using the discounted earnings method. The projected future cash flows, discount factor, net present value, and terminal value as shown below were calculated in an earlier exercise in Chapter Four. See assumptions at the bottom of the next page.

Net cash flow to equity discount rate: 21.5%

NPV Formula: (1/(1+Discount rate)^(N-.5))

2006	$ 1,279,627	90.7181%	$ 1,160,853
2008	1,332,177	74.6590%	994,590
2008	1,386,127	61.4427%	851,673
2009	1,441,647	50.5659%	728,982
2010	1,498,647	41.6146%	623,656
Net present value of future cash flows			4,359,754

Net cash flow to equity capitalization rate next year: 18.51%

2010	$ 1,498,647		
Growth rate factor	103%		
Cash flows with growth	$ 1,543,600 (rounded)		
Capitalization rate	18.51%		
Terminal value	$ 8,339,276	41.6146	3,470,356

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Sample Company
Discounted Future Earnings Method
December 31, 2005

Benefit stream – present value of projected cash flows to equity	$	
Present value of residual (terminal value)		
Value of the business before non-operating assets		
Non-operating assets		
Value of business		
Shares outstanding		
Per share value		
Discount – First discount or premium:		
Lack of control discount percentage		%
Lack of control discount		
Adjusted per share value		
Discount – Second discount or premium:		
Lack of marketability discount percentage		%
Lack of marketability discount		
Adjusted per share value		
Number of shares valued		
Value of 100% equity	$	

Assumptions:
1 Sale of 100% equity interest
2 Business brokering commissions would be between 3% and 4%
3 Professional services for the sale of the Company would be between 1% and 2%
4 Use marketability discount of 5%. No control premium
5 Total shares outstanding are 100,000
6 Type of benefit stream—projected net cash flows to equity
7 Discount rate—use Ibbotson Build-Up Method
8 Long-term sustainable growth rate of 3%
9 Non-operating assets are $600,000

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IV. INCOME APPROACH: EXCESS EARNINGS (RETURN ON ASSETS OR ROA) TREASURY METHOD

The Excess Earnings Treasury Method is a derivative method stemming from what is often called the Excess Earnings Return on Assets Method. This method acquired its name from the Internal Revenue Service (IRS) in ARM 34 and Revenue Ruling 68-609. Unlike the other methods discussed thus far, this method is an income-based and asset-based approach to arrive at a value for closely held businesses. Its theoretical premise is that the total estimated value of a business is the sum of the values of the adjusted net assets (as determined by the adjusted net assets method) and the value of the intangible assets. The determination of the value of the business's intangible assets is made by capitalizing the business's earnings that exceed an industry rate of return on the business's GAAP net tangible assets.

A. DESCRIPTION

A business valuation using the Excess Earnings Treasury Method utilizes the following nine steps:

1. Determining the company's estimated future earnings. Usually this is the historical economic unweighted or weighted average earnings over the last five years, adjusted for any non–recurring items or any other normalizing adjustments.
2. Determining the unweighted or weighted average of the Generally Accepted Accounting Principles (GAAP) (or tax basis) net tangible assets. This calculation should exclude goodwill or other intangible assets, the value of which is also to be estimated by this method. The analyst uses GAAP net assets in this step to ensure as much comparability with industry data as possible, from which an industry rate of return will be obtained in the third step.
3. Selecting an industry rate of return to apply to the GAAP net tangible assets, the value of which was determined in the second step. The most appropriate rate of return is the average return on assets (weighted or unweighted) for comparable companies, or as determined from industry averages.
4. Multiply the value of the GAAP net tangible assets of the business, as determined in Step 2, by the rate of return determined in the third step. The product is that portion of total business earnings attributable to an industry rate of return on the weighted average or unweighted average net adjusted assets.
5. The earnings determined in Step 4 are then subtracted from the total earnings determined in the first step. The difference is the excess earnings attributable to the intangible assets being valued by this method.
6. Select a capitalization rate, which corresponds to an appropriate rate for a safe return, adjusting it accordingly to reflect the perceived level of risk associated with the company.
7. The amount of excess earnings determined in Step 5 is divided by the capitalization rate determined in the sixth step. The derived amount is the estimated total value of intangible assets.
8. Determine the current adjusted net assets at FMV utilizing the FMV adjusted net assets method. This determination excludes goodwill and all other intangible assets.
9. The final step in valuing the entire business is the addition of the intangible assets value (determined in Step 7) to the adjusted net tangible assets (determined in Step 8).

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Exercise

Calculate the value of a 100% interest using the excess earnings return on assets (treasury) method. Use the following benefit stream as previously calculated. See assumptions at the end of this exercise for additional guidance.

Weighted Average Historical Net Assets

	Weight	Historical		Weighted
2005	5	$5,100,578	$	25,502,890
2004	4	$3,762,260		15,049,040
2003	3	$3,009,968		9,029,904
2002	2	$2,558,966		5,117,932
2001	1	$1,930,047		1,930,047
	15		$	56,629,813
Weighted average net assets				3,775,321
Less non-operating assets (assumes constant past 5 years)				(470,406)
Weighted average net operating assets			$	3,304,915

Weighted Average Adjusted Net Income

	Weight			Weighted
2005	5	$1,361,661	$	6,808,305
2004	4	836,342		3,345,368
2003	3	521,057		1,563,171
2002	2	707,770		1,415,540
2001	1	721,829		721,829
	15		$	13,854,213
				15
Weighted average (Rounded)			$	923,600

Weighted Average Return on Equity

	ROE	Weight	Weighted
2005	14.2	5	71.00
2004	11.1	4	44.40
2003	24.1	3	72.30
2002	23.8	2	47.60
2001	19.9	1	19.90
		15	225.20
Weighted average of ROE			17.01

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Sample Company
Excess Earnings Return on Assets (Treasury) Method
December 31, 2005

Benefit stream			$	
Weighted average net GAAP operating assets				
Weighted average industry rate of return		%		
Return on net GAAP operating assets				
Excess earnings over industry rate of return on GAAP operating assets				
Capitalization rate				%
Value of the intangible assets				
Value of the adjusted net assets				
Value of the business				
Shares outstanding				
Per share value				
Discount –First discount or premium:				
Lack of control discount percentage				%
Lack of control discount				
Adjusted per share value				
Discount – Second discount or premium:				
Lack of marketability discount percentage				%
Lack of marketability discount				
Adjusted per share value				
Number of shares valued				
Value of 100% equity			$	

Assumptions:
1 Sale of 100% equity interest
2 Business brokering commissions would be between 3% and 4%
3 Professional services for the sale of the Company would be between 1% and 2%
4 Use marketability discount of 5%. No control premium
5 Total shares outstanding are 100,000
6 Type of benefit stream – weighted average adjusted net income
7 Capitalization rate – use Ibbotson Build-Up Method – Chapter Five
8 Long-term sustainable growth rate of 3%
9 The weighted average net GAAP operating assets are $3,304,915
10 Assume the weighted average industry rate of return in 17.01%
11 Adjusted net tangible assets is $5,595,319

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V. EXCESS EARNINGS (RETURN ON ASSETS) REASONABLE RATE METHOD

The Excess Earnings Reasonable Rate Method (formally referred to as Safe Rate Method) is another derivative of the Excess Earnings Return on Assets Method. This method acquired its name because it applies a reasonable rate of return to the adjusted net assets rather than an industry rate of return as in the Excess Earnings Treasury Method. Another distinction between this method and the Excess Earnings Treasury Method is the reasonable rate of return is applied to the latest year's balance of adjusted net assets rather than to an unweighted or weighted average of net assets (as in the Excess Earnings Treasury Method). Similar to the Excess Earnings Treasury Method, this method is an income-oriented and asset-oriented approach. It is also based on the theory that a business's total value is the sum of the adjusted net assets and the value of the intangibles as determined by capitalizing the business's excess earnings. The amount of earnings capitalized is those earnings, which exceed a reasonable rate of return on the business's adjusted net assets.

A. DESCRIPTION

To value a business using the Excess Earnings Reasonable Rate Method, follow these eight steps:

1. Determine the company's estimated future earnings.
2. Determine the current adjusted net assets at FMV utilizing the FMV adjusted net assets method. This determination must exclude goodwill and other intangible assets.
3. Select a reasonable rate of return to apply to adjusted net assets whose value was determined in the second step. The rate chosen should correspond to the relative liquidity and risk of the underlying assets to which it is being applied.
4. Multiply the value of the adjusted net tangible assets of the business determined in Step 2 by the rate of return determined in the third step. The product is the portion of total earnings attributable to a return on adjusted net assets. Adjusted net assets exclude intangible assets of any kind.
5. The earnings determined in Step 4 are subtracted from the total earnings determined in the first step. The difference is the excess earnings considered attributable to the intangible assets being valued by this method.
6. Select a capitalization rate that corresponds to an appropriate rate for a reasonable return and adjusted for any perceived level of risk and other relevant concerns associated with the company.
7. The amount of excess earnings determined in Step 5 is divided by the capitalization rate selected in Step 6 to arrive at the estimated value of the intangible assets.
8. The final step in valuing the entire business is the mere addition of the value of the intangible assets (determined in Step 7) to the value of the adjusted net tangible assets (determined in Step 2).

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Exercise

Calculate reasonable rate of return. Assume an effective income tax rate of 37%.

Sample Company
Reasonable Rate of Return
December 31, 2005

Asset Descriptions	FMV	% Leverage	Borrowing Capacity	Cost of Capital	Interest
Cash	$ 696,406	100.00%	$ 696,406	5.50%	$ 38,302
Accounts receivable	2,003,908	80.00%	1,603,126	7.00%	112,219
Inventories	3,307,342	50.00%	1,653,671	7.00%	115,757
Other current assets	88,600	0.00%	-	0.00%	-
Property and equipment	2,500,000	60.00%	1,500,000	7.00%	105,000
Land	-	60.00%	-	0.00%	-
Total	$ 8,596,256		5,453,203		371,278
Tax effect					63.000%
After tax cost of capital					233,905
Equity capital			3,143,053	17.97%	564,807
Total capital			$ 8,596,256		$ 798,712

	Cost of Cap/ Capital	Reasonable Rate of Return
Cost of capital		
Market value of capital		
		Round 2 digits

Exercise

Calculate the value of 100% interest using the excess earnings return on assets reasonable rate method. Use the following benefit stream as previously calculated. See assumptions at the end of the exercise on the next page for additional guidance.

	Weight		Weighted
2005	5	$1,361,661	$ 6,808,305
2004	4	$ 836,342	3,345,368
2003	3	$ 521,057	1,563,171
2002	2	$ 707,770	1,415,540
2001	1	$ 721,829	721,829
	15		$ 13,854,215
			15
Weighted average (Rounded)			$ 923,600

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Sample Company
Excess Earnings Return on Assets Reasonable Rate Method
December 31, 2005

Benefit stream			$	
Adjusted net operating assets				
Reasonable rate of return		%		
Reasonable rate of return on adjusted net operating assets				
Excess earnings over reasonable rate				
Capitalization rate				%
Value of the intangible assets				
Value of the adjusted net tangible assets				
Value of the business				
Shares outstanding				
Per share value				
Discount – First discount or premium:				
Lack of control discount percentage				%
Lack of control discount				
Adjusted per share value				
Discount – Second discount or premium:				
Lack of marketability discount percentage				%
Lack of marketability discount				
Adjusted per share value				
Number of shares valued				
Value of 100% equity			$	

Assumptions:
1 Sale of 100% equity interest
2 Business brokering commissions would be between 3% and 4%
3 Professional services for the sale of the Company would be between 1% and 2%
4 Use marketability discount of 5%. No control premium
5 Total shares outstanding are 100,000
6 Type of benefit stream – weighted average adjusted net income
7 Capitalization rate – use Ibbotson Build-Up Method – Chapter Five
8 Long-term sustainable growth rate of 3%
9 The reasonable rate of return on adjusted net operating assets is 9%
10 Adjusted net operating assets is $4,995,319
11 Adjusted net tangible assets is $5,595,319

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VI. MARKET APPROACH: PRICE/EARNINGS (P/E) RATIO METHOD

This is one of the many market data methods; however, other definitions of the denominator (other than earnings or net income) can be applied, e.g., cash flow, EBIT, EBITDA.

The P/E Ratio Method is an income-oriented approach, similar to the capitalization of earnings method. The difference between the two lies in the differences between the type of earnings used and the source of the capitalization rate used in the valuation calculations.

This method values a business by calculating the future estimated net income (after-tax) to be produced by the business and then capitalizing these earnings using a weighted-average, comparable P/E ratio of publicly traded companies. Although it should be considered, this method is rarely used when valuing smaller, closely held companies.

P/E ratios (as a multiplier), or the inverse of the P/E ratios (as a divisor), are typically obtained from comparable publicly traded companies as reported by the various reporting services, e.g., Value Line, Standard & Poor's. The earnings portion of the P/E ratio is represented by net after-tax income of comparable companies, necessitating the use of net after-tax income for the subject company in estimating future earnings when making the valuation calculations.

Exercise

Calculate the value of 100% interest using the price earnings ratio method. The unweighted average adjusted net income as previously calculated is shown below. The P/E ratio and corresponding capitalization rate as previously calculated is also shown below. The assumptions are at the bottom of the next page.

	Weights	**2001**	**2002**	**2003**	**2004**	**2005**
Weights		1	2	3	4	5
Category						
Bassett Furniture Inc.	3	14.0	20.0	17.5	15.5	18.0
LADD Furniture	1	38.0	65.5	44.0	N/A	N/A
Kimbell	2	13.0	20.5	16.0	13.5	15.5
Pulaski	4	20.0	13.5	22.5	12.0	12.0
Weighted average price / earnings ratio multiplier						16.2
Convert public company P/E ratios to percentage (capitalization rate)						6.17%

2005	$ 1,361,661
2004	836,342
2003	521,057
2002	707,770
2001	721,829
	$ 4,148,659
	5
Unweighted average (Rounded)	$ 829,700

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Sample Company
Price Earnings Ratio Method
December 31, 2005

Benefit stream	$	
Capitalization rate		%
Value of the business before non-operating assets		
Non-operating assets		
Value of business		
Shares outstanding		
Per share value		
Discount – First discount or premium:		
Lack of control discount percentage		%
Lack of control discount		
Adjusted per share value		
Discount – Second discount or premium:		
Lack of marketability discount percentage		%
Lack of marketability discount		
Adjusted per share value		
Number of shares valued		
Value of 100% equity	$	

Assumptions:
1 Sale of 100% equity interest
2 Business brokering commissions would be between 3% and 4%
3 Professional services for the sale of the Company would be between 1% and 2%
4 Use marketability discount of 5%. No control premium
5 Total shares outstanding are 100,000
6 Type of benefit stream—unweighted average net income
7 Capitalization rate—public company P/E ratios
8 Long-term sustainable growth rate of 3%
9 Non-operating assets are $600,000

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VII. MARKET APPROACH: DIVIDEND PAYING CAPACITY METHOD

The Dividend Paying Capacity Method, sometimes referred to as the Dividend Payout Method, is another income-oriented approach based on market data, similar to the Capitalization of Earnings Method. The difference between this method and the Capitalization of Earnings Method lies in the difference in the type of earnings used in the calculations and the source of the capitalization rate. This valuation method is based on the future estimated dividends to be paid out or the capacity to pay out. It capitalizes these dividends with a five-year weighted average of dividend yields of five comparable companies. This method must be considered for estate and gift tax purposes per Revenue Ruling 59-60.

A. DESCRIPTION

This method expresses a relationship among the following:

1. Estimated future amount of dividends to be paid out or the capacity to pay out
2. Weighted average comparable company dividend yields of comparable companies, further weighted by degree of comparability each year utilizing a sufficient number of comparable companies (generally more than three)
3. Estimated business value

This method is useful for estimating the value of businesses that are large and that have had a history of paying dividends to shareholders. It is highly regarded because it utilizes market comparisons.

Similar to the P/E Ratio Method, this method may not be appropriate for valuing most small businesses because they do not have comparable counterparts in the publicly traded arena. Another problem with this method is that most closely held businesses avoid paying dividends. For tax reasons, compensation is usually the preferred method of disbursing funds.

In determining dividend-paying ability, liquidity is an important consideration. A relatively profitable company may be illiquid as funds are needed for fixed assets and working capital.

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Exercise

Calculate the value of 100% interest using the dividend paying capacity method. The dividend payout as previously calculated and the dividend yield as previously calculated are shown below. The benefit stream is weighted average adjusted net income as shown below. Assumptions are provided at the bottom of the next page.

Year	Dividends (ADJ)	Net Income After Tax	Percent	Weight	Weight X%
2001	$57,200	$238,985	24.00%	1	24.00%
2002	61,200	347,600	18.00%	2	36.00%
2003	61,200	404,600	15.00%	3	45.00%
2004	61,200	380,940	16.00%	4	64.00%
2005	57,200	380,837	15.00%	5	75.00%
				15	244.00%
					÷ 15
Weighted average					16.27%

	Weights	2001	2002	2003	2004	2005
Period weights		1	2	3	4	5
Pulaski Furniture	4	2.00	1.00	2.50	2.80	3.00
Bassett Furniture	3	2.40	2.20	2.70	3.00	3.30
LADD Furniture	1	-	1.10	1.60	1.90	-
Kimbell International	2	3.20	2.90	2.90	3.60	3.40
Additional (+) or (-) adjustments				-		
Weighted average dividend yield (capitalization rate)				2.67		

	Weight		Weighted
2005	5	$1,361,661	$ 6,808,305
2004	4	$ 836,342	3,345,368
2003	3	$ 521,057	1,563,171
2002	2	$ 707,770	1,415,540
2001	1	$ 721,829	721,829
	15		$13,854,213
			÷ 15
Weighted average (Rounded)			$ 923,600

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Sample Company
Dividend Paying Capacity Method
December 31, 2005

Benefit stream	$	
Dividend payout		
Dividend paying capacity		
Capitalization rate		%
Value of the business before non-operating assets		
Non-operating assets		
Value of business		
Shares outstanding		
Per share value		
Discount – First discount or premium:		
Lack of control discount percentage		%
Lack of control discount		
Adjusted per share value		
Discount— Second discount or premium:		
Lack of marketability discount percentage		%
Lack of marketability discount		
Adjusted per share value		
Number of shares valued		
Value of 100% equity	$	

Assumptions:
1 Sale of 100% equity interest
2 Business brokering commissions would be between 3% and 4%
3 Professional services for the sale of the Company would be between 1% and 2%
4 Use marketability discount of 5%. No control premium
5 Total shares outstanding are 100,000
6 Type of benefit stream—weighted average net income
7 Capitalization rate—dividend yield (pre-tax to investors)
8 Long-term sustainable growth rate of 3%
9 Non-operating assets are $600,000

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VIII. TAX AFFECTING PASS-THROUGH ENTITIES

Four theories will be presented in the sections that follow: those of Chris D. Treharne, ASA, MCBA; Daniel Van Vleet, ASA, CBA; Z. Christopher Mercer, ASA, CFA; and Roger J. Grabowski, ASA. Each of these noncontrolling theories for valuing pass-through entities has gained recognition in the valuation community. Each handles these issues somewhat differently, yet largely agree on key issues. In addition, a "summary approach" that combines the key findings of the controlling interest studies with the common themes of the minority theories can be found later in this chapter.

No matter which model the analyst uses, if any, the key is to think through the foundation for the valuation model and carefully select the valuation inputs in order to reach a logical conclusion that a buyer and seller would be likely to agree upon.

A. TREHARNE MODEL

Treharne's model begins with the value of an equivalent C corporation after reinvestment of all necessary cash flows. To this value determination, one makes adjustments to the equivalent C corporation value depending on:

1. Distributions to the noncontrolling owner
2. Tax rate differentials
3. Basis build-up, if relevant

Using Treharne's model, value distinctions are made for each level of distribution.

B. VAN VLEET MODEL

Van Vleet's model begins with the economic benefits of a C corporation equity interest, fully burdened with income tax at the corporate level, as well as dividend tax on distributions and capital gains tax on retained earnings. That benefit is compared to the S corporation economic benefit that bears only one layer of income tax. The mathematical formula that results from this difference becomes the SEAM adjustment.

The SEAM assumes that shareholders of publicly traded companies are indifferent between distributions and capital gains. This is generally true because both forms of investment return are equally liquid to the public company shareholder. Therefore, the SEAM inherently assumes that the subject S corporation is paying 100 percent of its earnings in distributions, as this is the only way that an investment return on a privately held security can be completely liquid. Van Vleet's model recognizes that the level of distributions for the subject company can impact value and recognizes it through the extent of the discount for lack of marketability.

C. MERCER MODEL

Mercer's model begins with the value of identical C and S corporations at the marketable minority level, which he determines to be of equivalent value, regardless of the level of distributions. He calculates the S corporation premium or discount at the shareholder level by reference to C corporation equivalent yields on distributions and employs the Quantitative Marketability Discount Model (QMDM) to determine the values. Such analysis can lead to a positive or negative value differential between the S and the C corporation, depending on the facts and circumstances. The issues to consider include:

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1. The length of the holding period that the S shareholder may continue to enjoy the benefits of the S election
2. The extent of the expected distributions
3. The risk of loss of benefits. Such loss may come about by changes in law, a disqualifying event, a change in the distribution policy of the firm, or any number of reasons that cause the S election benefits to diminish or cease.

Mercer estimates the differing relative values to retained earnings resulting from tax-sheltered dividends and expected distribution policies.

D. GRABOWSKI MODEL

Grabowski's modified traditional method begins with the value of a C corporation interest, fully burdened with income tax at the corporate level, adding back the savings gained by virtue of being an S corporation, and making adjustments for tax differentials on pass-through income.

The model recognizes that the distributions for the subject company can impact value. One may either alter the net cash flow available to distribute by increasing retention for reinvestment in the cash flows themselves or recognize the difference between available cash and distributions through the minority interest and/or lack of marketability discounts.

The model assumes that a willing buyer of stock in an S corporation estimates his or her expected holding period and takes into consideration the build-up of basis from retained net income over distributed cash flow. And where circumstances dictate, the model considers the effect of a possible asset or stock sale with 338(h)(10) election on a sale of the business in year X.

IX. SUMMARY: NON-CONTROLLING INTEREST IN PASS-THROUGH ENTITY THEORY

Four models for the valuation of noncontrolling interests in pass-through entities have been presented. Each of these theories has foundation in the logical issues that a noncontrolling buyer and seller would consider upon a transaction of their interest. However, to quote Daniel Van Vleet, none of these models is a black box, into which data can be thrown and meaningful results can be expected.

The analyst should carefully consider the inputs in order to get a meaningful valuation conclusion. While each of the theories treats these issues somewhat differently, if the analyst is diligent in the understanding and/or application of the model, carefully considering the inputs and output, he or she should get a logical valuation conclusion.

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A review of the issues follows:

- Amount and Timing of Distributions
- Retained Net Income (Build-up Basis of Stock)
- Holding Period
- Tax Rates—Personal Versus Corporate and Capital Gains
- Further Effect of Minority of Marketability Discounts
- Possible Ability to Participate in Step-up-of-Basis Transaction

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BUSINESS VALUATIONS:

APPLICATIONS AND CALCULATIONS

USING THE INCOME AND ASSET APPROACHES

CHAPTER 6

REVIEW QUESTIONS

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BV: APPLICATIONS AND CALCULATIONS USING THE INCOME AND ASSET APPROACHES

CHAPTER REVIEW QUESTIONS

Chapter 6: Valuation Methods

1. When should you use the capitalization of earnings method?

    a. When expected growth rates are predictable
    b. When the company is a start-up company
    c. When expected growth rates are unpredictable
    d. None of the above

2. If using a discounted earnings method to determine value, how far in the future should earnings be projected?

    a. At least ten years
    b. Through the year after a stabilized level of operations is reached
    c. Until profit margins return to normal after a period of unusually high or low earnings
    d. B and C

3. Which method is most appropriate for estimating the value of a non-operating business or a business that continues to generate losses (or which is to be liquidated)?

    a. Capitalization of Earnings
    b. Market Approach—Dividend Paying Capacity
    c. Adjusted Net Assets Method
    d. Discounted Future Earnings Method

4. Which statement is true when using the Adjusted Net Assets Method of valuation?

    a. The FMV of the net assets are reduced by the FMV of any recorded and unrecorded liabilities
    b. This method also addresses the business's operating earnings
    c. This method relies on comparable company data to adjust the value of the net assets to market value
    d. This method always underestimates the business's value

5. Which valuation method has the negative aspect of not addressing the business's operating earnings and would be inappropriate to use to value intangible assets such as patents or copyrights typically valued based on some type of operating earnings?

    a. Retained Earnings Method
    b. Capitalization of Earnings Method
    c. Excess Earnings Reasonable Rate Method
    d. Adjusted Net Assets Method

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6. Which method assumes all of the assets, tangible or intangible is indistinguishable parts of the business and does not attempt to separate the values of the two?

    a. Capitalization of Earnings Method
    b. Discounted Future Earnings Method
    c. Excess Earnings Treasury Method
    d. Excess Earnings Reasonable Rate Method

7. Which method applies a reasonable rate of return to the latest year's balance of adjusted net assets rather than to an unweighted or weighted average of net assets?

    a. Capitalization of Earnings Method
    b. Discounted Future Earnings Method
    c. Excess Earnings Treasury Method
    d. Excess Earnings Reasonable Rate Method

8. Which method is sometimes referred to as the Discounted Cash Flow Method?

    a. Capitalization of Earnings Method
    b. Discounted Future Earnings Method
    c. Excess Earnings Treasury Method
    d. Excess Earnings Reasonable Rate Method

9. Which of the following statements is not applicable to the Price/Earnings Ratio Method

    a. The Price/Earnings Ratio method is also an income-oriented approach.
    b. This method is mainly used when valuing closely held companies.
    c. The Price/Earnings ratios are typically obtained from comparable publicly traded companies.
    d. The earnings portion of the Price/Earnings ratio is represented by net after-tax income of comparable companies.

10. Which statement applies to the Dividend Paying Capacity Method?

    a. To utilize this method, a company must have had a history of paying dividends.
    b. This method does not consider liquidity as a factor in the valuation.
    c. This method is highly regarded because it utilizes market comparisons.
    d. This method can only be used when valuing 100 percent of the company and not a portion of it.

11. When valuing the stock of a real estate holding company, most likely the valuator will give the greatest weight to which method?

    a. Capitalization of Earnings Method
    b. Book Value Method
    c. Adjusted Book Value Method
    d. Rule of Thumb

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12. Using the adjusted net asset method the valuator only values tangible assets.

    a. True
    b. False

13. The adjusted net asset method generally sets a _____ for determining total entity value.

    a. Floor value
    b. High value
    c. Forced liquidation value
    d. Investment value

14. Which one of the following adjustments would be made on the balance sheet to reconcile the book value to adjusted fair market value?

    a. Convert inventory from FIFO to LIFO
    b. Remove excess cash
    c. Adjust owner's compensation
    d. A large account receivable write off due to a major customer filing for bankruptcy

15. A Company has a five year weighted average after tax cash flow of $125,000. It has been determined the discount rate is 19%, short term expected growth is 11% and long term sustainable growth is 3%. The valuator has also determined excess cash of 25,000. What is the value of the company based on the capitalization of after tax cash flows?

    a. $625,000
    b. $657,895
    c. $829,400
    d. $909,090

16. Which method is based on the theory that the total value of a business is the present value of its projected future earnings, plus the present value of the terminal value?

    a. Capitalization of Earnings Method
    b. Discounted Cash Flows Method
    c. Excess Earnings Method
    d. Adjusted Book Value Method

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17. ABC Company has projected the following cash flows:

    Year 1: 85,000
    Year 2: 105,000
    Year 3: 109,000
    Year 4: 115,000

    The valuator has determined an appropriate discount rate is 26% and the long term growth rate is 2%. Using the Gordon Growth Model, what is the terminal value?

    a. 175,596
    b. 193,936
    c. 187,096
    d. 202,687

18. The Mid period method of discounting should be used when the equity holder:

    a. Has access to a dividend once a year
    b. Has access to a dividend throughout the year
    c. Has not received a dividend
    d. A & B

19. Which method combines the income and asset based approaches to arrive at a value of a closely held business?

    a. Book Value Method
    b. Discounted Cash Flows Method
    c. Guideline Public Companies Method
    d. Excess Earnings Method

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APPENDIX I

Daubert and *Kumho Tire*[1]

[1] *Daubert et. ux. v. Merrell Dow Pharmaceuticals, Inc*., 509 U.S. 579 (1992) (Court held that the Federal Rules of Evidence, not Frye, provide the standard for admitting expert scientific testimony in a federal trial; nothing in the rules gives any indication that "general acceptance" is a necessary precondition to the admissibility of scientific evidence. The trial judge has the task of ensuring that an expert's testimony both rest on a reliable foundation and is relevant to the task at hand) and *Kumho Tire C. v. Carmichael*, 526 U.S. 137 (1999) (*Daubert* standard applies to scientific, technical or other specialized knowledge; Rule 702 imposes a special obligation upon the trial judge to ensure testimony is relevant and reliable; reliability assessed by considering if methodology has been tested, subject to peer review, has error rates, and/or is "acceptable" in the relevant scientific or technical community).

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WILLIAM DAUBERT, ET UX., ETC., ET AL., PETITIONERS V. MERRELL DOW PHARMACEUTICALS, INC.

No. 92-102

SUPREME COURT OF THE UNITED STATES

509 U.S. 579; 113 S. Ct. 2786; 125 L. Ed. 2d 469; 1993 U.S. LEXIS 4408; 61 U.S.L.W. 4805; 27 U.S.P.Q.2D (BNA) 1200; CCH Prod. Liab. Rep. P13,494; 93 Cal. Daily Op. Service 4825; 93 Daily Journal DAR 8148; 23 ELR 20979; 7 Fla. L. Weekly Fed. S 632

March 30, 1993, Argued
June 28, 1993, Decided

PRIOR HISTORY: ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT.

DISPOSITION: 951 F.2d 1128, vacated and remanded.

DECISION: "General acceptance" of principle underlying scientific evidence held not to be necessary precondition to admissibility of such evidence under Federal Rules of Evidence.

SUMMARY: A minor child and his parents, together with another minor child and his mother, brought suit in a California state court against a drug company which had marketed the prescription drug Bendectin. The plaintiffs alleged that the children's birth defects had been caused by the mothers' ingestion of Bendectin during pregnancy. The suit was removed, on diversity grounds, to the United States District Court for the Southern District of California. The company moved for summary judgment and submitted, in support of the motion, the affidavit of an epidemiologist to the effect that no published epidemiological (human statistical) study had demonstrated a statistically significant association between Bendectin and birth defects. In response, the plaintiffs offered expert opinion testimony based on (1) test-tube and live-animal studies that had allegedly found a link between Bendectin and birth defects; (2) pharmacological studies that allegedly showed similarities between the chemical structure of Bendectin and that of substances known to cause birth defects; and (3) the reanalysis, or recalculation, of previously published epidemiological studies. The District Court, granting summary judgment in favor of the company, expressed the view that (1) scientific evidence is admissible under the Federal Rules of Evidence only if the principle on which such evidence is based is sufficiently established to have general acceptance in the field to which it belongs; (2) epidemiological studies were the most reliable evidence of causation of birth defects; (3) the testimony based on test-tube, live-animal, and pharmacological studies was inadmissible because such testimony was not based on epidemiological evidence; and (4) the testimony based on reanalyses was inadmissible because the reanalyses (a) apparently had never been published or subjected to peer review, and (b) failed to show a statistically significant association between Bendectin and birth defects (727 F Supp 570). The United States Court of Appeals for the Ninth Circuit, affirming on appeal, expressed the view that (1) expert opinion based on a scientific technique is inadmissible if the technique is not generally accepted as reliable in the relevant scientific community; and (2) under the general acceptance standard, the plaintiffs' evidence provided an insufficient foundation to allow admission of expert testimony that Bendectin caused birth defects (951 F2d 1128).

On certiorari, the United States Supreme Court vacated the Court of Appeals' judgment and remanded the case for further proceedings. In an opinion by Blackmun, J., expressing the unanimous view of the court as to holding 1 below, and joined by White, O'Connor, Scalia, Kennedy, Souter, and Thomas, JJ., as to holdings 2 and 3 below, it was held that (1) the "general acceptance" test of Frye v United States

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(1923) 54 App DC 46, 293 F 1013, 34 ALR 145, was superseded by the Federal Rules of Evidence (FRE), and thus general acceptance is not a necessary precondition to the admissibility of scientific evidence under the FRE, given that (a) nothing in the text of Rule 702 of the FRE, governing expert testimony, establishes general acceptance as an absolute prerequisite to admissibility, and (b) there is no indication that Rule 702 or the FRE as a whole were intended to incorporate a general acceptance standard; (2) under the FRE, a federal trial judge must insure that any and all scientific testimony or evidence is not only relevant but reliable; and (3) in a federal case involving scientific evidence, evidentiary reliability is based on scientific validity.

Rehnquist, Ch. J., joined by Stevens, J., concurring in part and dissenting in part, (1) agreed that (a) the Frye "general acceptance" rule did not survive the enactment of the FRE, and (b) Rule 702 of the FRE confides to the trial judge some gatekeeping responsibility in deciding questions of the admissibility of proffered expert testimony; but (2) expressed the view that the Supreme Court should have left the further development of the area of the law in question to future cases.

LAWYERS' EDITION HEADNOTES:

[***LEdHN1]
EVIDENCE §641
expert scientific testimony -- admissibility -- general acceptance standard --
Headnote: [1A] [1B] [1C] [1D] [1E]

A standard under which the exclusive test for admitting expert scientific testimony is whether the principle on which such testimony is based has general acceptance in the field to which it belongs is not to be applied in federal trials; the "general acceptance" test of Frye v United States (1923) 54 App DC 46, 293 F 1013, 34 ALR 145, is superseded by the Federal Rules of Evidence (FRE), and thus general acceptance is not a necessary precondition to the admissibility of scientific evidence under the FRE, given that (1) nothing in the text of Rule 702 of the FRE, governing expert testimony, establishes general acceptance as an absolute prerequisite to admissibility; and (2) there is no indication that Rule 702 or the FRE as a whole are intended to incorporate a general acceptance standard, as (a) the drafting history makes no mention of the Frye decision, and (b) a rigid general acceptance requirement would be at odds with the liberal thrust of the FRE and their general approach of relaxing the traditional barriers to opinion testimony.

[***LEdHN2]
COURTS §538.11
construction of rules --
Headnote: [2]

A court properly interprets the legislatively enacted Federal Rules of Evidence as the court would interpret any statute.

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[***LEdHN3]
EVIDENCE §641
expert scientific testimony -- reliability --
Headnote: [3A] [3B] [3C]

Under the Federal Rules of Evidence (FRE), a federal trial judge is not disabled from screening purportedly scientific evidence; rather, the trial judge must insure that any and all scientific testimony or evidence admitted is not only relevant but reliable; the primary locus of this obligation is Rule 702 of the FRE, which governs expert testimony as to scientific knowledge; for purposes of Rule 702, "scientific" implies a grounding in the methods and procedure of science, and "knowledge" connotes more than subjective belief or unsupported speculation; although it would be unreasonable to conclude that the subject of scientific testimony must be known to a certainty, Rule 702 requires that proposed scientific testimony be supported by appropriate validation--that is, good grounds--based on what is known; Rule 702's requirement that an expert's scientific testimony pertain to "scientific knowledge" establishes a standard of evidentiary reliability, that is, trustworthiness; in a federal case involving scientific evidence, evidentiary reliability is based on scientific validity. (Rehnquist, Ch. J., and Stevens, J., dissented in part from this holding.)

[***LEdHN4]
EVIDENCE §641
expert scientific testimony -- relevance --
Headnote: [4A] [4B]

The "helpfulness" standard of Rule 702 of the Federal Rules of Evidence (FRE), which requires that scientific evidence or testimony assist the trier of fact to understand the evidence or to determine a fact in issue--a condition that goes primarily to relevance--requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility; for purposes of Rule 702, expert testimony which does not relate to any issue in the case at hand is not relevant and thus is non-helpful.

[***LEdHN5]
EVIDENCE §641
expert witnesses --
Headnote: [5]

Unlike an ordinary witness, an expert witness is permitted wide latitude, under the Federal Rules of Evidence, to offer opinions, including those that are not based on firsthand knowledge or observation.

[***LEdHN6]
EVIDENCE §641
expert scientific testimony --
Headnote: [6]

Pursuant to Rule 104(a) of the Federal Rules of Evidence, governing preliminary questions concerning the admissibility of evidence, a federal trial judge who is faced with a proffer of expert scientific testimony must determine at the outset whether the expert is proposing to testify to scientific knowledge that will assist the trier of fact to understand or determine a fact in issue; this determination entails a preliminary assessment of (1) whether the reasoning or methodology underlying the testimony is scientifically valid, and (2) whether that reasoning or methodology properly can be applied to the facts in issue. (Rehnquist, Ch. J., and Stevens, J., dissented in part from this holding.)

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[***LEdHN7]
EVIDENCE §383
burden of proof --
Headnote: [7A] [7B]

Matters to be determined by a federal trial court pursuant to Rule 104(a) of the Federal Rules of Evidence--that is, preliminary questions concerning the qualification of a person to be a witness, the existence of a privilege, or the admissibility of evidence--are to be established by a preponderance of proof.

[***LEdHN8]
EVIDENCE §67
science -- admissibility -- judicial notice --
Headnote: [8A] [8B]

The requirements of Rule 702 of the Federal Rules of Evidence (FRE) for the admissibility of expert scientific evidence do not apply specially or exclusively to unconventional evidence; however, theories that are so firmly established as to have attained the status of scientific law, such as the laws of thermodynamics, properly are subject to judicial notice under Rule 201 of the FRE.

[***LEdHN9]
EVIDENCE §641
expert scientific testimony -- admissibility --
Headnote: [9]

In determining whether a theory or technique is scientific knowledge that will assist the trier of fact, so as to be the basis of admissible evidence under Rule 702 of the Federal Rules of Evidence, (1) a key question to be answered is, ordinarily, whether the theory or technique can be and has been tested; (2) a pertinent consideration is whether the theory or technique has been subjected to peer review and publication, although the fact of publication, or lack thereof, in a peer-reviewed journal is not a dispositive consideration; (3) the court should ordinarily consider the known or potential rate of error of a particular scientific technique; (4) the assessment of reliability permits, but does not require, explicit identification of a relevant scientific community and an express determination of a particular degree of acceptance of the theory or technique within that community, as (a) widespread acceptance can be an important factor in ruling particular evidence admissible, and (b) a known technique that has been able to attract only minimal support within the scientific community may properly be viewed with skepticism; and (5) the inquiry is a flexible one, and the focus must be solely on principles and methodology, not on the conclusions that such principles and methodology generate. (Rehnquist, Ch. J., and Stevens, J., dissented in part from this holding.)

[***LEdHN10]
TRIAL §15
witnesses -- control --
Headnote: [10]

Since expert evidence can be both powerful and misleading because of the difficulty in evaluating such evidence, a federal trial judge--in weighing, under Rule 403 of the Federal Rules of Evidence, the possible danger of unfair prejudice resulting from such evidence against the evidence's probative force--exercises more control over experts than over lay witnesses.

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[***LEdHN11]
EVIDENCE §641
SUMMARY JUDGMENT AND JUDGMENT ON PLEADINGS §1
TRIAL §199
WITNESSES §59
scientific testimony -- attack --
Headnote: [11]

In federal cases, the appropriate means of attacking scientific testimony, where the basis of such testimony meets the admissibility standards of Rule 702 of the Federal Rules of Evidence, are (1) vigorous cross-examination, (2) presentation of contrary evidence, and (3) careful instruction on the burden of proof; additionally, in the event that the trial court concludes that a scintilla of such evidence presented to support a position is insufficient to allow a reasonable juror to conclude that the position more likely than not is true, the court remains free to direct a judgment under Rule 50(a) of the Federal Rules of Civil Procedure (FRCP) and to grant summary judgment under Rule 56 of the FRCP.

[***LEdHN12]
APPEAL §1692.3
remand -- misconception of law --
Headnote: [12]

On certiorari to review a United States Court of Appeals judgment which upheld a United States District Court's ruling that proffered scientific evidence as to the alleged causation of birth defects was inadmissible, the United States Supreme Court will vacate the Court of Appeals' judgment and remand the case for further proceedings, where (1) the inquiries of the District Court and the Court of Appeals as to the admissibility of the evidence focused almost exclusively on whether the principle on which the evidence was based had gained "general acceptance," as gauged by publication and the decisions of other courts; and (2) the Supreme Court holds that general acceptance is not a necessary precondition to the admissibility of scientific evidence under the Federal Rules of Evidence.

SYLLABUS: Petitioners, two minor children and their parents, alleged in their suit against respondent that the children's serious birth defects had been caused by the mothers' prenatal ingestion of Bendectin, a prescription drug marketed by respondent. The District Court granted respondent summary judgment based on a well-credentialed expert's affidavit concluding, upon reviewing the extensive published scientific literature on the subject, that maternal use of Bendectin has not been shown to be a risk factor for human birth defects. Although petitioners had responded with the testimony of eight other well-credentialed experts, who based their conclusion that Bendectin can cause birth defects on animal studies, chemical structure analyses, and the unpublished "reanalysis" of previously published human statistical studies, the court determined that this evidence did not meet the applicable "general acceptance" standard for the admission of expert testimony. The Court of Appeals agreed and affirmed, citing *Frye* v. *United States*, 54 App. D.C. 46, 47, 293 F. 1013, 1014, for the rule that expert opinion based on a scientific technique is inadmissible unless the technique is "generally accepted" as reliable in the relevant scientific community.

Held: The Federal Rules of Evidence, not *Frye*, provide the standard for admitting expert scientific testimony in a federal trial. Pp. 585-597.

(a) *Frye*'s "general acceptance" test was superseded by the Rules' adoption. The Rules occupy the field, *United States* v. *Abel*, 469 U.S. 45, 49, 83 L. Ed. 2d 450, 105 S. Ct. 465, and, although the common law of evidence may serve as an aid to their application, *id.*, at 51-52, respondent's assertion that they somehow assimilated *Frye* is unconvincing. Nothing in the Rules as a whole or in the text and drafting history

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of Rule 702, which specifically governs expert testimony, gives any indication that "general acceptance" is a necessary precondition to the admissibility of scientific evidence. Moreover, such a rigid standard would be at odds with the Rules' liberal thrust and their general approach of relaxing the traditional barriers to "opinion" testimony. Pp. 585-589.

(b) The Rules -- especially Rule 702 -- place appropriate limits on the admissibility of purportedly scientific evidence by assigning to the trial judge the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand. The reliability standard is established by Rule 702's requirement that an expert's testimony pertain to "scientific . . . knowledge," since the adjective "scientific" implies a grounding in science's methods and procedures, while the word "knowledge" connotes a body of known facts or of ideas inferred from such facts or accepted as true on good grounds. The Rule's requirement that the testimony "assist the trier of fact to understand the evidence or to determine a fact in issue" goes primarily to relevance by demanding a valid scientific connection to the pertinent inquiry as a precondition to admissibility. Pp. 589-592.

(c) Faced with a proffer of expert scientific testimony under Rule 702, the trial judge, pursuant to Rule 104(a), must make a preliminary assessment of whether the testimony's underlying reasoning or methodology is scientifically valid and properly can be applied to the facts at issue. Many considerations will bear on the inquiry, including whether the theory or technique in question can be (and has been) tested, whether it has been subjected to peer review and publication, its known or potential error rate and the existence and maintenance of standards controlling its operation, and whether it has attracted widespread acceptance within a relevant scientific community. The inquiry is a flexible one, and its focus must be solely on principles and methodology, not on the conclusions that they generate. Throughout, the judge should also be mindful of other applicable Rules. Pp. 592-595.

(d) Cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof, rather than wholesale exclusion under an uncompromising "general acceptance" standard, is the appropriate means by which evidence based on valid principles may be challenged. That even limited screening by the trial judge, on occasion, will prevent the jury from hearing of authentic scientific breakthroughs is simply a consequence of the fact that the Rules are not designed to seek cosmic understanding but, rather, to resolve legal disputes. Pp. 595-597.

COUNSEL: Michael H. Gottesman argued the cause for petitioners. With him on the briefs were Kenneth J. Chesebro, Barry J. Nace, David L. Shapiro, and Mary G. Gillick.

Charles Fried argued the cause for respondent. With him on the brief were Charles R. Nesson, Joel I. Klein, Richard G. Taranto, Hall R. Marston, George E. Berry, Edward H. Stratemeier, and W. Glenn Forrester. *

* Briefs of amici curiae urging reversal were filed for the State of Texas et al. by Dan Morales, Attorney General of Texas, Mark Barnett, Attorney General of South Dakota, Marc Racicot, Attorney General of Montana, Larry EchoHawk, Attorney General of Idaho, and Brian Stuart Koukoutchos; for the American Society of Law, Medicine and Ethics et al. by Joan E. Bertin, Marsha S. Berzon, and Albert H. Meyerhoff; for the Association of Trial Lawyers of America by Jeffrey Robert White and Roxanne Barton Conlin; for Ronald Bayer et al. by Brian Stuart Koukoutchos, Priscilla Budeiri, Arthur Bryant, and George W. Conk; and for Daryl E. Chubin et al. by Ron Simon and Nicole Schultheis.

Briefs of amici curiae urging affirmance were filed for the United States by Acting Solicitor General Wallace, Assistant Attorney General Gerson, Miguel A. Estrada, Michael Jay Singer, and John P. Schnitker; for the American Insurance Association by William J. Kilberg, Paul Blankenstein, Bradford R. Clark, and Craig A. Berrington; for the American Medical Association et al. by Carter G. Phillips,

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Mark D. Hopson, and Jack R. Bierig; for the American Tort Reform Association by John G. Kester and John W. Vardaman, Jr.; for the Chamber of Commerce of the United States by Timothy B. Dyk, Stephen A. Bokat, and Robin S. Conrad; for the Pharmaceutical Manufacturers Association by Louis R. Cohen and Daniel Marcus; for the Product Liability Advisory Council, Inc., et al. by Victor E. Schwartz, Robert P. Charrow, and Paul F. Rothstein; for the Washington Legal Foundation by Scott G. Campbell, Daniel J. Popeo, and Richard A. Samp; and for Nicolaas Bloembergen et al. by Martin S. Kaufman.

Briefs of amici curiae were filed for the American Association for the Advancement of Science et al. by Richard A. Meserve and Bert Black; for the American College of Legal Medicine by Miles J. Zaremski; for the Carnegie Commission on Science, Technology, and Government by Steven G. Gallagher, Elizabeth H. Esty, and Margaret A. Berger; for the Defense Research Institute, Inc., by Joseph A. Sherman, E. Wayne Taff, and Harvey L. Kaplan; for the New England Journal of Medicine et al. by Michael Malina and Jeffrey I. D. Lewis; for A Group of American Law Professors by Donald N. Bersoff; for Alvan R. Feinstein by Don M. Kennedy, Loretta M. Smith, and Richard A. Oetheimer; and for Kenneth Rothman et al. by Neil B. Cohen.

JUDGES: BLACKMUN, J., delivered the opinion for a unanimous Court with respect to Parts I and II-A, and the opinion of the Court with respect to Parts II-B, II-C, III, and IV, in which WHITE, O'CONNOR, SCALIA, KENNEDY, SOUTER, and THOMAS, JJ., joined. REHNQUIST, C. J., filed an opinion concurring in part and dissenting in part, in which STEVENS, J., joined, post, p. 598.

OPINIONBY: BLACKMUN

OPINION: [*582] [***476] [**2791] JUSTICE BLACKMUN delivered the opinion of the Court.

[***LEdHR1A] [1A]In this case we are called upon to determine the standard for admitting expert scientific testimony in a federal trial.

IPetitioners Jason Daubert and Eric Schuller are minor children born with serious birth defects. They and their parents sued respondent in California state court, alleging that the birth defects had been caused by the mothers' ingestion of Bendectin, a prescription antinausea drug marketed by respondent. Respondent removed the suits to federal court on diversity grounds.

After extensive discovery, respondent moved for summary judgment, contending that Bendectin does not cause birth defects in humans and that petitioners would be unable to come forward with any admissible evidence that it does. In support of its motion, respondent submitted an affidavit of Steven H. Lamm, physician and epidemiologist, who is a well-credentialed expert on the risks from exposure to various chemical substances. n1 Doctor Lamm stated that he had reviewed all the literature on Bendectin and human birth defects -- more than 30 published studies involving over 130,000 patients. No study had found Bendectin to be a human teratogen (*i.e.*, a substance capable of causing malformations in fetuses). On the basis of this review, Doctor Lamm concluded that maternal use of Bendectin during the first trimester of pregnancy has not been shown to be a risk factor for human birth defects.

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n1 Doctor Lamm received his master's and doctor of medicine degrees from the University of Southern California. He has served as a consultant in birth-defect epidemiology for the National Center for Health Statistics and has published numerous articles on the magnitude of risk from exposure to various chemical and biological substances. App. 34-44.

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[*583] Petitioners did not (and do not) contest this characterization of the published record regarding Bendectin. Instead, they responded to respondent's motion with the testimony of eight experts of their own, each of whom also possessed impressive credentials. n2 These experts had concluded that Bendectin can cause birth defects. Their conclusions were based upon "in vitro" (test tube) and "in vivo" (live) animal studies that [***477] found a link between Bendectin and malformations; pharmacological studies of the chemical structure of Bendectin that purported to show similarities between the structure of the drug and that of other substances known to cause birth defects; and the "reanalysis" of previously [**2792] published epidemiological (human statistical) studies.

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n2 For example, Shanna Helen Swan, who received a master's degree in biostatistics from Columbia University and a doctorate in statistics from the University of California at Berkeley, is chief of the section of the California Department of Health and Services that determines causes of birth defects and has served as a consultant to the World Health Organization, the Food and Drug Administration, and the National Institutes of Health. *Id.*, at 113-114, 131-132. Stuart A. Newman, who received his bachelor's degree in chemistry from Columbia University and his master's and doctorate in chemistry from the University of Chicago, is a professor at New York Medical College and has spent over a decade studying the effect of chemicals on limb development. *Id.*, at 54-56. The credentials of the others are similarly impressive. See *id.*, at 61-66, 73-80, 148-153, 187-192, and Attachments 12, 20, 21, 26, 31, and 32 to Petitioners' Opposition to Summary Judgment in No. 84-2013-G(I) (SD Cal.).

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The District Court granted respondent's motion for summary judgment. The court stated that scientific evidence is admissible only if the principle upon which it is based is "'sufficiently established to have general acceptance in the field to which it belongs.'" 727 F. Supp. 570, 572 (SD Cal. 1989), quoting *United States* v. *Kilgus*, 571 F.2d 508, 510 (CA9 1978). The court concluded that petitioners' evidence did not meet this standard. Given the vast body of epidemiological data concerning Bendectin, the court held, expert opinion which is not based on epidemiological evidence [*584] is not admissible to establish causation. 727 F. Supp. at 575. Thus, the animal-cell studies, live-animal studies, and chemical-structure analyses on which petitioners had relied could not raise by themselves a reasonably disputable jury issue regarding causation. *Ibid*. Petitioners' epidemiological analyses, based as they were on recalculations of data in previously published studies that had found no causal link between the drug and birth defects, were ruled to be inadmissible because they had not been published or subjected to peer review. *Ibid*.

The United States Court of Appeals for the Ninth Circuit affirmed. 951 F.2d 1128 (1991). Citing *Frye* v. *United States*, 54 App. D.C. 46, 47, 293 F. 1013, 1014 (1923), the court stated that expert opinion based on a scientific technique is inadmissible unless the technique is "generally accepted" as reliable in the relevant scientific community. 951 F.2d at 1129-1130. The court declared that expert opinion based on a methodology that diverges "significantly from the procedures accepted by recognized authorities in the field . . . cannot be shown to be 'generally accepted as a reliable technique.'" *Id.*, at 1130, quoting *United States* v. *Solomon*, 753 F.2d 1522, 1526 (CA9 1985).

The court emphasized that other Courts of Appeals considering the risks of Bendectin had refused to admit reanalyses of epidemiological studies that had been neither published nor subjected to peer review. 951 F.2d at 1130-1131. Those courts had found unpublished reanalyses "particularly problematic in light of the massive weight of the original published studies supporting [respondent's] position, all of which had undergone full scrutiny from the scientific community." *Id.*, at 1130. Contending that reanalysis is generally accepted by the scientific community only when it is subjected to verification and scrutiny by

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others in the field, the Court of Appeals rejected petitioners' reanalyses as "unpublished, not subjected to the normal peer review process and generated solely for use in litigation." *Id.*, at 1131. The [*585] court concluded that petitioners' evidence provided an insufficient foundation to allow admission of expert testimony that Bendectin caused their injuries and, accordingly, that petitioners could not satisfy their burden of proving causation at trial.

We granted certiorari, 506 U.S. 914 [***478] (1992), in light of sharp divisions among the courts regarding the proper standard for the admission of expert testimony. Compare, *e.g., United States* v. *Shorter*, 257 U.S. App. D.C. 358, 363-364, 809 F.2d 54, 59-60 (applying the "general acceptance" standard), cert. denied, 484 U.S. 817, 98 L. Ed. 2d 35, 108 S. Ct. 71 (1987), with *DeLuca* v. *Merrell Dow Pharmaceuticals, Inc.*, 911 F.2d 941, 955 (CA3 1990) (rejecting the "general acceptance" standard).

II A

In the 70 years since its formulation in the *Frye* case, the "general acceptance" test has been the dominant standard for determining the admissibility of novel scientific evidence at trial. See E. Green & C. Nesson, Problems, Cases, and Materials on Evidence 649 (1983). Although under increasing attack of late, the rule continues to be followed by a [**2793] majority of courts, including the Ninth Circuit. n3

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n3 For a catalog of the many cases on either side of this controversy, see P. Giannelli & E. Imwinkelried, Scientific Evidence § 1-5, pp. 10-14 (1986 and Supp. 1991).

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The *Frye* test has its origin in a short and citation-free 1923 decision concerning the admissibility of evidence derived from a systolic blood pressure deception test, a crude precursor to the polygraph machine. In what has become a famous (perhaps infamous) passage, the then Court of Appeals for the District of Columbia described the device and its operation and declared:

> "Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages [*586] is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, *the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs*." 54 App. D.C. at 47, 293 F. at 1014 (emphasis added).

Because the deception test had "not yet gained such standing and scientific recognition among physiological and psychological authorities as would justify the courts in admitting expert testimony deduced from the discovery, development, and experiments thus far made," evidence of its results was ruled inadmissible. *Ibid*.

[***LEdHR1B] [1B]The merits of the *Frye* test have been much debated, and scholarship on its proper scope and application is legion. n4 [*587] Petitioners' primary [***479] attack, however, is not on the content but on the continuing authority of the rule. They contend that the *Frye* test was superseded by the adoption of the Federal Rules of Evidence. n5 We agree.

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n4 See, *e.g.*, Green, Expert Witnesses and Sufficiency of Evidence in Toxic Substances Litigation: The Legacy of *Agent Orange* and Bendectin Litigation, 86 Nw. U. L. Rev. 643 (1992) (hereinafter Green); Becker & Orenstein, The Federal Rules of Evidence After Sixteen Years -- The Effect of "Plain Meaning" Jurisprudence, the Need for an Advisory Committee on the Rules of Evidence, and Suggestions for Selective Revision of the Rules, 60 Geo. Wash. L. Rev. 857, 876-885 (1992); Hanson, James Alphonzo Frye is Sixty-Five Years Old; Should He Retire?, 16 West. St. U. L. Rev. 357 (1989); Black, A Unified Theory of Scientific Evidence, 56 Ford. L. Rev. 595 (1988); Imwinkelried, The "Bases" of Expert Testimony: The Syllogistic Structure of Scientific Testimony, 67 N. C. L. Rev. 1 (1988); Proposals for a Model Rule on the Admissibility of Scientific Evidence, 26 Jurimetrics J. 235 (1986); Giannelli, The Admissibility of Novel Scientific Evidence: *Frye* v. *United States*, a Half-Century Later, 80 Colum. L. Rev. 1197 (1980); The Supreme Court, 1986 Term, 101 Harv. L. Rev. 7, 119, 125-127 (1987).

Indeed, the debates over *Frye* are such a well-established part of the academic landscape that a distinct term -- "*Frye*-ologist" -- has been advanced to describe those who take part. See Behringer, Introduction, Proposals for a Model Rule on the Admissibility of Scientific Evidence, 26 Jurimetrics J. 237, 239 (1986), quoting Lacey, Scientific Evidence, 24 Jurimetrics J. 254, 264 (1984).

n5 Like the question of *Frye*'s merit, the dispute over its survival has divided courts and commentators. Compare, *e.g., United States* v. *Williams*, 583 F.2d 1194 (CA2 1978) (*Frye* is superseded by the Rules of Evidence), cert. denied, 439 U.S. 1117, 59 L. Ed. 2d 77, 99 S. Ct. 1025 (1979), with *Christophersen* v. *Allied-Signal Corp.*, 939 F.2d 1106, 1111, 1115-1116 (CA5 1991) (en banc) (*Frye* and the Rules coexist), cert. denied, 503 U.S. 912, 117 L. Ed. 2d 506, 112 S. Ct. 1280 (1992), 3 J. Weinstein & M. Berger, Weinstein's Evidence P702[03], pp. 702-36 to 702-37 (1988) (hereinafter Weinstein & Berger) (*Frye* is dead), and M. Graham, Handbook of Federal Evidence § 703.2 (3d ed. 1991) (*Frye* lives). See generally P. Giannelli & E. Imwinkelried, Scientific Evidence § 1-5, at 28-29 (citing authorities).

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[***LEdHR2] [2]We interpret the legislatively enacted Federal Rules of Evidence as we would any statute. *Beech Aircraft Corp.* v. *Rainey*, 488 U.S. 153, 163, 102 L. Ed. 2d 445, 109 S. Ct. 439 (1988). Rule 402 provides the baseline:

> "All relevant evidence is admissible, except as otherwise provided by the Constitution of the United States, by Act of Congress, [**2794] by these rules, or by other rules prescribed by the Supreme Court pursuant to statutory authority. Evidence which is not relevant is not admissible."

"Relevant evidence" is defined as that which has "any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence." Rule 401. The Rules' basic standard of relevance thus is a liberal one.

Frye, of course, predated the Rules by half a century. In *United States* v. *Abel*, 469 U.S. 45, 83 L. Ed. 2d 450, 105 S. Ct. 465 (1984), we considered the pertinence of background common law in interpreting the Rules of Evidence. We noted that the Rules occupy the field, *id.*, at 49, but, quoting Professor Cleary, the Reporter, [*588] explained that the common law nevertheless could serve as an aid to their application:

> "'In principle, under the Federal Rules no common law of evidence remains. "All relevant evidence is admissible, except as otherwise provided . . . ." In reality, of course, the body of common law knowledge continues to exist, though in the somewhat altered form of a source of guidance in the exercise of delegated powers.'" *Id.*, at 51-52.

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We found the common-law precept at issue in the *Abel* case entirely consistent with Rule 402's general requirement of admissibility, and considered it unlikely that the drafters had intended to change the rule. *Id.*, at 50-51. In *Bourjaily* v. *United States*, 483 U.S. 171, 97 L. Ed. 2d 144, 107 S. [***480] Ct. 2775 (1987), on the other hand, the Court was unable to find a particular common-law doctrine in the Rules, and so held it superseded.

[***LEdHR1C] [1C] Here there is a specific Rule that speaks to the contested issue. Rule 702, governing expert testimony, provides:

> "If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise."

Nothing in the text of this Rule establishes "general acceptance" as an absolute prerequisite to admissibility. Nor does respondent present any clear indication that Rule 702 or the Rules as a whole were intended to incorporate a "general acceptance" standard. The drafting history makes no mention of *Frye*, and a rigid "general acceptance" requirement would be at odds with the "liberal thrust" of the Federal Rules and their "general approach of relaxing the traditional barriers to 'opinion' testimony." *Beech Aircraft Corp.* v. *Rainey*, 488 U.S. at 169 (citing Rules 701 to 705). See also Weinstein, Rule 702 of the Federal Rules of Evidence is [*589] Sound; It Should Not Be Amended, 138 F.R.D. 631 (1991) ("The Rules were designed to depend primarily upon lawyer-adversaries and sensible triers of fact to evaluate conflicts"). Given the Rules' permissive backdrop and their inclusion of a specific rule on expert testimony that does not mention "general acceptance," the assertion that the Rules somehow assimilated *Frye* is unconvincing. *Frye* made "general acceptance" the exclusive test for admitting expert scientific testimony. That austere standard, absent from, and incompatible with, the Federal Rules of Evidence, should not be applied in federal trials. n6

[***LEdHR1D] [1D]

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n6 Because we hold that *Frye* has been superseded and base the discussion that follows on the content of the congressionally enacted Federal Rules of Evidence, we do not address petitioners' argument that application of the *Frye* rule in this diversity case, as the application of a judgemade rule affecting substantive rights, would violate the doctrine of *Erie R. Co.* v. *Tompkins*, 304 U.S. 64, 82 L. Ed. 1188, 58 S. Ct. 817 (1938).

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[***LEdHR3A] [3A]That the *Frye* test was displaced by the Rules of Evidence does not mean, [**2795] however, that the Rules themselves place no limits on the admissibility of purportedly scientific evidence. n7 Nor is the trial judge disabled from screening such evidence. To the contrary, under the Rules the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable.

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n7 THE CHIEF JUSTICE "do[es] not doubt that Rule 702 confides to the judge some gatekeeping responsibility," *post*, at 600, but would neither say how it does so nor explain what that role entails. We believe the better course is to note the nature and source of the duty.

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The primary locus of this obligation is Rule 702, which clearly contemplates some degree of regulation of the subjects and theories about which an expert may testify. "*If scientific*, technical, or other specialized *knowledge will assist the trier of fact* to understand the evidence or to determine a fact in issue" an expert "may testify *thereto*." (Emphasis added.) The subject of an expert's testimony must [*590] be "scientific . . . [***481] knowledge." n8 The adjective "scientific" implies a grounding in the methods and procedures of science. Similarly, the word "knowledge" connotes more than subjective belief or unsupported speculation. The term "applies to any body of known facts or to any body of ideas inferred from such facts or accepted as truths on good grounds." Webster's Third New International Dictionary 1252 (1986). Of course, it would be unreasonable to conclude that the subject of scientific testimony must be "known" to a certainty; arguably, there are no certainties in science. See, *e.g.*, Brief for Nicolaas Bloembergen et al. as *Amici Curiae* 9 ("Indeed, scientists do not assert that they know what is immutably 'true' -- they are committed to searching for new, temporary, theories to explain, as best they can, phenomena"); Brief for American Association for the Advancement of Science et al. as *Amici Curiae* 7-8 ("Science is not an encyclopedic body of knowledge about the universe. Instead, it represents a *process* for proposing and refining theoretical explanations about the world that are subject to further testing and refinement" (emphasis in original)). But, in order to qualify as "scientific knowledge," an inference or assertion must be derived by the scientific method. Proposed testimony must be supported by appropriate validation -- *i.e.*, "good grounds," based on what is known. In short, the requirement that an expert's testimony pertain to "scientific knowledge" establishes a standard of evidentiary reliability. n9

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n8 Rule 702 also applies to "technical, or other specialized knowledge." Our discussion is limited to the scientific context because that is the nature of the expertise offered here.

[***LEdHR3B] [3B]

n9 We note that scientists typically distinguish between "validity" (does the principle support what it purports to show?) and "reliability" (does application of the principle produce consistent results?). See Black, 56 Ford. L. Rev., at 599. Although "the difference between accuracy, validity, and reliability may be such that each is distinct from the other by no more than a hen's kick," Starrs, *Frye v. United States* Restructured and Revitalized: A Proposal to Amend Federal Evidence Rule 702, 26 Jurimetrics J. 249, 256 (1986), our reference here is to *evidentiary* reliability -- that is, trustworthiness. Cf., *e.g.*, Advisory Committee's Notes on Fed. Rule Evid. 602, 28 U.S.C. App., p. 755 ("'The rule requiring that a witness who testifies to a fact which can be perceived by the senses must have had an opportunity to observe, and must have actually observed the fact' is a 'most pervasive manifestation' of the common law insistence upon 'the most reliable sources of information'" (citation omitted)); Advisory Committee's Notes on Art. VIII of Rules of Evidence, 28 U.S.C. App., p. 770 (hearsay exceptions will be recognized only "under circumstances supposed to furnish guarantees of trustworthiness"). In a case involving scientific evidence, *evidentiary reliability* will be based upon *scientific validity*.

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[*591]

[***LEdHR4A] [4A]Rule 702 further requires that the evidence or testimony "assist the trier of fact to understand the evidence or to determine a fact in issue." This condition goes primarily to relevance. "Expert testimony which does not relate to any issue in the case is not relevant and, ergo, non-helpful." 3 Weinstein & Berger P702[02], p. 702-18. See also *United States* v. *Downing*, 753 F.2d 1224, 1242 (CA3 1985) ("An additional consideration [**2796] under Rule 702 -- and another aspect of relevancy -- is whether expert testimony proffered in the case is sufficiently tied to the facts of the case that it will aid the jury in resolving a factual dispute"). The consideration has been aptly described by Judge Becker as one of "fit." *Ibid*. "Fit" is not always obvious, [***482] and scientific validity for one purpose is not necessarily scientific validity for other, unrelated purposes. See Starrs, *Frye v. United States* Restructured

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and Revitalized: A Proposal to Amend Federal Evidence Rule 702, 26 Jurimetrics J. 249, 258 (1986). The study of the phases of the moon, for example, may provide valid scientific "knowledge" about whether a certain night was dark, and if darkness is a fact in issue, the knowledge will assist the trier of fact. However (absent creditable grounds supporting such a link), evidence that the moon was full on a certain night will not assist the trier of fact in determining whether an individual was unusually likely to have behaved irrationally on that night. Rule 702's "helpfulness" [*592] standard requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility.

[***LEdHR5] [5]That these requirements are embodied in Rule 702 is not surprising. Unlike an ordinary witness, see Rule 701, an expert is permitted wide latitude to offer opinions, including those that are not based on firsthand knowledge or observation. See Rules 702 and 703. Presumably, this relaxation of the usual requirement of firsthand knowledge -- a rule which represents "a 'most pervasive manifestation' of the common law insistence upon 'the most reliable sources of information,'" Advisory Committee's Notes on Fed. Rule Evid. 602, 28 U.S.C. App., p. 755 (citation omitted) -- is premised on an assumption that the expert's opinion will have a reliable basis in the knowledge and experience of his discipline.

C

[***LEdHR6] [6] [***LEdHR7A] [7A] [***LEdHR8A] [8A]Faced with a proffer of expert scientific testimony, then, the trial judge must determine at the outset, pursuant to Rule 104(a), n10 whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue. n11 This entails a preliminary assessment of whether the reasoning or methodology [*593] underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue. We are confident that federal judges possess the capacity to undertake this review. Many factors will bear on the inquiry, and we do not presume to set out a definitive checklist or test. But some general observations are appropriate.

[***LEdHR7B] [7B]

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n10 Rule 104(a) provides:

"Preliminary questions concerning the qualification of a person to be a witness, the existence of a privilege, or the admissibility of evidence shall be determined by the court, subject to the provisions of subdivision (b) [pertaining to conditional admissions]. In making its determination it is not bound by the rules of evidence except those with respect to privileges." These matters should be established by a preponderance of proof. See *Bourjaily* v. *United States*, 483 U.S. 171, 175-176, 97 L. Ed. 2d 144, 107 S. Ct. 2775 (1987).

[***LEdHR8B] [8B]

n11 Although the *Frye* decision itself focused exclusively on "novel" scientific techniques, we do not read the requirements of Rule 702 to apply specially or exclusively to unconventional evidence. Of course, well-established propositions are less likely to be challenged than those that are novel, and they are more handily defended. Indeed, theories that are so firmly established as to have attained the status of scientific law, such as the laws of thermodynamics, properly are subject to judicial notice under Federal Rule of Evidence 201.

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[***LEdHR9] [9]Ordinarily, a key question to be answered in determining whether [***483] a theory or technique is scientific knowledge that will assist the trier of fact will be whether it can be (and has been) tested. "Scientific methodology today is based on generating hypotheses and testing them to see if they can be falsified; indeed, this methodology is what distinguishes science from other fields of human

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inquiry." Green 645. See also C. Hempel, Philosophy of Natural Science 49 (1966) [**2797] ("The statements constituting a scientific explanation must be capable of empirical test"); K. Popper, Conjectures and Refutations: The Growth of Scientific Knowledge 37 (5th ed. 1989) ("The criterion of the scientific status of a theory is its falsifiability, or refutability, or testability") (emphasis deleted).

Another pertinent consideration is whether the theory or technique has been subjected to peer review and publication. Publication (which is but one element of peer review) is not a *sine qua non* of admissibility; it does not necessarily correlate with reliability, see S. Jasanoff, The Fifth Branch: Science Advisors as Policymakers 61-76 (1990), and in some instances well-grounded but innovative theories will not have been published, see Horrobin, The Philosophical Basis of Peer Review and the Suppression of Innovation, 263 JAMA 1438 (1990). Some propositions, moreover, are too particular, too new, or of too limited interest to be published. But submission to the scrutiny of the scientific community is a component of "good science," in part because it increases the likelihood that substantive flaws in methodology will be detected. See J. Ziman, Reliable Knowledge: An Exploration [*594] of the Grounds for Belief in Science 130-133 (1978); Relman & Angell, How Good Is Peer Review?, 321 New Eng. J. Med. 827 (1989). The fact of publication (or lack thereof) in a peer reviewed journal thus will be a relevant, though not dispositive, consideration in assessing the scientific validity of a particular technique or methodology on which an opinion is premised.

Additionally, in the case of a particular scientific technique, the court ordinarily should consider the known or potential rate of error, see, *e.g., United States* v. *Smith*, 869 F.2d 348, 353-354 (CA7 1989) (surveying studies of the error rate of spectrographic voice identification technique), and the existence and maintenance of standards controlling the technique's operation, see *United States* v. *Williams*, 583 F.2d 1194, 1198 (CA2 1978) (noting professional organization's standard governing spectrographic analysis), cert. denied, 439 U.S. 1117, 59 L. Ed. 2d 77, 99 S. Ct. 1025 (1979).

Finally, "general acceptance" can yet have a bearing on the inquiry. A "reliability assessment does not require, although it does permit, explicit identification of a relevant scientific community and an express determination of a particular degree of acceptance within that community." *United States* v. *Downing*, 753 F.2d at 1238. See also 3 Weinstein & Berger P702[03], pp. 702-41 to 702-42. Widespread acceptance can be an important factor in ruling particular evidence admissible, and "a known technique which has been able to attract only minimal support within the community," *Downing*, 753 F.2d at 1238, may properly be viewed with skepticism.

The inquiry envisioned by Rule [***484] 702 is, we emphasize, a flexible one. n12 Its overarching subject is the scientific validity [*595] -- and thus the evidentiary relevance and reliability -- of the principles that underlie a proposed submission. The focus, of course, must be solely on principles and methodology, not on the conclusions that they generate.

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n12 A number of authorities have presented variations on the reliability approach, each with its own slightly different set of factors. See, *e.g., Downing*, 753 F.2d at 1238-1239 (on which our discussion draws in part); 3 Weinstein & Berger P702[03], pp. 702-41 to 702-42 (on which the *Downing* court in turn partially relied); McCormick, Scientific Evidence: Defining a New Approach to Admissibility, 67 Iowa L. Rev. 879, 911-912 (1982); and Symposium on Science and the Rules of Evidence, 99 F.R.D. 187, 231 (1983) (statement by Margaret Berger). To the extent that they focus on the reliability of evidence as ensured by the scientific validity of its underlying principles, all these versions may well have merit, although we express no opinion regarding any of their particular details.

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[***LEdHR10] [10]Throughout, a judge assessing a proffer of expert scientific testimony under Rule 702 should also be mindful of other applicable rules. Rule 703 provides that expert opinions based on

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otherwise inadmissible [**2798] hearsay are to be admitted only if the facts or data are "of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject." Rule 706 allows the court at its discretion to procure the assistance of an expert of its own choosing. Finally, Rule 403 permits the exclusion of relevant evidence "if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury . . . ." Judge Weinstein has explained: "Expert evidence can be both powerful and quite misleading because of the difficulty in evaluating it. Because of this risk, the judge in weighing possible prejudice against probative force under Rule 403 of the present rules exercises more control over experts than over lay witnesses." Weinstein, 138 F.R.D. at 632.

III

[***LEdHR11] [11] We conclude by briefly addressing what appear to be two underlying concerns of the parties and *amici* in this case. Respondent expresses apprehension that abandonment of "general acceptance" as the exclusive requirement for admission will result in a "free-for-all" in which befuddled juries are confounded by absurd and irrational pseudoscientific assertions. [*596] In this regard respondent seems to us to be overly pessimistic about the capabilities of the jury and of the adversary system generally. Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence. See *Rock* v. *Arkansas*, 483 U.S. 44, 61, 97 L. Ed. 2d 37, 107 S. Ct. 2704 (1987). Additionally, in the event the trial court concludes that the scintilla of evidence presented supporting a position is insufficient to allow a reasonable juror to conclude that the position more likely than not is true, the court remains free to direct a judgment, Fed. Rule Civ. Proc. 50(a), and likewise to grant summary judgment, Fed. Rule Civ. Proc. 56. Cf., *e.g., Turpin* v. *Merrell Dow Pharmaceuticals, Inc.*, 959 F.2d 1349 (CA6) (holding that scientific evidence that provided foundation for expert testimony, viewed in the light most favorable to plaintiffs, was not sufficient to allow a jury to find it more probable than not that defendant [***485] caused plaintiff's injury), cert. denied, 506 U.S. 826, 121 L. Ed. 2d 47, 113 S. Ct. 84 (1992); *Brock* v. *Merrell Dow Pharmaceuticals, Inc.*, 874 F.2d 307 (CA5 1989) (reversing judgment entered on jury verdict for plaintiffs because evidence regarding causation was insufficient), modified, 884 F.2d 166 (CA5 1989), cert. denied, 494 U.S. 1046 (1990); Green 680-681. These conventional devices, rather than wholesale exclusion under an uncompromising "general acceptance" test, are the appropriate safeguards where the basis of scientific testimony meets the standards of Rule 702.

Petitioners and, to a greater extent, their *amici* exhibit a different concern. They suggest that recognition of a screening role for the judge that allows for the exclusion of "invalid" evidence will sanction a stifling and repressive scientific orthodoxy and will be inimical to the search for truth. See, *e.g.*, Brief for Ronald Bayer et al. as *Amici Curiae*. It is true that open debate is an essential part of both legal and scientific analyses. Yet there are important differences between the quest for truth in the courtroom and the quest [*597] for truth in the laboratory. Scientific conclusions are subject to perpetual revision. Law, on the other hand, must resolve disputes finally and quickly. The scientific project is advanced by broad and wide-ranging consideration of a multitude of hypotheses, for those that are incorrect will eventually be shown to be so, and that in itself is an advance. Conjectures that are probably wrong are of little use, however, in the project of reaching a quick, final, and binding legal judgment -- often of great consequence -- about a particular set of events in the past. We recognize that, in practice, a gatekeeping role for the judge, no matter how flexible, inevitably on occasion will prevent the jury from learning of authentic [**2799] insights and innovations. That, nevertheless, is the balance that is struck by Rules of Evidence designed not for the exhaustive search for cosmic understanding but for the particularized resolution of legal disputes. n13

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n13 This is not to say that judicial interpretation, as opposed to adjudicative factfinding, does not share basic characteristics of the scientific endeavor: "The work of a judge is in one sense enduring and in another ephemeral. . . . In the endless process of testing and retesting, there is a constant rejection of the dross and a constant retention of whatever is pure and sound and fine." B. Cardozo, The Nature of the Judicial Process 178-179 (1921).

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IV

[***LEdHR1E] [1E] [***LEdHR3C] [3C] [***LEdHR4B] [4B]To summarize: "General acceptance" is not a necessary precondition to the admissibility of scientific evidence under the Federal Rules of Evidence, but the Rules of Evidence -- especially Rule 702 -- do assign to the trial judge the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand. Pertinent evidence based on scientifically valid principles will satisfy those demands.

[***LEdHR12] [12]The inquiries of the District Court and the Court of Appeals focused almost exclusively on "general acceptance," as gauged by publication and the decisions of other courts. Accordingly, [*598] the judgment of the Court of Appeals is vacated, and the case is remanded for further proceedings consistent with this opinion.

It is so ordered.

CONCURBY: REHNQUIST (In Part)

DISSENTBY: REHNQUIST (In Part)

DISSENT: [***486] CHIEF JUSTICE REHNQUIST, with whom JUSTICE STEVENS joins, concurring in part and dissenting in part.

The petition for certiorari in this case presents two questions: first, whether the rule of *Frye* v. *United States*, 54 App. D.C. 46, 293 F. 1013 (1923), remains good law after the enactment of the Federal Rules of Evidence; and second, if *Frye* remains valid, whether it requires expert scientific testimony to have been subjected to a peer review process in order to be admissible. The Court concludes, correctly in my view, that the *Frye* rule did not survive the enactment of the Federal Rules of Evidence, and I therefore join Parts I and II-A of its opinion. The second question presented in the petition for certiorari necessarily is mooted by this holding, but the Court nonetheless proceeds to construe Rules 702 and 703 very much in the abstract, and then offers some "general observations." *Ante*, at 593.

"General observations" by this Court customarily carry great weight with lower federal courts, but the ones offered here suffer from the flaw common to most such observations -- they are not applied to deciding whether particular testimony was or was not admissible, and therefore they tend to be not only general, but vague and abstract. This is particularly unfortunate in a case such as this, where the ultimate legal question depends on an appreciation of one or more bodies of knowledge not judicially noticeable, and subject to different interpretations in the briefs of the parties and their *amici*. Twenty-two *amicus* briefs have been filed in the case, and indeed the Court's opinion contains no fewer than 37 citations to *amicus* briefs and other secondary sources.

[*599] The various briefs filed in this case are markedly different from typical briefs, in that large parts of them do not deal with decided cases or statutory language -- the sort of material we customarily

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interpret. Instead, they deal with definitions of scientific knowledge, scientific method, scientific validity, and peer review -- in short, matters far afield from the expertise of judges. This is not to say that such materials are not useful or even necessary in deciding how Rule 702 should be applied; but it is to say that the unusual subject matter should cause us to proceed with great caution in deciding more than we have to, because our reach can so easily exceed our grasp.

But even if it were desirable to make "general observations" not necessary to decide [**2800] the questions presented, I cannot subscribe to some of the observations made by the Court. In Part II-B, the Court concludes that reliability and relevancy are the touchstones of the admissibility of expert testimony. *Ante*, at 590-592. Federal Rule of Evidence 402 provides, as the Court points out, that "evidence which is not relevant is not admissible." But there is no similar reference in the Rule to "reliability." The Court constructs its argument by parsing the language "if scientific, technical, or other specialized [***487] knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, . . . an expert . . . may testify thereto . . . ." Fed. Rule Evid. 702. It stresses that the subject of the expert's testimony must be "scientific . . . knowledge," and points out that "scientific" "implies a grounding in the methods and procedures of science" and that the word "knowledge" "connotes more than subjective belief or unsupported speculation." *Ante*, at 590. From this it concludes that "scientific knowledge" must be "derived by the scientific method." *Ibid.* Proposed testimony, we are told, must be supported by "appropriate validation." *Ibid.* Indeed, in footnote 9, the Court decides that "in a case involving scientific evidence, *evidentiary [*600] reliability* will be based upon *scientific validity." Ante*, at 591, n. 9 (emphasis in original).

Questions arise simply from reading this part of the Court's opinion, and countless more questions will surely arise when hundreds of district judges try to apply its teaching to particular offers of expert testimony. Does all of this *dicta* apply to an expert seeking to testify on the basis of "technical or other specialized knowledge" -- the other types of expert knowledge to which Rule 702 applies -- or are the "general observations" limited only to "scientific knowledge"? What is the difference between scientific knowledge and technical knowledge; does Rule 702 actually contemplate that the phrase "scientific, technical, or other specialized knowledge" be broken down into numerous subspecies of expertise, or did its authors simply pick general descriptive language covering the sort of expert testimony which courts have customarily received? The Court speaks of its confidence that federal judges can make a "preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue." *Ante*, at 592-593. The Court then states that a "key question" to be answered in deciding whether something is "scientific knowledge" "will be whether it can be (and has been) tested." *Ante*, at 593. Following this sentence are three quotations from treatises, which not only speak of empirical testing, but one of which states that the "'criterion of the scientific status of a theory is its falsifiability, or refutability, or testability.'" *Ibid.*

I defer to no one in my confidence in federal judges; but I am at a loss to know what is meant when it is said that the scientific status of a theory depends on its "falsifiability," and I suspect some of them will be, too.

I do not doubt that Rule 702 confides to the judge some gatekeeping responsibility in deciding questions of the admissibility of proffered expert testimony. But I do not think [*601] it imposes on them either the obligation or the authority to become amateur scientists in order to perform that role. I think the Court would be far better advised in this case to decide only the questions presented, and to leave the further development of this important area of the law to future cases.

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REFERENCES: Return To Full Text Opinion

Go to Supreme Court Brief(s)
Go to Oral Argument Transcript

32B Am Jur 2d, Federal Rules of Evidence 435

12 Federal Procedure, L Ed, Evidence 33:131; 33 Federal Procedure, L Ed, Witnesses 80: 133

2 Am Jur Trials 585, Selecting and Preparing Expert Witness; 3 Am Jur Trials 427, Preparing and Using Experimental Evidence
28 USCS Appx, Federal Rules of Evidence, Rule 702

Am Law Prod Liab 3d 54:70, 54:71, 89:38

Ausman & Snyder's Medical Library, L Ed, Pediatrics 5:102

L Ed Digest, Evidence 641

L Ed Index, Experiments or Tests; Expert and Opinion Evidence; Rules of Evidence

ALR Index, Evidence Rules; Experiments and Tests; Expert and Opinion Evidence; Frye Test; Science and Scientific Matters

Annotation References:

Reliability of scientific technique and its acceptance within scientific community as affecting admissibility, at federal trial, of expert testimony as to result of test or study based on such technique--modern cases. 105 ALR Fed 299.

When will expert testimony "assist trier of fact" so as to be admissible at federal trial under Rule 702 of Federal Rules of Evidence. 75 ALR Fed 461.

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KUMHO TIRE COMPANY, LTD., ET AL., PETITIONERS v. PATRICK CARMICHAEL, ETC., ET AL.

No. 97-1709

SUPREME COURT OF THE UNITED STATES

526 U.S. 137; 119 S. Ct. 1167; 143 L. Ed. 2d 238; 1999 U.S. LEXIS 2189; 67 U.S.L.W. 4179; 50 U.S.P.Q.2D (BNA) 1177; 50 Fed. R. Evid. Serv. (Callaghan) 1373; CCH Prod. Liab. Rep. P15,470; 99 Cal. Daily Op. Service 2059; 29 ELR 20638; 1999 Colo. J. C.A.R. 1518; 12 Fla. L. Weekly Fed. S 141

December 7, 1998, Argued
March 23, 1999, Decided

PRIOR HISTORY: ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE ELEVENTH CIRCUIT.

DISPOSITION: 131 F.3d 1433, reversed.

DECISION: Federal trial judge's gatekeeping obligation under Federal Rules of Evidence--to insure that expert witness' testimony rests on reliable foundation and is relevant to task at hand--held to apply to all expert testimony, not only scientific.

SUMMARY: In Daubert v Merrell Dow Pharmaceuticals, Inc. (1993) 509 US 579, 125 L Ed 2d 469, 113 S Ct 2786, a case involving the admissibility of scientific expert testimony, the United States Supreme Court held that (1) such testimony was admissible only if relevant and reliable; (2) the Federal Rules of Evidence (FRE) assigned to the trial judge the task of insuring that an expert's testimony rested on a reliable foundation and was relevant to the task at hand; and (3) some or all of certain specific factors--such as testing, peer review, error rates, and acceptability in the relevant scientific community--might possibly prove helpful in determining the reliability of a particular scientific theory or technique. In 1993, after a tire on a minivan blew out and the minivan overturned, one passenger died and the others were injured. The survivors and the decedent's representative, claiming that the failed tire had been defective, brought a diversity suit in the United States District Court for the Southern District of Alabama against the tire's maker and distributor. The plaintiffs rested their case in significant part upon the depositions of a mechanical engineer--an expert in tire failure analysis--who intended to testify that, in his expert opinion, a defect in the tire's manufacture or design caused the blowout. The expert's opinion was based upon (1) a visual and tactile inspection of the tire, and (2) the theory that in the absence of at least two of four specific physical symptoms indicating tire abuse, the tire failure of the sort that occurred in the case at hand was caused by a defect. The District Court--in granting a motion to exclude the expert's testimony as well as a motion for summary judgment against the plaintiffs--(1) agreed with the defendants that the District Court ought to act as a Daubert-type reliability "gatekeeper," even though the testimony at issue could be considered "technical" rather than "scientific"; (2) examined the expert's methodology in light of the reliability-related factors that Daubert had mentioned; and (3) concluded that all those factors argued against the reliability of the expert's methods (923 F Supp 1514, 1996 US Dist LEXIS 5706). On reconsideration, the District Court--although acknowledging that the Daubert factors ought to be applied flexibly and were simply illustrative--affirmed the earlier rulings on the ground that there were insufficient indications of the reliability of the expert's methodology of tire failure analysis. The United States Court of Appeals for the Eleventh Circuit, in reversing and remanding, expressed the view that the District Court had erred as a matter of law in applying the Daubert factors to the tire expert's testimony, as (1) Daubert was limited to the scientific context, and (2) the testimony in question relied on experience rather than the application of scientific principles (131

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F3d 1433, 1997 US App LEXIS 35981).

On certiorari, the Supreme Court reversed. In an opinion by Breyer, J., joined by Rehnquist, Ch. J., and O'Connor, Scalia, Kennedy, Souter, Thomas, and Ginsburg, JJ., and joined (as to points 1 and 2 below) by Stevens, J., it was held that (1) a federal trial judge's gatekeeping obligation under the FRE--to insure that an expert witness' testimony rests on a reliable foundation and is relevant to the task at hand--applies not only to testimony based on scientific knowledge, but rather to all expert testimony, that is, testimony based on technical and other specialized knowledge; (2) in determining the admissibility of an expert's testimony--including the testimony of an engineering expert--a federal trial judge may properly consider one or more of the specific Daubert factors, where doing so will help determine that testimony's reliability; and (3) in the case at hand, the District Court's decision not to admit the expert testimony in question was within the District Court's discretion.

Scalia, J., joined by O'Connor and Thomas, JJ., concurring, expressed the view that (1) a trial court's discretion in choosing the manner of testing expert reliability is not discretion to abandon the gatekeeping function or to perform that function inadequately; and (2) in a particular case, the failure to apply one or another of the Daubert factors may possibly be unreasonable and hence an abuse of discretion.

Stevens, J., concurring in part and dissenting in part, (1) agreed that a federal trial judge may properly consider the Daubert factors in analyzing the admissibility of an engineering expert's testimony, and (2) expressed the view that the case ought to have been remanded to the Court of Appeals for a study of the record to determine whether the trial judge abused his discretion in excluding the expert testimony in question.

LAWYERS' EDITION HEADNOTES:

[***LEdHN1]
EVIDENCE §641
-- expert testimony -- judge's gatekeeping obligation
Headnote:[1A][1B][1C][1D]

A federal trial judge's gatekeeping obligation under the Federal Rules of Evidence (FRE)--to insure that an expert witness' testimony rests on a reliable foundation and is relevant to the task at hand--applies not only to testimony based on scientific knowledge, but rather to all expert testimony, that is, testimony based on technical and other specialized knowledge, for (1) the language of Rule 702 of the FRE, which allows expert witnesses to give opinion testimony as to scientific, technical, or other specialized knowledge under some circumstances, (a) makes no relevant distinction between "scientific" knowledge and "technical" or "other specialized" knowledge, and (b) makes clear that any such knowledge might become the subject of expert testimony; (2) the FRE grant to all experts--not just to "scientific" ones--testimonial latitude unavailable to other witnesses on the assumption that an expert's opinion will have a reliable basis in the knowledge and experience of the expert's discipline; (3) it would prove difficult, if not impossible, for judges to administer evidentiary rules under which a gatekeeping obligation depended upon a distinction between scientific knowledge and technical or other specialized knowledge, and (4) there is no convincing need to make such distinctions.

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[***LEdHN2]
EVIDENCE §641
-- expert testimony -- reliability factors
Headnote:[2A][2B][2C][2D]

In determining the admissibility of an expert's testimony, including the testimony of an engineering expert, under Rule 702 of the Federal Rules of Evidence, a federal trial judge may properly consider one or more of some specific factors--whether the theory or technique (1) can be and has been tested, (2) has been subjected to peer review or publication, (3) has (a) a high known or potential rate of error, and (b) standards controlling the technique's operation, and (4) enjoys general acceptance within a relevant scientific community--where such factors are reasonable measures of the testimony's reliability; the trial judge may ask questions of this sort not only where an expert relies on the application of scientific principles, but also where an expert relies on skill- or experience-based observation.

[***LEdHN3]
EVIDENCE §643
-- expert testimony -- cause of tire failure
Headnote:[3A][3B][3C][3D][3E]

A Federal District Court's decision not to admit expert testimony as to the cause of an automobile tire's blowout is within the court's discretion, where (1) the testimony consists of the depositions of a witness who intends to testify that, in the witness' expert opinion, a defect in the tire's manufacture or design caused the tire to blow out; (2) the witness' opinion is based upon (a) a visual and tactile inspection of the tire, and (b) a theory that in the absence of at least two of four specific physical symptoms indicating tire abuse, the tire failure of the sort that occurred in the case at hand is caused by a defect; (3) the question before the court is not the reliability of the witness' methodology in general, but rather whether the witness can reliably determine the cause of failure of the particular tire at issue; (4) the witness concedes, among other matters, that this tire bore some of the very marks that were said to indicate abuse rather than a defect; (5) the witness' own testimony casts considerable doubt upon the reliability of (a) the witness' explicit theory, and (b) the implicit proposition about the significance of visual inspection in the case at hand; (6) there is no indication in the record that (a) other experts in the industry use the witness' particular approach, or (b) tire experts normally make the very fine distinctions necessary to support the witness' conclusions; (7) there are no references to articles or papers that validate the witness' approach; and (8) the court's decision is ultimately based upon the witness' failure to satisfy either (a) specific factors involving testing, peer review, error rates, and acceptability in the relevant scientific community, or (b) any other set of reasonable reliability criteria. (Stevens, J., dissented in part from this holding.)

[***LEdHN4]
EVIDENCE §641
-- expert testimony
Headnote:[4A][4B][4C]

For purposes of determining the admissibility, under Rule 702 of the Federal Rules of Evidence, of expert testimony that is based on a theory or technique, the test of the testimony's reliability is flexible; some specific factors that may possibly bear on the reliability determination--whether the theory or technique (1) can be and has been tested, (2) has been subjected to peer review or publication, (3) has (a) a high known or potential rate of error, and (b) standards controlling the technique's operation, and (4) enjoys general acceptance within a relevant scientific community--do not constitute a definitive checklist or test; depending on the nature of the issue, the expert's particular expertise, and the subject of the expert's testimony, such factors may or may not be pertinent in assessing the testimony's reliability; because too much depends upon the particular circumstances of the particular case at issue, the United

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States Supreme Court can neither rule out nor rule in the applicability of these factors (1) for all cases and for all time, or (2) for subsets of cases categorized by category of expert or by kind of evidence; these factors do not all necessarily apply in every instance in which the reliability of scientific testimony is challenged.

[***LEdHN5]
EVIDENCE §641
-- expert testimony
Headnote:[5A][5B]

In determining the admissibility of expert testimony under Rule 702 of the Federal Rules of Evidence, a trial court must have the same kind of latitude in deciding how to test an expert's reliability--and to decide whether or when special briefing or other proceedings are needed to investigate reliability--as the trial court enjoys in deciding whether that expert's relevant testimony is reliable; thus, in determining the admissibility under Rule 702 of expert testimony that is based on a theory or technique, the question whether some specific factors--whether the theory or technique (1) can be and has been tested, (2) has been subjected to peer review or publication, (3) has (a) a high known or potential rate of error, and (b) standards controlling the technique's operation, and (4) enjoys general acceptance within a relevant scientific community--are reasonable measures of reliability in a particular case is a matter that the law grants the trial judge broad latitude to determine.

[***LEdHN6]
APPEAL §1296
-- presumptions -- expert testimony
Headnote:[6]

On certiorari to review a Federal Court of Appeals' judgment in a suit against an automobile tire's maker and distributor--in which suit an expert witness, in concluding that a defect in the tire's manufacture or design caused the tire to blow out, rests this conclusion in part upon the premises that (1) a tire's carcass should stay bound to the inner side of the tread for a significant period of time after the tread depth has worn away, (2) the tread of the tire at issue separated from the tire's inner steel-belted carcass prior to the accident, and (3) this separation caused the blowout--the United States Supreme Court must assume that these premises are not in dispute, where the witness' conclusion also rests upon some other propositions, several of which the maker and distributor dispute.

[***LEdHN7]
EVIDENCE §641
-- expert testimony
Headnote:[7]

Rule 702 of the Federal Rules of Evidence, which allows expert witnesses to give opinion testimony as to scientific, technical, or other specialized knowledge under some circumstances, establishes a standard of evidentiary reliability and requires a valid connection to the pertinent inquiry as a precondition to admissibility; where such testimony's factual basis, data, principles, methods, or their application are called sufficiently into question, the trial judge must determine whether the testimony has a reliable basis in the knowledge and experience of the relevant discipline.

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[***LEdHN8]
EVIDENCE §641
-- expert testimony
Headnote:[8]

For purposes of determining the admissibility, under Rule 702 of the Federal Rules of Evidence, of expert testimony that is based on a theory or technique, the fact that the theory or technique has general acceptance within a relevant expert community does not help to show that the expert's testimony is reliable where the discipline itself lacks reliability, as, for example, theories grounded in any so-called generally accepted principles of astrology or necromancy.

[***LEdHN9]
EVIDENCE §641
-- expert testimony
Headnote:[9]

For purposes of determining the admissibility, under Rule 702 of the Federal Rules of Evidence, of expert testimony that is based on the expert's experience, (1) it is appropriate in some cases for a trial judge to ask, for example, (a) how often an engineering expert's experience-based methodology has produced erroneous results, or (b) whether such a method is generally accepted in the relevant engineering community; and (2) it is useful at times to ask even of a witness whose expertise is based purely on experience--as, for example, a perfume tester able to distinguish among 140 odors at a sniff--whether the witness' preparation is of a kind that others in the field would recognize as acceptable.

[***LEdHN10]
EVIDENCE §641
-- expert testimony
Headnote:[10]

The objective of a trial judge's gatekeeping requirement--in determining the admissibility, under Rule 702 of the Federal Rules of Evidence, of expert testimony--is to insure the reliability and relevancy of expert testimony, that is, to make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.
[***LEdHN11]
APPEAL §1391
-- discretion -- expert testimony
Headnote:[11A][11B]

A Federal Court of Appeals is to apply an abuse-of-discretion standard when reviewing a federal trial court's decision to admit or exclude expert testimony; this standard applies as much to the trial court's decisions about how to determine reliability as to the trial court's ultimate conclusion, for otherwise, the trial judge would lack the discretionary authority needed to (1) avoid unnecessary reliability proceedings in ordinary cases where the reliability of an expert's methods is properly taken for granted, and (2) require appropriate proceedings in the less usual or more complex cases where cause for questioning the expert's reliability arises.

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[***LEdHN12]
EVIDENCE §641
-- expert testimony
Headnote:[12]

Nothing in a United States Supreme Court decision involving the admissibility of expert testimony or in the Federal Rules of Evidence requires a Federal District Court to admit opinion evidence that is connected to existing data by only the expert's own statement.

SYLLABUS: When a tire on the vehicle driven by Patrick Carmichael blew out and the vehicle overturned, one passenger died and the others were injured. The survivors and the decedent's representative, respondents here, brought this diversity suit against the tire's maker and its distributor (collectively Kumho Tire), claiming that the tire that failed was defective. They rested their case in significant part upon the depositions of a tire failure analyst, Dennis Carlson, Jr., who intended to testify that, in his expert opinion, a defect in the tire's manufacture or design caused the blow out. That opinion was based upon a visual and tactile inspection of the tire and upon the theory that in the absence of at least two of four specific, physical symptoms indicating tire abuse, the tire failure of the sort that occurred here was caused by a defect. Kumho Tire moved to exclude Carlson's testimony on the ground that his methodology failed to satisfy Federal Rule of Evidence 702, which says: "If scientific, technical, or other specialized knowledge will assist the trier of fact . . . , a witness qualified as an expert . . . may testify thereto in the form of an opinion." Granting the motion (and entering summary judgment for the defendants), the District Court acknowledged that it should act as a reliability "gatekeeper" under *Daubert* v. *Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 589, 125 L. Ed. 2d 469, 113 S. Ct. 2786, in which this Court held that Rule 702 imposes a special obligation upon a trial judge to ensure that scientific testimony is not only relevant, but reliable. The court noted that *Daubert* discussed four factors -- testing, peer review, error rates, and "acceptability" in the relevant scientific community -- which might prove helpful in determining the reliability of a particular scientific theory or technique, 509 U.S. at 593-594, and found that those factors argued against the reliability of Carlson's methodology. On the plaintiffs' motion for reconsideration, the court agreed that *Daubert* should be applied flexibly, that its four factors were simply illustrative, and that other factors could argue in favor of admissibility. However, the court affirmed its earlier order because it found insufficient indications of the reliability of Carlson's methodology. In reversing, the Eleventh Circuit held that the District Court had erred as a matter of law in applying *Daubert.* Believing that *Daubert* was limited to the scientific context, the court held that the *Daubert* factors did not apply to Carlson's testimony, which it characterized as skill- or experience-based.

Held:

1. The Daubert factors may apply to the testimony of engineers and other experts who are not scientists. Pp. 7-13.

(a) The *Daubert* "gatekeeping" obligation applies not only to "scientific" testimony, but to all expert testimony. Rule 702 does not distinguish between "scientific" knowledge and "technical" or "other specialized" knowledge, but makes clear that any such knowledge might become the subject of expert testimony. It is the Rule's word "knowledge," not the words (like "scientific") that modify that word, that establishes a standard of evidentiary reliability. 509 U.S. at 589-590. *Daubert* referred only to "scientific" knowledge because that was the nature of the expertise there at issue. Id. at 590, n. 8. Neither is the evidentiary rationale underlying *Daubert*'s "gatekeeping" determination limited to "scientific" knowledge. Rules 702 and 703 grant all expert witnesses, not just "scientific" ones, testimonial latitude unavailable to other witnesses on the assumption that the expert's opinion will have a reliable basis in the knowledge and experience of his discipline. Id. at 592. Finally, it would prove difficult, if not

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impossible, for judges to administer evidentiary rules under which a "gatekeeping" obligation depended upon a distinction between "scientific" knowledge and "technical" or "other specialized" knowledge, since there is no clear line dividing the one from the others and no convincing need to make such distinctions. Pp. 7-9.

(b) A trial judge determining the admissibility of an engineering expert's testimony *may* consider one or more of the specific *Daubert* factors. The emphasis on the word "may" reflects *Daubert*'s description of the Rule 702 inquiry as "a flexible one." 509 U.S. at 594. The *Daubert* factors do *not* constitute a definitive checklist or test, id. at 593, and the gatekeeping inquiry must be tied to the particular facts, id. at 591. Those factors may or may not be pertinent in assessing reliability, depending on the nature of the issue, the expert's particular expertise, and the subject of his testimony. Some of those factors may be helpful in evaluating the reliability even of experience-based expert testimony, and the Court of Appeals erred insofar as it ruled those factors out in such cases. In determining whether particular expert testimony is reliable, the trial court should consider the specific *Daubert* factors where they are reasonable measures of reliability. Pp. 10-12.

(c) The court of appeals must apply an abuse-of-discretion standard when it reviews the trial court's decision to admit or exclude expert testimony. *General Electric Co.* v. *Joiner*, 522 U.S. 136, 138-139, 139 L. Ed. 2d 508, 118 S. Ct. 512. That standard applies as much to the trial court's decisions about how to determine reliability as to its ultimate conclusion. Thus, whether *Daubert*'s specific factors are, or are not, reasonable measures of reliability in a particular case is a matter that the law grants the trial judge broad latitude to determine. See id. at 143. The Eleventh Circuit erred insofar as it held to the contrary. P. 13.

2. Application of the foregoing standards demonstrates that the District Court's decision not to admit Carlson's expert testimony was lawful. The District Court did not question Carlson's qualifications, but excluded his testimony because it initially doubted his methodology and then found it unreliable after examining the transcript in some detail and considering respondents' defense of it. The doubts that triggered the court's initial inquiry were reasonable, as was the court's ultimate conclusion that Carlson could not reliably determine the cause of the failure of the tire in question. The question was not the reliability of Carlson's methodology in general, but rather whether he could reliably determine the cause of failure of *the particular tire at issue.* That tire, Carlson conceded, had traveled far enough so that some of the tread had been worn bald, it should have been taken out of service, it had been repaired (inadequately) for punctures, and it bore some of the very marks that he said indicated, not a defect, but abuse. Moreover, Carlson's own testimony cast considerable doubt upon the reliability of both his theory about the need for at least two signs of abuse and his proposition about the significance of visual inspection in this case. Respondents stress that other tire failure experts, like Carlson, rely on visual and tactile examinations of tires. But there is no indication in the record that other experts in the industry use Carlson's *particular* approach or that tire experts normally make the very fine distinctions necessary to support his conclusions, nor are there references to articles or papers that validate his approach. Respondents' argument that the District Court too rigidly applied *Daubert* might have had some validity with respect to the court's initial opinion, but fails because the court, on reconsideration, recognized that the relevant reliability inquiry should be "flexible," and ultimately based its decision upon Carlson's failure to satisfy either *Daubert*'s factors *or any other* set of reasonable reliability criteria. Pp. 13-19.

131 F.3d 1433, reversed.

COUNSEL: Joseph H. Babington argued the cause for petitioners.

Jeffrey P. Minear argued the cause for the United States, as amicus curiae, by special leave of court.

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Sidney W. Jackson argued the cause for respondents.

JUDGES: BREYER, J., delivered the opinion of the Court, in which REHNQUIST, C. J., and O'CONNOR, SCALIA, KENNEDY, SOUTER, THOMAS, and GINSBURG, JJ., joined, and in which STEVENS, J., joined as to Parts I and II. SCALIA, J., filed a concurring opinion, in which O'CONNOR and THOMAS, JJ., joined. STEVENS, J., filed an opinion concurring in part and dissenting in part.

OPINIONBY: BREYER

OPINION: [*141] [**1171] [***246] JUSTICE BREYER delivered the opinion of the Court.

[***LEdHR1A] [1A] In *Daubert* v. *Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 125 L. Ed. 2d 469, 113 S. Ct. 2786 (1993), this Court focused upon the admissibility of scientific expert testimony. It pointed out that such testimony is admissible only if it is both relevant and reliable. And it held that the Federal Rules of Evidence "assign to the trial judge the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand." Id. at 597. The Court also discussed certain more specific factors, such as testing, peer review, error rates, and "acceptability" in the relevant scientific community, some or all of which might prove helpful in determining the reliability of a particular scientific "theory or technique." 509 U.S. at 593-594.

[***LEdHR1B] [1B] [***LEdHR2A] [2A] [***LEdHR3A] [3A] [***LEdHR4A] [4A] [***LEdHR5A] [5A]This case requires us to decide how *Daubert* applies to the testimony of engineers and other experts who are not scientists. We conclude that *Daubert*'s general holding -- setting forth the trial judge's general "gatekeeping" obligation -- applies not only to testimony based on "scientific" knowledge, but also to testimony based on "technical" and "other specialized" knowledge. See Fed. Rule Evid. 702. We also conclude that a trial court *may* consider one or more of the more specific factors that *Daubert* mentioned when doing so will help determine that testimony's reliability. But, as the Court stated in *Daubert*, the test of reliability is "flexible," and *Daubert*'s list of specific factors neither necessarily nor exclusively applies to all experts or in every case. [*142] Rather, the law grants a district court the same broad latitude when it decides *how* to determine reliability as it enjoys in respect to its ultimate reliability determination. See *General Electric Co.* v. *Joiner*, 522 U.S. 136, 143, 139 L. Ed. 2d 508, 118 S. Ct. 512 (1997) (courts of [***247] appeals are to apply "abuse of discretion" standard when reviewing district court's reliability determination). Applying these standards, we determine that the District Court's decision in this case -- not to admit certain expert testimony -- was within its discretion and therefore lawful.

I

On July 6, 1993, the right rear tire of a minivan driven by Patrick Carmichael blew out. In the accident that followed, one of the passengers died, and others were severely injured. In October 1993, the Carmichaels brought this diversity suit against the tire's maker and its distributor, whom we refer to collectively as Kumho Tire, claiming that the tire was defective. The plaintiffs rested their case in significant part upon deposition testimony provided by an expert in tire failure analysis, Dennis Carlson, Jr., who intended to testify in support of their conclusion.

Carlson's depositions relied upon certain features of tire technology that are not in dispute. A steel-belted radial tire like the Carmichaels' is made up of a "carcass" containing many layers of flexible cords, called "plies," along which (between the cords and the outer tread) are laid steel strips called "belts." Steel wire loops, called "beads," hold the cords together at the plies' bottom edges. An outer layer, called the "tread," encases the carcass, and the entire tire is bound together in rubber, through the application of

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heat and various chemicals. See generally, *e.g.*, J. Dixon, Tires, Suspension and Handling 68-72 (2d ed. 1996). The bead of the tire sits upon a "bead seat," which is part of the wheel assembly. That assembly contains a "rim flange," which extends over the bead and rests against the side of the [*143] tire. See M. Mavrigian, Performance Wheels & Tires 81, 83 (1998) (illustrations).

[Graphic omitted; see printed opinion.]

A. Markovich, How To Buy and Care For Tires 4 (1994).

[**1172] Carlson's testimony also accepted certain background facts about the tire in question. He assumed that before the blowout the tire had traveled far. (The tire was made in 1988 and had been installed some time before the Carmichaels bought the used minivan in March 1993; the Carmichaels had driven the van approximately 7,000 additional miles in the two months they had owned it.) Carlson noted that the tire's tread depth, which was 11/32 of an inch when new, App. 242, had been worn down to depths that ranged from 3/32 of an inch along some parts of the tire, to nothing at all along others. Id. at 287. He conceded that the tire tread had at least two punctures which had been inadequately repaired. Id. at 258-261, 322.

[***LEdHR6] [6]Despite the tire's age and history, Carlson concluded that a defect in its manufacture or design caused the blow-out. He rested this conclusion in part upon three premises which, [*144] for present purposes, we must assume are not in dispute: First, a tire's carcass should stay [***248] bound to the inner side of the tread for a significant period of time after its tread depth has worn away. Id. at 208-209. Second, the tread of the tire at issue had separated from its inner steel-belted carcass prior to the accident. Id. at 336. Third, this "separation" caused the blowout. *Ibid.*

Carlson's conclusion that a defect caused the separation, however, rested upon certain other propositions, several of which the defendants strongly dispute. First, Carlson said that if a separation is *not* caused by a certain kind of tire misuse called "overdeflection" (which consists of underinflating the tire or causing it to carry too much weight, thereby generating heat that can undo the chemical tread/carcass bond), then, ordinarily, its cause is a tire defect. Id. at 193-195, 277-278. Second, he said that if a tire has been subject to sufficient overdeflection to cause a separation, it should reveal certain physical symptoms. These symptoms include (a) tread wear on the tire's shoulder that is greater than the tread wear along the tire's center, id. at 211; (b) signs of a "bead groove," where the beads have been pushed too hard against the bead seat on the inside of the tire's rim, id. at 196-197; (c) sidewalls of the tire with physical signs of deterioration, such as discoloration, id. at 212; and/or (d) marks on the tire's rim flange, id. at 219-220. Third, Carlson said that where he does not find *at least two* of the four physical signs just mentioned (and presumably where there is no reason to suspect a less common cause of separation), he concludes that a manufacturing or design defect caused the separation. Id. at 223-224.

Carlson added that he had inspected the tire in question. He conceded that the tire to a limited degree showed greater wear on [**1173] the shoulder than in the center, some signs of "bead groove," some discoloration, a few marks on the rim flange, and inadequately filled puncture holes (which can also cause heat that might lead to separation). Id. at 256-257, 258-261, [*145] 277, 303-304, 308. But, in each instance, he testified that the symptoms were not significant, and he explained why he believed that they did not reveal overdeflection. For example, the extra shoulder wear, he said, appeared primarily on one shoulder, whereas an overdeflected tire would reveal equally abnormal wear on both shoulders. Id. at 277. Carlson concluded that the tire did not bear at least two of the four overdeflection symptoms, nor was there any less obvious cause of separation; and since neither overdeflection nor the punctures caused the blowout, a defect must have done so.

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Kumho Tire moved the District Court to exclude Carlson's testimony on the ground that his methodology failed Rule 702's reliability requirement. The court agreed with Kumho that it should act as a *Daubert*-type reliability "gatekeeper," even though one might consider Carlson's testimony as "technical," rather than "scientific." See *Carmichael* v. *Samyang Tires, Inc.*, 923 F. Supp. 1514, 1521-1522 (SD Ala. 1996). The court then examined Carlson's methodology in light of the reliability-related factors that *Daubert* mentioned, such as a theory's testability, whether it "has been a subject of peer review or publication," the "known or potential rate of error," and the "degree of acceptance . . . within the relevant scientific community." 923 F. Supp. at 1520 (citing *Daubert*, 509 U.S. 579 at 592-594). [***249] The District Court found that all those factors argued against the reliability of Carlson's methods, and it granted the motion to exclude the testimony (as well as the defendants' accompanying motion for summary judgment).

The plaintiffs, arguing that the court's application of the *Daubert* factors was too "inflexible," asked for reconsideration. And the Court granted that motion. *Carmichael* v. *Samyang Tires, Inc.*, 1996 U.S. Dist. LEXIS 22431, Civ. Action No. 93-0860-CB-S (June 5, 1996), App. to Pet. for Cert. 1c. After reconsidering the matter, the court agreed with the plaintiffs that *Daubert* should be applied flexibly, that its four factors were [*146] simply illustrative, and that other factors could argue in favor of admissibility. It conceded that there may be widespread acceptance of a "visual-inspection method" for some relevant purposes. But the court found insufficient indications of the reliability of

> "the component of Carlson's tire failure analysis which most concerned the Court, namely, the methodology employed by the expert in analyzing the data obtained in the visual inspection, and the scientific basis, if any, for such an analysis." Id. at 6c.

It consequently affirmed its earlier order declaring Carlson's testimony inadmissable and granting the defendants' motion for summary judgment.

The Eleventh Circuit reversed. See *Carmichael* v. *Samyang Tire, Inc.*, 131 F.3d 1433 (1997). It "reviewed . . . *de novo*" the "district court's legal decision to apply *Daubert*." 131 F.3d at 1435. It noted that "the Supreme Court in *Daubert* explicitly limited its holding to cover only the 'scientific context,'" adding that "a *Daubert* analysis" applies only where an expert relies "on the application of scientific principles," rather than "on skill- or experience-based observation." 131 F.3d at 1435-1436. It concluded that Carlson's testimony, which it viewed as relying on experience, "falls outside the scope of *Daubert*," that "the district court erred as a matter of law by applying *Daubert* in this case," and that the case must be remanded for further (non-*Daubert*-type) consideration under Rule 702. Id. at 1436.

Kumho Tire petitioned for certiorari, asking us to determine whether a trial court "may" consider *Daubert*'s specific "factors" when determining the "admissibility of an engineering expert's testimony." Pet. for Cert. i. We granted certiorari in light of uncertainty among the lower courts about whether, or how, *Daubert* applies to expert testimony that might be characterized as based not upon "scientific" knowledge, but rather upon "technical" or "other specialized" [*147] knowledge. Fed. Rule Evid. 702; compare, *e.g., Watkins* v. *Telsmith, Inc.*, 121 F.3d 984, 990-991 (CA5 1997), with, *e.g., Compton* v. *Subaru of America, Inc.*, 82 F.3d 1513, 1518-1519 [**1174] (CA10), cert. denied, 519 U.S. 1042, 136 L. Ed. 2d 536, 117 S. Ct. 611 (1996).

II

A

[***LEdHR1C] [1C]In *Daubert*, this Court held that Federal Rule of Evidence 702 imposes a special obligation upon a trial judge to "ensure that any and all scientific testimony . . . is not only relevant, but reliable." 509 U.S. at 589. The initial question before us is whether this basic gatekeeping obligation

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applies only to "scientific" [***250] testimony or to all expert testimony. We, like the parties, believe that it applies to all expert testimony. See Brief for Petitioners 19; Brief for Respondents 17.

For one thing, Rule 702 itself says:

> "If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise."

This language makes no relevant distinction between "scientific" knowledge and "technical" or "other specialized" knowledge. It makes clear that any such knowledge might become the subject of expert testimony. In *Daubert*, the Court specified that it is the Rule's word "knowledge," not the words (like "scientific") that modify that word, that "establishes a standard of evidentiary reliability." 509 U.S. at 589-590. Hence, as a matter of language, the Rule applies its reliability standard to all "scientific," "technical," or "other specialized" matters within its scope. We concede that the Court in *Daubert* referred only to "scientific" knowledge. But as the Court there said, it referred to "scientific" [*148] testimony "because that was the nature of the expertise" at issue. 509 U.S. at 590, n.8.

Neither is the evidentiary rationale that underlay the Court's basic *Daubert* "gatekeeping" determination limited to "scientific" knowledge. *Daubert* pointed out that Federal Rules 702 and 703 grant expert witnesses testimonial latitude unavailable to other witnesses on the "assumption that the expert's opinion will have a reliable basis in the knowledge and experience of his discipline." 509 U.S. at 592 (pointing out that experts may testify to opinions, including those that are not based on firsthand knowledge or observation). The Rules grant that latitude to all experts, not just to "scientific" ones.

Finally, it would prove difficult, if not impossible, for judges to administer evidentiary rules under which a gatekeeping obligation depended upon a distinction between "scientific" knowledge and "technical" or "other specialized" knowledge. There is no clear line that divides the one from the others. Disciplines such as engineering rest upon scientific knowledge. Pure scientific theory itself may depend for its development upon observation and properly engineered machinery. And conceptual efforts to distinguish the two are unlikely to produce clear legal lines capable of application in particular cases. Cf. Brief for National Academy of Engineering as *Amicus Curiae* 9 (scientist seeks to understand nature while the engineer seeks nature's modification); Brief for Rubber Manufacturers Association as *Amicus Curiae* 14-16 (engineering, as an "applied science," relies on "scientific reasoning and methodology"); Brief for John Allen et al. as *Amici Curiae* 6 (engineering relies upon "scientific knowledge and methods").

Neither is there a convincing need to make such distinctions. Experts of all kinds tie observations to conclusions through the use of what Judge Learned Hand called "general truths derived from . . . specialized experience." Hand, Historical and Practical Considerations Regarding Expert Testimony, [*149] 15 Harv. L. Rev. 40, 54 (1901). And whether the specific [***251] expert testimony focuses upon specialized observations, the specialized translation of those observations into theory, a specialized theory itself, or the application of such a theory in a particular case, the expert's testimony often will rest "upon an experience confessedly foreign in kind to [the jury's] own." *Ibid.* The trial judge's effort to assure that the specialized testimony is reliable and relevant can help the jury evaluate [**1175] that foreign experience, whether the testimony reflects scientific, technical, or other specialized knowledge.

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[***LEdHR1D] [1D] [***LEdHR7] [7]We conclude that *Daubert*'s general principles apply to the expert matters described in Rule 702. The Rule, in respect to all such matters, "establishes a standard of evidentiary reliability." 509 U.S. at 590. It "requires a valid . . . connection to the pertinent inquiry as a precondition to admissibility." 509 U.S. at 592. And where such testimony's factual basis, data, principles, methods, or their application are called sufficiently into question, see Part III, *infra*, the trial judge must determine whether the testimony has "a reliable basis in the knowledge and experience of [the relevant] discipline." 509 U.S. at 592.

B

[***LEdHR2B] [2B]The petitioners ask more specifically whether a trial judge determining the "admissibility of an engineering expert's testimony" *may* consider several more specific factors that *Daubert* said might "bear on" a judge's gate-keeping determination. These factors include:

> -- Whether a "theory or technique . . . can be (and has been) tested";
>
> -- Whether it "has been subjected to peer review and publication";
>
> -- Whether, in respect to a particular technique, there is a high "known or potential rate of error" and whether there are "standards controlling the technique's operation"; and [*150]
>
> -- Whether the theory or technique enjoys "general acceptance" within a "relevant scientific community." 509 U.S. at 592-594.

Emphasizing the word "may" in the question, we answer that question yes.

[***LEdHR4B] [4B]Engineering testimony rests upon scientific foundations, the reliability of which will be at issue in some cases. See, *e.g.*, Brief for Stephen Bobo et al. as *Amici Curiae* 23 (stressing the scientific bases of engineering disciplines). In other cases, the relevant reliability concerns may focus upon personal knowledge or experience. As the Solicitor General points out, there are many different kinds of experts, and many different kinds of expertise. See Brief for United States as *Amicus Curiae* 18-19, and n. 5 (citing cases involving experts in drug terms, handwriting analysis, criminal *modus operandi*, land valuation, agricultural practices, railroad procedures, attorney's fee valuation, and others). Our emphasis on the word "may" thus reflects *Daubert*'s description of the Rule 702 inquiry as "a flexible one." 509 U.S. at 594. *Daubert* makes clear that the factors it mentions do *not* constitute a "definitive checklist or test." 509 U.S. at 593. And *Daubert* adds that the gatekeeping inquiry must be "'tied to the facts'" of a particular "case." 509 U.S. at 591 (quoting *United States* v. *Downing*, 753 F.2d 1224, 1242 (CA3 1985)). We agree with the Solicitor General that "the factors identified in *Daubert* may or may not be pertinent in assessing reliability, depending [***252] on the nature of the issue, the expert's particular expertise, and the subject of his testimony." Brief for United States as *Amicus Curiae* 19. The conclusion, in our view, is that we can neither rule out, nor rule in, for all cases and for all time the applicability of the factors mentioned in *Daubert*, nor can we now do so for subsets of cases categorized by category of expert or by kind of evidence. Too much depends upon the particular circumstances of the particular case at issue. [*151] [***LEdHR4C] [4C] [***LEdHR8] [8]*Daubert* itself is not to the contrary. It made clear that its list of factors was meant to be helpful, not definitive. Indeed, those factors do not all necessarily apply even in every instance in which the reliability of scientific testimony is challenged. It might not be surprising in a particular case, for example, that a claim made by a scientific witness has never been the subject of peer review, for the particular application at issue may never previously have interested any scientist. Nor, on the other hand, does the presence of *Daubert*'s general acceptance factor help show that an expert's testimony is reliable where the discipline itself lacks reliability, as, for example, do theories grounded in any so-called generally accepted principles of astrology or necromancy.

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[**1176]

[***LEdHR9] [9]At the same time, and contrary to the Court of Appeals' view, some of *Daubert*'s questions can help to evaluate the reliability even of experience-based testimony. In certain cases, it will be appropriate for the trial judge to ask, for example, how often an engineering expert's experience-based methodology has produced erroneous results, or whether such a method is generally accepted in the relevant engineering community. Likewise, it will at times be useful to ask even of a witness whose expertise is based purely on experience, say, a perfume tester able to distinguish among 140 odors at a sniff, whether his preparation is of a kind that others in the field would recognize as acceptable.

[***LEdHR2C] [2C]We must therefore disagree with the Eleventh Circuit's holding that a trial judge may ask questions of the sort *Daubert* mentioned only where an expert "relies on the application of scientific principles," but not where an expert relies "on skill- or experience-based observation." 131 F.3d at 1435. We do not believe that Rule 702 creates a schematism that segregates expertise by type while mapping certain kinds of questions to certain kinds of experts. Life and the legal cases that it generates are too complex to warrant so definitive a match.

[*152] [***LEdHR2D] [2D] [***LEdHR10] [10]To say this is not to deny the importance of *Daubert*'s gatekeeping requirement. The objective of that requirement is to ensure the reliability and relevancy of expert testimony. It is to make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field. Nor do we deny that, as stated in *Daubert*, the particular questions that it mentioned will often be appropriate for use in determining the reliability of challenged expert testimony. Rather, we conclude that the trial judge must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable. That is to say, a trial court should consider the specific factors identified in *Daubert* where they are reasonable measures of the reliability of expert testimony.

C

[***LEdHR5B] [5B] [***LEdHR11A] [11A]The trial court must have the same kind of latitude in deciding *how* to test an expert's reliability, and to decide whether or when special briefing or other proceedings are [***253] needed to investigate reliability, as it enjoys when it decides *whether* that expert's relevant testimony is reliable. Our opinion in *Joiner* makes clear that a court of appeals is to apply an abuse-of-discretion standard when it "reviews a trial court's decision to admit or exclude expert testimony." 522 U.S. at 138-139. That standard applies as much to the trial court's decisions about how to determine reliability as to its ultimate conclusion. Otherwise, the trial judge would lack the discretionary authority needed both to avoid unnecessary "reliability" proceedings in ordinary cases where the reliability of an expert's methods is properly taken for granted, and to require appropriate proceedings in the less usual or more complex cases where cause for questioning the expert's reliability arises. Indeed, the Rules seek to avoid "unjustifiable expense and delay" as part of their search for [*153] "truth" and the "just determination" of proceedings. Fed. Rule Evid. 102. Thus, whether *Daubert*'s specific factors are, or are not, reasonable measures of reliability in a particular case is a matter that the law grants the trial judge broad latitude to determine. See *Joiner, supra,* at 143. And the Eleventh Circuit erred insofar as it held to the contrary.

III

[***LEdHR3B] [3B]We further explain the way in which a trial judge "may" consider *Daubert*'s factors by applying these considerations to the case at hand, a matter that has been briefed exhaustively by the parties and their 19 *amici*. The District Court did not doubt Carlson's qualifications, which included a

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masters degree in mechanical engineering, 10 years' work at Michelin America, Inc., and testimony as a tire failure consultant in other tort cases. Rather, it excluded the testimony because, despite those qualifications, it initially [**1177] doubted, and then found unreliable, "the methodology employed by the expert in analyzing the data obtained in the visual inspection, and the scientific basis, if any, for such an analysis." Civ. Action No. 93-0860-CB-S (SD Ala., June 5, 1996), App. to Pet. for Cert. 6c. After examining the transcript in "some detail," 923 F. Supp. at 1518-519, n. 4, and after considering respondents' defense of Carlson's methodology, the District Court determined that Carlson's testimony was not reliable. It fell outside the range where experts might reasonably differ, and where the jury must decide among the conflicting views of different experts, even though the evidence is "shaky." *Daubert*, 509 U.S. at 596. In our view, the doubts that triggered the District Court's initial inquiry here were reasonable, as was the court's ultimate conclusion.

For one thing, and contrary to respondents' suggestion, the specific issue before the court was not the reasonableness *in general* of a tire expert's use of a visual and tactile inspection to determine whether overdeflection had caused [*154] the tire's tread to separate from its steel-belted carcass. Rather, it was the reasonableness of using such an approach, along with Carlson's particular method of analyzing the data thereby obtained, to draw a conclusion regarding *the particular matter to which the expert testimony was directly relevant*. That matter concerned the likelihood that a defect in the tire at issue caused its tread to separate from its carcass. The tire in question, the expert conceded, had traveled far enough so that some of the tread had been worn bald; it should have been taken out of service; it had been repaired (inadequately) for punctures; and it bore some of the very marks that the [***254] expert said indicated, not a defect, but abuse through overdeflection. See *supra*, at 3-5; App. 293-294. The relevant issue was whether the expert could reliably determine the cause of *this* tire's separation. Nor was the basis for Carlson's conclusion simply the general theory that, in the absence of evidence of abuse, a defect will normally have caused a tire's separation. Rather, the expert employed a more specific theory to establish the existence (or absence) of such abuse. Carlson testified precisely that in the absence of *at least two* of four signs of abuse (proportionately greater tread wear on the shoulder; signs of grooves caused by the beads; discolored sidewalls; marks on the rim flange) he concludes that a defect caused the separation. And his analysis depended upon acceptance of a further implicit proposition, namely, that his visual and tactile inspection could determine that the tire before him had not been abused despite some evidence of the presence of the very signs for which he looked (and two punctures).

For another thing, the transcripts of Carlson's depositions support both the trial court's initial uncertainty and its final conclusion. Those transcripts cast considerable doubt upon the reliability of both the explicit theory (about the need for two signs of abuse) and the implicit proposition (about the significance of visual inspection in this case). Among other things, the expert could not say whether the tire had traveled [*155] more than 10, or 20, or 30, or 40, or 50 thousand miles, adding that 6,000 miles was "about how far" he could "say with any certainty." Id. at 265. The court could reasonably have wondered about the reliability of a method of visual and tactile inspection sufficiently precise to ascertain with some certainty the abuse-related significance of minute shoulder/center relative tread wear differences, but insufficiently precise to tell "with any certainty" from the tread wear whether a tire had traveled less than 10,000 or more than 50,000 miles. And these concerns might have been augmented by Carlson's repeated reliance on the "subjectiveness" of his mode of analysis in response to questions seeking specific information regarding how he could differentiate between a tire that actually had been overdeflected and a tire that merely looked as though it had been. Id. at 222, 224-225, 285-286. They would have been further augmented by the fact that Carlson said he had inspected the tire itself for the first time the morning of his first deposition, and then only for a few hours. (His initial conclusions were based on photographs.) Id. at 180.

[**1178] Moreover, prior to his first deposition, Carlson had issued a signed report in which he concluded that the tire had "not been . . . overloaded or underinflated," not because of the absence of "two

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of four" signs of abuse, but simply because "the rim flange impressions . . . were normal." Id. at 335-336. That report also said that the "tread depth remaining was 3/32 inch," id. at 336, though the opposing expert's (apparently undisputed) measurements indicate that the tread depth taken at various positions around the tire actually ranged from .5/32 of an inch to 4/32 of an inch, with the tire apparently showing greater wear along *both* shoulders than along the center, id. at 432-433.

Further, in respect to one sign of [***255] abuse, bead grooving, the expert seemed to deny the sufficiency of his own simple visual-inspection methodology. He testified that most tires have some bead groove pattern, that where there is reason [*156] to suspect an abnormal bead groove he would ideally "look at a lot of [similar] tires" to know the grooving's significance, and that he had not looked at many tires similar to the one at issue. Id. at 212-213, 214, 217.

Finally, the court, after looking for a defense of Carlson's methodology as applied in these circumstances, found no convincing defense. Rather, it found (1) that "none" of the *Daubert* factors, including that of "general acceptance" in the relevant expert community, indicated that Carlson's testimony was reliable, 923 F. Supp. at 1521; (2) that its own analysis "revealed no countervailing factors operating in favor of admissibility which could outweigh those identified in *Daubert*," App. to Pet. for Cert. 4c; and (3) that the "parties identified no such factors in their briefs," *ibid.* For these three reasons *taken together*, it concluded that Carlson's testimony was unreliable.

Respondents now argue to us, as they did to the District Court, that a method of tire failure analysis that employs a visual/tactile inspection is a reliable method, and they point both to its use by other experts and to Carlson's long experience working for Michelin as sufficient indication that that is so. But no one denies that an expert might draw a conclusion from a set of observations based on extensive and specialized experience. Nor does anyone deny that, as a general matter, tire abuse may often be identified by qualified experts through visual or tactile inspection of the tire. See Affidavit of H. R. Baumgardner 1-2, cited in Brief for National Academy of Forensic Engineers as *Amici Curiae* 16 (Tire engineers rely on visual examination and process of elimination to analyze experimental test tires). As we said before, *supra*, at 14, the question before the trial court was specific, not general. The trial court had to decide whether this particular expert had sufficient specialized knowledge to assist the jurors "in deciding the particular issues in the case." 4 J. McLaughlin, Weinstein's Federal Evidence P702.05[1], p. 702-33 (2d ed. 1998); see also Advisory [*157] Committee's Note on Proposed Fed. Rule Evid. 702, Preliminary Draft of Proposed Amendments to the Federal Rules of Civil Procedure and Evidence: Request for Comment 126 (1998) (stressing that district courts must "scrutinize" whether the "principles and methods" employed by an expert "have been properly applied to the facts of the case").

[***LEdHR3C] [3C] [***LEdHR12] [12]The particular issue in this case concerned the use of Carlson's two-factor test and his related use of visual/tactile inspection to draw conclusions on the basis of what seemed small observational differences. We have found no indication in the record that other experts in the industry use Carlson's two-factor test or that tire experts such as Carlson normally make the very fine distinctions about, say, the symmetry of comparatively greater shoulder tread wear that were necessary, on Carlson's own theory, to support his conclusions. Nor, despite the prevalence of tire testing, does anyone refer to any articles or papers that validate Carlson's approach. Compare Bobo, Tire Flaws and Separations, in Mechanics of Pneumatic Tires 636-637 (S. Clark ed. 1981); C. Schnuth et al., Compression Grooving and Rim Flange Abrasion [***256] as Indicators of Over-Deflected Operating Conditions in Tires, presented to Rubber Division of the American Chemical Society, Oct. 21-24, 1997; J. Walter & R. Kiminecz, Bead [**1179] Contact Pressure Measurements at the Tire-Rim Interface, presented to Society of Automotive Engineers, Feb. 24-28, 1975. Indeed, no one has argued that Carlson himself, were he still working for Michelin, would have concluded in a report to his employer that a similar tire was similarly defective on grounds identical to those upon which he rested his conclusion here. Of course, Carlson himself claimed that his method was accurate, but, as we pointed out in *Joiner*,

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"nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert." 522 U.S. at 146.

[*158] [***LEdHR3D] [3D]Respondents additionally argue that the District Court too rigidly applied *Daubert*'s criteria. They read its opinion to hold that a failure to satisfy any one of those criteria automatically renders expert testimony inadmissible. The District Court's initial opinion might have been vulnerable to a form of this argument. There, the court, after rejecting respondents' claim that Carlson's testimony was "exempted from *Daubert*-style scrutiny" because it was "technical analysis" rather than "scientific evidence," simply added that "none of the four admissibility criteria outlined by the *Daubert* court are satisfied." 923 F. Supp. at 1522. Subsequently, however, the court granted respondents' motion for reconsideration. It then explicitly recognized that the relevant reliability inquiry "should be 'flexible,'" that its "'overarching subject [should be] . . . validity' and reliability," and that "*Daubert* was intended neither to be exhaustive nor to apply in every case." App. to Pet. for Cert. 4c (quoting *Daubert*, 509 U.S. at 594-595). And the court ultimately based its decision upon Carlson's failure to satisfy either *Daubert*'s factors *or any other* set of reasonable reliability criteria. In light of the record as developed by the parties, that conclusion was within the District Court's lawful discretion.

[***LEdHR3E] [3E] [***LEdHR11B] [11B]In sum, Rule 702 grants the district judge the discretionary authority, reviewable for its abuse, to determine reliability in light of the particular facts and circumstances of the particular case. The District Court did not abuse its discretionary authority in this case. Hence, the judgment of the Court of Appeals is

Reversed.

CONCURBY: SCALIA

CONCUR: JUSTICE SCALIA, with whom JUSTICE O'CONNOR and JUSTICE THOMAS join, concurring.

I join the opinion of the Court, which makes clear that the discretion it endorses- trial-court discretion in choosing the manner of testing expert reliability- is not discretion to [*159] abandon the gatekeeping function. I think it worth adding that it is not discretion to perform the function inadequately. Rather, it is discretion to choose among *reasonable* means of excluding expertise that is *fausse* and science that is junky. Though, as the Court makes clear today, the *Daubert* factors are not holy writ, in a particular case the [***257] failure to apply one or another of them may be unreasonable, and hence an abuse of discretion.

DISSENTBY: STEVENS (In Part)

DISSENT: JUSTICE STEVENS, concurring in part and dissenting in part.
The only question that we granted certiorari to decide is whether a trial judge "may . . . consider the four factors set out by this Court in *Daubert* v. *Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 125 L. Ed. 2d 469, 113 S. Ct. 2786 (1993), in a Rule 702 analysis of admissibility of an engineering expert's testimony." Pet. for Cert. i. That question is fully and correctly answered in Parts I and II of the Court's opinion, which I join.

Part III answers the quite different question whether the trial judge abused his discretion when he excluded the testimony of Dennis Carlson. Because a proper answer to that question requires a study of the record that can be performed more efficiently by the Court of Appeals than by the nine Members of this Court, I would remand the case to the Eleventh Circuit to perform that task. There are, of course, exceptions to most rules, but I firmly believe that it is neither fair to litigants nor good practice for this

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Court to reach out to decide questions not raised by the certiorari petition. See *General Electric Co.* v. *Joiner*, 522 U.S. 136, 150-151, 139 L. Ed. 2d 508, 118 S. Ct. 512 (1997) [**1180] (STEVENS, J., concurring in part and dissenting in part).

Accordingly, while I do not feel qualified to disagree with the well-reasoned factual analysis in Part III of the Court's opinion, I do not join that Part, and I respectfully dissent from the Court's disposition of the case.

REFERENCES: Return To Full Text Opinion

Go to Supreme Court Briefs

Go to Oral Argument Transcript

31A Am Jur 2d, Expert and Opinion Evidence 342; 63B Am Jur 2d, Products Liability 1852, 1871, 1873

USCS Court Rules, Federal Rules of Evidence, Rule 702

L Ed Digest, Evidence 641, 643

L Ed Index, Expert and Opinion Evidence; Products Liability; Rules of Evidence; Tires and Wheels

Annotation References:

Reliability of scientific technique and its acceptance within scientific community as affecting admissibility, at federal trial, of expert testimony as to result of test or study based on such technique--modern cases. 105 ALR Fed 299.

When will expert testimony "assist trier of fact" so as to be admissible at federal trial under Rule 702 of Federal Rules of Evidence. 75 ALR Fed 461.

Products liability: admissibility of expert or opinion evidence that product is or is not defective, dangerous, or unreasonably dangerous. 4 ALR4th 651.

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APPENDIX II

Revenue Ruling 59-60

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REVENUE RULING 59-60
SECTION 2031 DEFINITION OF GROSS ESTATE

26 CFR 20.2031 2: Valuation of stocks and bonds.

(Also Section 2512.)
(Also Part II, Sections 811 (k), 1005, Regulations 105, Section 81.10.)

In valuing the stock of closely held corporations or the stock of corporations where market quotations are not available, all other available financial data, as well as all relevant factors affecting the fair market value (FMV) must be considered for estate tax and gift tax purposes. No general formula may be given that is applicable to the many different valuation situations arising in the valuation of such stock. However, the general approach, methods, and factors, which must be considered in valuing such securities, are outlined.

Revenue Ruling 54-77, 1954 1,187, superseded.

SECTION 1. PURPOSE

The purpose of this Revenue Ruling is to outline and review in general the approach, methods, and factors to be considered in valuing shares of the capital stock of closely held corporations for estate tax and gift tax purposes. The methods discussed herein will apply likewise to the valuation of corporate stocks on which market quotations are unavailable or are of such scarcity that they do not reflect the FMV.

SECTION 2. BACKGROUND AND DEFINITIONS

.01 All valuations must be made in accordance with the applicable provisions of the Internal Revenue Code of 1954 and the Federal Estate Tax and Gift Tax Regulations. Sections 2031 (a), 2032, and 2512 (a) of the 1954 Code (sections 811 and 1005 of the 1939 Code) require that the property to be included in the gross estate, or made the subject of a gift, shall be taxed on the basis of the property value at the time of the decedent's death, the alternate date if so elected, or the date of gift.

.02 Section 20.2031-1(b) of the Estate Tax Regulations (section 81.10 of the Estate Tax Regulations 105) and section 25.2512-1 of the Gift Tax Regulations (section 86.19 of Gift Tax Regulations 108) define FMV, in effect, as the price at which the property would change hands between a willing buyer and a willing seller when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, both parties having reasonable knowledge of relevant facts. Court decisions frequently state in addition that the hypothetical buyer and seller are assumed to be able, as well as willing, to trade and to be well informed about the property and concerning the market for such property.

.03 Closely held corporations are those corporations the shares of which are owned by a relatively limited number of stockholders. Often the entire stock issue is held by one family. The result of this situation is that little, if any, trading in the shares takes place. There is, therefore, no established market for the stock and such sales as occur at irregular intervals seldom reflect all of the elements of a representative transaction as defined by the term fair market value (FMV).

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SECTION 3. APPROACH TO VALUATION

.01 A determination of FMV, being a question of fact, will depend upon the circumstances in each case. No formula can be devised that will be generally applicable to the multitude of different valuation issues arising in estate and gift tax cases. Often, an appraiser will find wide opinion differences as to a stock's FMV. In resolving such differences, he should maintain a reasonable attitude in recognition of the fact that valuation is not an exact science. A sound valuation will be based upon all the relevant facts, but the elements of common sense, informed judgment and reasonableness must enter into the process of weighing those facts and determining their aggregate significance.

.02 The fair market value of specific shares of stock will vary as general economic conditions change from "normal" to "boom" or "depression," that is, according to the degree of optimism or pessimism with which the investing public regards the future at the required date of appraisal. Uncertainty as to the stability or continuity of the future income from a property decreases its value by increasing the risk of loss of earnings and value in the future. The value of shares of stock of a company with very uncertain future prospects is highly speculative. The appraiser must exercise his judgment as to the degree of risk attaching to the business of the corporation that issued the stock, but that judgment must be related to all of the other factors affecting value.

.03 Valuation of securities is, in essence, a prophesy as to the future and must be based on facts available at the required date of appraisal. As a generalization, the prices of stocks that are traded in volume in a free and active market by informed persons best reflect the consensus of the investing public as to what the future holds for the corporations and industries represented. When a stock is closely held, is traded infrequently, or is traded in an erratic market, some other measure of value must be used. In many instances, the next best measure may be found in the prices at which the stocks of companies engaged in the same or a similar line of business are selling in a free and open market.

SECTION 4. FACTORS TO CONSIDER

.01 It is advisable to emphasize that in the valuation of the stock of closely held corporations or the stock of corporations where market quotations are either lacking or too scarce to be recognized, all available financial data, as well as all relevant factors affecting the fair market value, should be considered. The following factors, although not all inclusive are fundamental and require careful analysis in each case:

(a) The nature of the business and the history of the enterprise from its inception.

(b) The economic outlook in general and the condition and outlook of the specific industry in particular.

(c) The book value of the stock and the financial condition of the business.

(d) The earning capacity of the company.

(e) The dividend paying capacity.

(f) Whether or not the enterprise has goodwill or other intangible value.

(g) Sales of the stock and the size of the block of stock to be valued.

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(h) The market price of stocks 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.

.02 The following is a brief discussion of each of the foregoing factors:

(a) The history of a corporate enterprise will show its past stability or instability, its growth or lack of growth, the diversity or lack of diversity of its operations, and other facts needed to form an opinion of the degree of risk involved in the business. For an enterprise which changed its form of organization but carried on the same or closely similar operations of its predecessor, the history of the former enterprise should be considered. The detail to be considered should increase with approach to the required date of appraisal, since recent events are of greatest help in predicting the future; but a study of gross and net income, and of dividends covering a long prior period, is highly desirable. The history to be studied should include, but need not be limited to, the nature of the business, its products or services, its operating and investment assets, capital structure, plant facilities, sales records and management, all of which should be considered as of the date of the appraisal, with due regard for recent significant changes. Events of the past that are unlikely to recur in the future should be discounted, since value has a close relation to future expectancy.

(b) A sound appraisal of a closely held stock must consider current and prospective economic conditions as of the date of appraisal, both in the national economy and in the industry or industries with which the corporation is allied. It is important to know that the company is more or less successful than its competitors in the same industry, or that it is maintaining a stable position with respect to competitors. Equal or even greater significance may attach to the ability of the industry with which the company is allied to compete with other industries. Prospective competition that has not been a factor in prior years should be given careful attention. For example, high profits due to the novelty of its product and the lack of competition often leads to increasing competition. The public's appraisal of the future prospects of competitive industries or of competitors within an industry may be indicated by price trends in the markets for commodities and for securities. The loss of the manager of a so called "one man" business may have a depressing effect upon the value of the stock of such business, particularly if there is a lack of trained personnel capable of succeeding to the management of the enterprise. In valuing the stock of this type of business, therefore, the effect of the loss of the manager on the future expectancy of the business, and the absence of management- succession potentialities are pertinent factors to be taken into consideration. On the other hand, there may be factors that offset, in whole or in part, the loss of the manager's services. For instance, the nature of the business and of its assets may be such that they will not be impaired by the loss of the manager. Furthermore, the loss may be adequately covered by life insurance, or competent management might be employed on the basis of the consideration paid for the former manager's services. There, or other offsetting factors, if found to exist, should be carefully weighed against the loss of the manager's services in valuing the stock of the enterprise.

(c) Balance sheets should be obtained, preferably in the form of comparative annual statements for two or more years immediately preceding the date of appraisal, together with a balance sheet at the end of the month preceding that date, if corporate accounting will permit. Any balance sheet descriptions that are not self-explanatory, and balance sheet items comprehending diverse assets or liabilities, should be clarified in essential detail by supporting supplemental schedules. These statements usually will disclose to the appraiser (1) liquid position (ratio of current assets to current liabilities); (2) gross and net book value of principal classes of fixed assets; (3) working capital; (4) long term indebtedness; (5) capital structure; and (6) net worth. Consideration also should be given to any assets not essential to the operation of the business, such as investments in securities, real estate, etc. In general, such non-operating assets will command a lower rate of return than do the operating assets, although in exceptional cases the reverse may be true. In computing the book value per share of stock, assets of the investment type should be revalued on the basis of their market price and the book value adjusted accordingly.

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Comparison of the company's balance sheets over several years may reveal, among other facts, such developments as the acquisition of additional production facilities or subsidiary companies, improvement in financial position, and details as to recapitalization and other changes in the capital structure of the corporation. If the corporation has more than one class of stock outstanding, the charter or certificate of incorporation should be examined to ascertain the explicit rights and privileges of the various stock issues including: (1) voting powers, (2) preference as to dividends, and (3) preference as to assets in the event of liquidation.

(d) Detailed profit-and-loss statements should be obtained and considered for a representative period immediately before the required date of appraisal, preferably five or more years. Such statements should show (1) gross income by principal items; (2) principal deductions from gross income including major prior items of operating expenses, interest and other expense on each item of long term debt, depreciation and depletion if such deductions are made, officers' salaries, in total if they appear to be reasonable or in detail if they seem to be excessive, contributions (whether or not deductible for tax purposes) that the nature of its business and its community position require the corporation to make, and taxes by principal items, including income and excess profits taxes; (3) net income available for dividends; (4) rates and amounts of dividends paid on each class of stock; (5) remaining amount carried to surplus; and (6) adjustments to, and reconciliation with, surplus as stated on the balance sheet. With profit and loss statements of this character available, the appraiser should be able to separate recurrent from non-recurrent items of income and expense, to distinguish between operating income and investment income, and to ascertain whether or not any line of business in which the company is engaged is operated consistently at a loss and might be abandoned with benefit to the company. The percentage of earnings retained for business expansion should be noted when dividend-paying capacity is considered. Potential future income is a major factor in many valuations of closely held stocks, and all information concerning past income which will be helpful in predicting the future should be secured. Prior earnings records usually are the most reliable guide as to the future expectancy, but resort arbitrary five or ten year averages without regard to current trends or future prospects will not produce a realistic valuation. If, for instance, a record of progressively increasing or decreasing net income is found, then greater weight may be accorded the most recent years' profits in estimating earning power. It will be helpful, in judging risk and the extent to which a business is a marginal operator, to consider deductions from income and net income in terms of percentage of sales. Major categories of cost and expense to be so analyzed include the consumption of raw materials and supplies in the case of manufacturers, processors and fabricators; the cost of purchased merchandise in the case of merchants; utility services; insurance; taxes; depletion or depreciation; and interest.

(e) Primary consideration should be given to the dividend-paying capacity of the company rather than to dividends actually paid in the past. Recognition must be given to the necessity of retaining a reasonable portion of profits in a company to meet competition. Dividend-paying capacity is a factor that must be considered in an appraisal, but dividends actually paid in the past may not have any relation to dividend-paying capacity. Specifically, the dividends paid by a closely held family company may be measured by the income needs of the stockholders or by their desire to avoid taxes on dividend receipts, instead of by the ability of the company to pay dividends. Where an actual or effective controlling interest in a corporation is to be valued, the dividend factor is not a material element, since the payment of such dividends is discretionary with the controlling stockholders. The individual or group in control can substitute salaries and bonuses for dividends, thus reducing net income and understating the dividend paying capacity of the company. It follows, therefore, that dividends are less reliable criteria of fair market value than other applicable factors.

(f) In the final analysis, goodwill is based upon earning capacity. The presence of goodwill and its value, therefore, rests upon the excess of net earnings over and above a fair return on the net tangible assets. While the element of goodwill may be based primarily on earnings, such factors as the prestige

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and renown of the business, the ownership of a trade or brand name, and a record of successful operation over a prolonged period in a particular locality, also may furnish support for the inclusion of intangible value. In some instances, it may not be possible to make a separate appraisal of the tangible and intangible assets of the business. The enterprise has a value as an entity. Whatever intangible value there is, which is supportable by the facts, may be measured by the amount by which the appraised value of the tangible assets exceeds the net book value of such assets.*

(g) Sales of stock of a closely held corporation should be carefully investigated to determine whether they represent transactions at arm's length. Forced or distress sales do not ordinarily reflect fair market value nor do isolated sales in small amounts necessarily control as the measure of value. This is especially true in the valuation of a controlling interest in a corporation. Since, in the case of closely held stocks, no prevailing market prices are available, there is no basis for making an adjustment for blockage. It follows, therefore, that such stocks should be valued upon a consideration of all the evidence affecting the fair market value. The size of the block of stock itself is a relevant factor to be considered. Although it is true that a minority interest in an unlisted corporation's stock is more difficult to sell than a similar block of listed stock, it is equally true that control of a corporation, either actual or in effect, representing as it does an added element of value, may justify a higher value for a specific block of stock.

(h) Section 2031(b) of the Code states, in effect, that in valuing unlisted securities the value of stock or securities of corporations engaged in the same or a similar line of business which are listed on an exchange should be taken into consideration along with all other factors. An important consideration is that the corporations to be used for comparisons have capital stocks that are actively traded by the public. In accordance with section 2031(b) of the Code, stocks listed on an exchange are to be considered first. However, if sufficient comparable companies whose stocks are listed on an exchange cannot be found, other comparable companies that have stocks actively traded in on the over-the-counter market also may be used. The essential factor is that whether the stocks are sold on an exchange or over-the-counter there is evidence of an active, free public market for the stock as of the valuation date. In selecting corporations for comparative purposes, care should be taken to use only comparable companies. Although the only restrictive requirement as to comparable corporations specified in the statute is that their lines of business be the same or similar, yet it is obvious that consideration must be given to other relevant factors in order that the most valid comparison possible will be obtained. For illustration, a corporation having one or more issues of preferred stock, bonds or debentures in addition to its common stock should not be considered to be directly comparable to one having only common stock outstanding. In like manner, a company with a declining business and decreasing markets is not comparable to one with a record of current progress and market expansion.

*Deleted by Rev. Rul. 65-193.

SECTION 5. WEIGHT TO BE ACCORDED VARIOUS FACTORS

The valuation of closely held corporate stock entails the consideration of all relevant factors as stated in section 4. Depending upon the circumstances in each case, certain factors may carry more weight than others because of the nature of the company's business. To illustrate:

(a) Earnings may be the most important criterion of value in some cases whereas asset value will receive primary consideration in others. In general, the appraiser will accord primary consideration to earnings when valuing stocks of companies which sell products or services to the public; conversely, in the investment or holding type of company, the appraiser may accord the greatest weight to the assets underlying the security to be valued.

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(b) The value of the stock of a closely held investment or real estate holding company, whether or not family owned, is closely related to the value of the assets underlying the stock. For companies of this type the appraiser should determine the fair market values of the assets of the company. Operating expenses of such a company and the cost of liquidating it, if any, merit consideration when appraising the relative values of the stock and the underlying assets. The market values of the underlying assets give due weight to potential earnings and dividends of the particular items of property underlying the stock, capitalized at rates deemed proper by the investing public at the date of appraisal. A current appraisal by the investing public should be superior to the retrospective opinion of an individual. For these reasons, adjusted net worth should be accorded greater weight in valuing the stock of a closely held investment or real estate holding company, whether or not family owned, than any of the other customary yardsticks of appraisal, such as earnings and dividend paying capacity.

SECTION 6. CAPITALIZATION RATES

In the application of certain fundamental valuation factors, such as earnings and dividends, it is necessary to capitalize the average or current results at some appropriate rate. A determination of the proper capitalization rate presents one of the most difficult problems in valuation. That there is no ready or simple solution will become apparent by a cursory check of the rates of return and dividend yields in terms of the selling prices of corporate shares listed on the major exchanges of the country. Wide variations will be found even for companies in the same industry. Moreover, the ratio will fluctuate from year to year depending upon economic conditions. Thus, no standard tables of capitalization rates applicable to closely held corporations could be formulated. Among the more important factors to be taken into consideration in deciding upon a capitalization rate in a particular case are: (1) the nature of the business; (2) the risk involved; and (3) the stability or irregularity of earnings.

SECTION 7. AVERAGE OF FACTORS

Because valuations cannot be made on the basis of a prescribed formula, there is no means whereby the various applicable factors in a particular case can be assigned mathematical weights in deriving the fair market value. For this reason, no useful purpose is served by taking an average of several factors (for example, book value, capitalized earnings and capitalized dividends) and basing the valuation on the result. Such a process excludes active consideration of other pertinent factors, and the end result cannot be supported by a realistic application of the significant fact in the case except by mere chance.

SECTION 8. RESTRICTIVE AGREEMENTS

Frequently, in the valuation of closely held stock for estate and gift tax purposes, it will be found that the stock is subject to an agreement restricting its sale or transfer. Where shares of stock were acquired by a decedent subject to an option reserved by the issuing corporation to repurchase at a certain price, the option price is usually accepted as the fair market value for estate tax purposes. See Rev. Rul. 54-76, C.B. 1954-1, 194. However, in such case the option price is not determinative of fair market value for gift tax purposes. Where the option, or buy and sell agreement, is the result of voluntary action by the stockholders and is binding during the life as well as at the death of the stockholders, such agreement may or may not, depending upon the circumstances of each case, fix the value for estate tax purposes. However, such agreement is a factor to be considered, with other relevant factors, in determining fair market value. Where the stockholder is free to dispose of his shares during life and the option is to become effective only upon his death, the fair market value is not limited to the option price. It is always necessary to consider the relationship of the parties, the relative number of shares held by the decedent, and other material facts, to determine whether the agreement represents a bona fide business arrangement or is a device to pass the decedent's shares to the natural objects of his bounty for less than an adequate

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and full consideration in money or money's worth. In this connection see Rev. Rul. 157 C.B. 1953-2, 255, and Rev. Rul. 189, C.B. 1953-2, 294.

SECTION 9. EFFECT ON OTHER DOCUMENTS

Revenue Ruling 54-77, C.B. 1954-1,187, is hereby superseded.

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BUSINESS VALUATIONS:

APPLICATIONS AND CALCULATIONS OF THE INCOME & ASSET APPROACHES

APPENDIX II

REVIEW QUESTIONS

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BV: APPLICATIONS AND CALCULATIONS USING THE INCOME AND ASSET APPROACHES

CHAPTER REVIEW QUESTIONS

Appendix II: Revenue Ruling 59-60

1. The definition of Fair Market Value (FMV) found in Revenue Ruling 59-60 states the following:

    a. The buyer and seller are not under any compulsion to act
    b. The buyer and seller have reasonable knowledge of the relevant facts
    c. The buyer and seller are hypothetical
    d. The buyer and seller are willing and able to act
    e. All of the above

2. Revenue Ruling 59-60 requires consideration of which of the following?

    a. Regression analysis
    b. Dividend Paying Capacity Method
    c. Using a discount rate of at least 25 percent to 30 percent
    d. Using a capitalization rate of at least 18 percent to 20 percent

3. According to Revenue Ruling 59-60, which factors must be used in a valuation?

    a. An appraisal of all of the fixed assets of the company
    b. The business's nature and history
    c. The company's earning capacity
    d. B and C
    e. All of the above

4. Which of the following statements is not found in Revenue Ruling 59-60 in Section 6, Capitalization Rates?

    a. A determination of the proper capitalization rate presents one of the most difficult problems in valuation
    b. There is no ready or simple solution. Meaning you cannot refer to a single source to get an appropriate capitalization rate
    c. No standard tables of capitalization rates applicable to closely held corporations can be formulated
    d. Once developed, the ratio will not fluctuate from year to year

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5. Which of the following is a true statement related to Revenue Ruling 59-60

    a. The combination and/or weighting of the results of several valuation methods is highly recommended by Revenue Ruling 59-60
    b. Under Revenue Ruling 59-60 the alternative valuation date is not applicable in valuing closely-held companies
    c. Revenue Ruling 59-60 discourages the use of publicly traded company information
    d. When shares of stock were acquired by a decedent subject to an option reserved by the issuing corporation to repurchase at a certain price, the option price is usually accepted as the fair market value for estate tax purposes

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PARTICIPANT NOTES

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APPENDIX III

IRC § 2031
And Pertinent Regulations
And the Pension Protection Act

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IRC § 2031
AND PERTINENT REGULATIONS*

CODE
[¶20,310] IRC §2031. Definition of gross estate.

(a) General
The value of the gross estate of the decedent shall be determined by including to the extent provided for in this part, the value at the time of his death of all property, real or personal, tangible or intangible, wherever situated.

(b) Valuation of unlisted stock and securities.
In the case of stock and securities of a corporation the value of which, be reason of their not being listed on an exchange and by reason of the absence of sales thereof, cannot be determined with reference to bid and asked prices or with reference to sales prices, the value thereof shall be determined by taking into consideration, in addition to all other factors, the value of stock or securities of corporations engaged in the same or a similar line of business which are listed on an exchange.

(c) Cross reference.
For executor's right to be furnished on request a statement regarding any valuation made by the Secretary within the gross estate, see section 7517.

REGULATIONS
[¶20,312] IRC §2031. Definition of gross estate.

This section lists the section headings and undesignated center headings that appear in the regulations under section 2031.
§20.2031-1 Definition of gross estate; valuation of property.
§20.2031-2 Valuation of stocks and bonds.
§20.2031-3 Valuation of interests in businesses.
§20.2031-4 Valuation of notes.
§20.2031-5 Valuation of cash on hand or on deposit.
§20.2031-6 Valuation of household and personal effects.
§20.2031-7 Valuation of annuities, interests for life or term years, and remainder or reversionary interests for estate of decedents for which the valuation date of the gross estate is after April 30, 1989.
§20.2031-7A Valuation of annuities, interests, for life or term years, and remainder or reversionary interests for estates of decedents for which the valuation date of the gross estate is before May 1, 1989.
§20.2031-8 Valuation of certain life insurance and annuity contracts; valuation of shares in an open-end investment company.
§20.2031-9 Valuation of other property.

*Obtained from sources believed reliable; NACVA does not guarantee completeness of this information, and is not responsible for errors, omissions, or damages arising from the use of this information.

[¶20,312.001] IRC §2031-1. Definition of gross estate; valuation of property.

(a) Definition of gross estate. Except as otherwise provided in this paragraph the value of the gross estate of a decedent who was a citizen or resident of the United States at the time of his death is the total value of the interests described in sections 2033 through 2044. The gross estate of a decedent who died before October 17, 1962, does not include real property situated outside the United States (as defined in paragraph (b)(1) of §20.0-1). Except as provided in paragraph (c) of this section (relating to the estates of

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decedents dying after October 16, 1962, and before July 1, 1964), in the case of a decedent dying after October 16, 1962, real property situated outside the United States which comes within the scope of sections 2033 through 2044 is included in the gross estate to the same extent as any other property coming within the scope of those sections. In arriving at the value of the gross estate the interests described in sections 2033 through 2044 are valued as described in this section, §§20.203 1-2 through 20.2031-9 and §20.2032-1. The contents of sections 2033 through 2044 are, in general, as follows:

(1) Sections 2033 and 2034 are concerned mainly with interests in property passing through the decedent's probate estate. Section 2033 includes in the decedent's gross estate any interest that the decedent had in property at the time of his death. Section 2034 provides that any interest of the decedent's surviving spouse in the decedent's property, such as dower or curtsey, does not prevent the inclusion of such property in the decedent's gross estate.

(2) Sections 2035 through 2038 deal with interests in property transferred by the decedent during his life under such circumstances as to bring the interests within the decedent's gross estate. Section 2035 includes in the decedent's gross estate property transferred in contemplation of death, even though the decedent had no interest in, or control over, the property at the time of his death. Section 2036 provides for the inclusion of transferred property with respect to which the decedent retained the income or the power to designate who shall enjoy the income. Section 2037 includes in the decedent's gross estate certain transfers under which the beneficial enjoyment of the property could be obtained only by surviving the decedent. Section 2038 provides for the inclusion of transferred property if the decedent had at the time of his death the power to change the beneficial enjoyment of the property. It should be noted that there is considerable overlap in the application of sections 2036 through 2038 with respect to reserved powers, so that transferred property may be includible in the decedent's gross estate in varying degrees under more than one of those sections.

(3) Sections 2039 through 2042 deal with special kinds of property and powers. Sections 2039 and 2040 concern annuities and jointly held property respectively. Section 2041 deals with powers held by the decedent over the beneficial enjoyment of property not originating with the decedent. Section 2042 concerns insurance under policies on the life of the decedent.

(4) Section 2043 concerns the sufficiency of consideration for transfers made by the decedent during his life. This has a bearing on the amount to be included in the decedent's gross estate under sections 2035 through 2038, and 2041. Section 2044 deals with retroactivity.

(b) Valuation of property in general. The value of every item of property includible in a decedent's gross estate under sections 2031 through 2044 is its fair market value at the time of the decedent's death, except that if the executor elects the alternate valuation method under section 2032, it is the fair market value thereof at the date, and with the adjustments, prescribed in that section. The fair market value is the price at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts. The fair market value of a particular item of property includible in the decedent's gross estate is not to be determined by a forced sale price. Nor is the fair market value of an item of property to be determined by the sale price of the item in a market other than that in which such item is most commonly sold to the public, taking into account the location of the item wherever appropriate. Thus, in the case of an item of property includible in the decedent's gross estate, which is generally obtained by the public in the retail market, the fair market value of such an item of property is the price at which the item or a comparable item would be sold at retail. For example, the fair market value of an automobile (an article generally obtained by the public in the retail market) includible in the decedent's gross estate is the price for which an automobile of the same or approximately the same description, make, model, age, condition, etc., could be purchased by a member of the general public and not the price for which the particular automobile of the decedent would be purchased by a dealer in used automobiles. Examples of items of property which are generally sold to the public at retail may be found in §§20.2031-6 and 20.2031-8. The value is generally to be determined by ascertaining as a basis the fair market value as of the applicable valuation date of each unit of property. For example, in the case of shares of stock or bonds, such unit of property is generally a share of stock or a bond. Livestock, farm machinery, harvested and growing crops

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must generally be itemized and the value of each item separately returned. Property shall not be returned at the value at which it is assessed for local tax purposes unless that value represents the fair market value as of the applicable valuation date. All relevant facts and elements of value as of the applicable valuation date shall be considered in every case. The value of items of property which were held by the decedent for sale in the course of a business generally should be reflected in the value of the business. For valuation of interests in businesses, see § 20.2031-3. See §20.2031-2 and §§20.2031-4 through 20.2031-8 for further information concerning the valuation of other particular kinds of property. For certain circumstances under which the sale of an item of property at a price below its fair market value may result in a deduction for the estate, see paragraph (d)(2) of § 20.2053-3.

(c) Real property situated outside the United States; gross estate of decedent dying after October 16, 1962, and before July 1, 1964.

(1) In general. In the case of a decedent dying after October 16, 1962, and before July 1, 1964, the value of real property situated outside the United States (as defined in paragraph (b)(1) of §20.0-1) is not included in the gross estate of the decedent -

(i) Under section 2033, 2034, 2035(a), 2036(a), 2037(a), or 2038(a) to the extent the real property, or the decedent's interest in it, was acquired by the decedent before February 1, 1962;

(ii) Under section 2040 to the extent such property or interest was acquired by the decedent before February 1, 1962, or was held by the decedent and the survivor in a joint tenancy or tenancy by the entirety before February 1, 1962; or

(iii) Under section 2041(a) to the extent that before February 1, 1962, such property or interest was subject to a general power of appointment (as defined in section 2041) possessed by the decedent.

(2) Certain property treated as acquired before February 1, 1962. For purposes of this paragraph real property situated outside the United States (including property held by the decedent and the survivor in a joint tenancy or tenancy by the entirety), or an interest in such property or a general power of appointment in respect of such property, which was acquired by the decedent after January 31, 1962, is treated as acquired by the decedent before February 1, 1962, if

(i) Such property, interest, or power was acquired by the decedent by gift within the meaning of section 2511, or from a prior decedent by devise or inheritance, or by reason of death, form of ownership, or other conditions (including the exercise or non-exercise of a power of appointment); and

(ii) Before February 1, 1962, the donor or prior decedent had acquired the property or his interest therein or had possessed a power of appointment in respect thereof.

(3) Certain property treated as acquired after January 31, 1962. For purposes of this paragraph that portion of capital additions or improvements made after January 31, 1962, to real property situated outside the United States is, to the extent that it materially increases the value of the property, treated as real property acquired after January 31, 1962. Accordingly, the gross estate may include the value of improvements on unimproved real property, such as office buildings, factories, houses, fences, drainage ditches, and other capital items, and the value of capital additions and improvements to existing improvements, placed on real property after January 31, 1962, whether or not the value of such real property or existing improvements is included in the gross estate.

T.D. 6296. 6/23/58, amend. T.D. 6684, 10/23/63, T.D. 6826, 6/14/65.

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[20,312.01] Reg. §20.2031-2 Valuation of stocks and bonds.

(a) In general. The value of stocks and bonds is the fair market value per share or bond on the applicable valuation date.

(b) Based on selling prices.

(1) In general, if there is a market for stocks or bonds, on a stock exchange, in an over-the-counter market, or otherwise, the mean between the highest and lowest quoted selling prices on the valuation date is the fair market value per share or bond. If there were no sales on the valuation date but there were sales on dates within a reasonable period both before and after the valuation date, the fair market value is determined by taking a weighted average of the means between the highest and lowest sales on the nearest date before and the nearest date after the valuation date. The average is to be weighted inversely by the respective numbers of trading days between the selling dates and the valuation date. If the stocks or bonds are listed on more than one exchange, the records of the exchange where the stocks or bonds are principally dealt in should be employed if such records are available in a generally available listing or publication of general circulation. In the event that such records are not so available and such stocks or bonds are listed on a composite listing of combined exchanges available in a generally available listing or publication of general circulation, the records of such combined exchanges should be employed. In valuing listed securities, the executor should be careful to consult accurate records to obtain values as of the applicable valuation date. If quotations of unlisted securities are obtained from brokers, or evidence as to their sale is obtained from officers of the issuing companies, copies of the letters furnishing such quotations or evidence of sale should be attached to the return.

(2) If it is established with respect to bonds for which there is a market on a stock exchange, that the highest and lowest selling prices are not available for the valuation date in a generally available listing or publication of general circulation but that closing selling prices are so available, the fair market value per bond is the mean between the quoted closing selling price on the valuation date and the quoted closing selling price on the trading day before the valuation date. If there were no sales on the trading day before the valuation date but there were sales on date within a reasonable period before the valuation date, the fair market value is determined by taking a weighted average of the quoted closing selling price on the valuation date and the quoted closing selling price on the nearest date before the valuation date. The closing selling price for the valuation date is to be weighted by the number of trading days between the previous selling date and the valuation date. If there were no sales within a reasonable period before the valuation date but there were sales on the valuation date, the fair market value is the closing selling price on such valuation date. If there were no sales on the valuation date but there were sales on dates within a reasonable period both before and after the valuation date, the fair market value is determined by taking a weighted average of the quoted closing selling prices on the nearest date before and the nearest date after the valuation date. The average is to be weighted inversely by the respective numbers of trading days between the selling dates and the valuation date. If the bonds are listed on more than one exchange, the records of the exchange where the bonds are principally dealt in should be employed. In valuing listed securities, the executor should be careful to consult accurate records to obtain values as of the applicable valuation date.

(3) The application of this paragraph may be illustrated by the following examples:

Example (1). Assume that sales of X Company common stock nearest the valuation date (Friday, June 15) occurred two trading days before (Wednesday, June 13) and three trading days after (Wednesday, June 20) and on these days the mean sale prices per share were $ 10 and $15, respectively. The price of $12 is taken as representing the fair market value of a share of X Company common stock as of the valuation date

$$\frac{(3 \text{ X } 10) + (2 \text{ X } 15)}{5}$$

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Example (2). Assume the same facts as in example (1) except that the mean sale prices per share on June 13 and June 20 were $15 and $10, respectively. The price of $13 is taken as representing the fair market value of a share of X Company common stock as of the valuation date

$$\frac{(3 \text{ X } 15) + (2 \text{ X } 10)}{5}$$

Example (3). Assume the decedent died on Sunday, October 7, and that Saturday and Sunday were not trading days. If sales of X Company common stock occurred on Friday, October 5, at mean sale prices per share of $20 and on Monday, October 8, at mean sale prices per share of $23, the price of $21.50 is taken as representing the fair market value of a share of X Company common stock as of the valuation date

$$\frac{(1 \text{ X } 20) + (23 \text{ X } 1)}{2}$$

Example (4). Assume that on the valuation date (Tuesday, April 3, 1973) the closing selling price of a listed bond was $25 per bond and that the highest and lowest selling prices are not available in a generally available listing or publication of general circulation for that date. Assume further, that the closing selling price of the same listed bond was $21 per bond on the day before the valuation date (Monday, April 2, 1973). Thus, under paragraph (b)(2) of this section the price of $23 is taken as representing the fair market value per bond as of the valuation date

$$\frac{(25 + 21)}{2}$$

Example (5). Assume the same facts as in example (4) except that there were no sales on the day before the valuation date. Assume further, that there were sales on Thursday, March 29, 1973, and that the closing selling price on that day was $23. The price of $24.50 is taken as representing the fair market value per bond as of the valuation date

$$\frac{((1 \text{ x } 23) + (3 \text{ x } 25))}{4}$$

Example (6). Assume that no bonds were traded on the valuation date (Friday, April 20). Assume further, that sales of bonds nearest the valuation date occurred two trading days before (Wednesday, April 18) and three trading days after (Wednesday, April 25) the valuation date and that on these two days the closing selling prices per bond were $29 and $22, respectively. The highest and lowest selling prices are not available for these dates in a generally available listing or publication of general circulation. Thus, under paragraph (b)(2) of this section, the price of $26.20 is taken as representing the fair market value of a bond as of the valuation date

$$\frac{((3 \text{ x } 29) + (2 \text{ x } 22))}{5}$$

(c) Based on bid and asked prices. If the provisions of paragraph (b) of this section are inapplicable because actual sales are not available during a reasonable period beginning before and ending after the valuation date, the fair market value may be determined by taking the mean between the bona fide bid and asked prices on the valuation date, or if none, by taking a weighted average of the means between the bona fide bid and asked prices on the nearest trading date before and the nearest

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trading date after the valuation date, if both such nearest dates are within a reasonable period. The average is to be determined in the manner described in paragraph (b) of this section.

(d) Based on incomplete selling prices or bid and asked prices. If the provisions of paragraph (b) and (c) of this section are inapplicable because no actual sale prices or bona fide bid and asked prices are available on a date within a reasonable period before the valuation date, but such prices are available on a date within a reasonable period after the valuation date, or vice versa, then the mean between the highest and lowest available sale prices or bid and asked prices may be taken as the value.

(e) Where selling prices or bid and asked prices do not reflect fair market value. If it is established that the value of any bond or share of stock determined on the basis of selling or bid and asked prices as provided under paragraphs (b), (c), and (d) of this section does not reflect the fair market value thereof, then some reasonable modification of that basis or other relevant facts and elements of value are considered in determining the fair market value. Where sales at or near the date of death are few or of a sporadic nature, such sales alone may not indicate fair market value. In certain exceptional cases, the size of the block of stock to be valued in relation to the number of shares changing hands in sales may be relevant in determining whether selling prices reflect the fair market value of the block of stock to be valued. If the executor can show that the block of stock to be valued is so large in relation to the actual sales on the existing market that it could not be liquidated in a reasonable time without depressing the market, the price at which the block could be sold as such outside the usual market as through an underwriter, may be a more accurate indication of value than market quotations. Complete data in support of any allowance claimed due to the size of the block of stock being valued shall be submitted with the return. On the other hand, if the block of stock to be valued represents a controlling interest, either actual or effective, in a going business, the price at which other lots change hands may have little relation to its true value.

(f) Where selling prices or bid and asked prices are unavailable. If the provisions of paragraphs (b), (c), and (d) of this section are inapplicable because actual sale prices and bona fide bid and asked prices are lacking, then the fair market value is to be determined by taking the following factors into consideration:

(1) In the case of corporate or other bonds, the soundness of the security, the interest yield, the date of maturity, and other relevant factors; and

(2) In the case of shares of stock, the company's net worth, prospective earning power and dividend-paying capacity, and other relevant factors, Some of the "other relevant factors" referred to in subparagraphs (1) and (2) of this paragraph are: The good will of the business; the economic outlook in the particular industry; the company's position in the industry and its management; the degree of control of the business represented by the block of stock to be valued; and the values of securities of corporations engaged in the same or similar lines of business which are listed on a stock exchange. However, the weight to be accorded such comparisons or any other evidentiary factors considered in the determination of a value depends upon the facts of each case. In addition to the relevant factors described above, consideration shall also be given to non-operating assets, including proceeds of life insurance policies payable to or for the benefit of the company; to the extent such non-operating assets have not been taken into account in the determination of net worth, prospective earning power and dividend-earning capacity. Complete financial and other data upon which the valuation is based should be submitted with the return, including copies of reports of any examinations of the company made by accountants, engineers, or any technical experts as of or near the applicable valuation date.

(g) Pledged securities. The full value of securities pledged to secure an indebtedness of the decedent is included in the gross estate. If the decedent had a trading account with a broker, all securities belonging to the decedent and held by the broker at the date of death must be included at their fair market value as of the applicable valuation date. Securities purchased on margin for the decedent's account and held by a broker must also be returned at their fair market value as of the applicable valuation date. The amount of the decedent's indebtedness to a broker or other person with whom securities were pledged is allowed as a deduction from the gross estate in accordance with the provisions of §20.2053-1 or §20.2106-1 (for estates of nonresidents not citizens).

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(h) Securities subject to an option or contract to purchase. Another person may hold an option or a contract to purchase securities owned by a decedent at the time of his death. The effect, if any, that is given to the option or contract price in determining the value of the securities for estate tax purposes depends upon the circumstances of the particular case. Little weight will be accorded a price contained in an option or contract under which the decedent is free to dispose of the underlying securities at any price he chooses during his lifetime. Such is the effect, for example, of an agreement on the part of a shareholder to purchase whatever shares of stock the decedent may own at the time of his death. Even if the decedent is not free to dispose of the underlying securities at other than the option or contract price, such price will be disregarded in determining the value of the securities unless it is determined under the circumstances of the particular case that the agreement represents a bona fide business arrangement and not a device to pass the decedent's shares to the natural objects of his bounty for less than an adequate and full consideration in money or money's worth. See section 2703 and the regulations at §25.2703 of this chapter for special rules involving options and agreements (including contracts to purchase) entered into (or substantially modified after) October 8, 1990.

(i) Stock sold "ex-dividend." In any case where a dividend is declared on a share of stock before the decedent's death but payable to stockholders of record on a date after his death and the stock is selling "ex-dividend" on the date of the decedent's death, the amount of the dividend is added to the ex-dividend quotation in determining the fair market value of the stock as of the date of the decedent's death.

(j) Application of chapter 14. See section 2701 and the regulations at §25.2701 of this chapter for special rules for valuing the transfer of an interest in a corporation and for the treatment of unpaid qualified payments at the death of the transferor or an applicable family member. See section 2704(b) and the regulations at §25.2704-2 of this chapter for special valuation rules involving certain restrictions on liquidation rights created after October 8, 1990.

T.D. 6296, 6/23/58, amend. T.D. 6826, 6/14/65, T.D. 7312, 4/26/74, T.D. 7327, 9/30/74, T.D. 7432, 9/10/76, T.D. 8395, 1/28/92.

[20,312.02] Reg. §20.2031-3 Valuation of interests in businesses.

The fair market value of any interest of a decedent in a business, whether a partnership or a proprietorship, is the net amount which a willing purchaser, whether an individual or a corporation, would pay for the interest to a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts, The net value is determined on the basis of all relevant factors including -

(a) A fair appraisal as of the applicable valuation date of all the assets of the business, tangible and intangible, including good will;

(b) The demonstrated earning capacity of the business; and

(c) The other factors set forth in paragraphs (f) and (h) of §20.2031-2 relating to the valuation of corporate stock, to the extent applicable. Special attention should be given to determining an adequate value of the good will of the business in all cases in which the decedent has not agreed, for an adequate and full-consideration in money or money's worth, that his interest passes at his death to, for example, his surviving partner or partners. Complete financial and other data upon which the valuation is based should be submitted with the return, including copies of reports of examinations of the business made by accountants, engineers, or any technical experts as of or near the applicable valuation date. See section 2701 and the regulations at §25.270l of this chapter for special rules for valuing the transfer of an interest in a partnership and for the treatment of unpaid qualified payments that the death of the transferor or an applicable family member. See section 2703 and the regulations at §25.2703 of this chapter for special rules involving options and agreements (including contracts to purchase) entered into (or substantially modified after) October 8, 1990. See section 2704(b) and the regulations at §25.2704-2 of this chapter for special valuation rules involving certain restrictions on liquidation rights created after October 8, 1990.
T.D. 6296. 6/23/58, amend T.D. 8395, 1/28/92.

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[20,312.03] Reg. §20.2031-4 Valuation of notes.

The fair market value of notes, secured or unsecured, is presumed to be the amount of unpaid principal, plus interest accrued to the date of death, unless the executor establishes that the value is lower or that the notes are worthless. However, items of interest shall be separately stated on the estate tax return. If not returned at face value, plus accrued interest, satisfactory evidence must be submitted that the note is worth less than the unpaid amount (because of the interest rate, date of maturity, or other cause), or that the note is uncollectible, either in whole or in part (by reason of the insolvency of the party or parties liable, or for other cause), and that any property pledged or mortgaged as security is insufficient to satisfy the obligation.

T.D. 6296, 6/23/58.

[20,312.03A] PROPOSED AMENDMENT

PAR. 7. Section 20.2031-4 is amended by adding a new sentence at the end to read as follows:

Proposed Reg. §20.2031-4 Valuation of notes. [For Preamble, see ¶151,027]

* * * See §20.7872-1 for special rules in the case of gift loans (within the meaning of §1.7872-4(b)) made after June 6, 1984.

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Penalties & Sanctions Under the Pension Protection Act

By Mel H. Abraham, CPA, CVA, ABV, ASA, CSP

For appraisers performing valuations for federal tax purposes in accordance with the Pension Protection Act (PPA), signed into law in August 2006, stipulates new penalties and stiff/ sanctions if the appraisers or appraisals fail to meet the new qualifications.

Qualified appraisers

PPA requires that appraisals need to be prepared by qualified appraisers.[2] A qualified appraiser is defined in the Act to mean a person who has earned an appraisal designation from a recognized professional organization or has met minimum education and experience requirements established by the Treasury.

New Appraiser Penalty

PPA added the new Section 6695A to the Internal Revenue Code. Section 6695A includes new penalties, which are pertinent to appraisers of property for income and transfer tax purposes.

Penalties are applied when the appraised value of property deviates from the correct value by certain set percentages as follows:

- "Substantial Misvaluation" (income tax environment): 150 percent or more off of actual value.
- "Gross Misvaluation" (income or transfer tax environment): 200 percent or more off of actual value in an income tax case or 40 percent or less in a transfer tax case.

Appraiser penalty applies for appraisals prepared for returns or submissions filed after the date of enactment.

Amount of Penalty

Rather than the aiding and abetting penalty under section 6701 (generally limited to $1,000), appraisers are now subject to a penalty equal to over $1,000 or 10 percent of the underpayment attributable to the valuation misstatement, up to a maximum of 125 percent of the appraisal preparation fee (gross income) received by the appraiser.

Considerations for Survival

It is clear that appraisers need to be extra cautious and avoid all temptation to fall into the net of penalties cast by the PPA. In the light of this new law it is necessary to collect and organize all case information strictly based on facts. Appraisers must focus on arriving at their conclusions via a reasonable, objective path in accordance with the valuation standards. Other factors to consider and integrate into the valuation process include the following:

- Don’t be an advocate for the client’s position.
- Don’t value an entity or asset that is outside your area of expertise or authority.
- Disclose all known, relevant facts in your report
- Obtain a representation letter from your client on key issues/assumptions.

[2] Although its initial focus is on valuations related to charitable donation deductions, commentators are indicating a more expanded use of the provisions to include valuations in both income tax and transfer tax realms.

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- If you feel pressure or are being influenced to arrive at a preconceived value or result, do not take the engagement, or remove yourself from it.
- Use an appropriate, extensive information gathering process.

One way to move a long way down the road of avoiding be captured in the net of penalties cast by PPA is to have an organized manner in which to collect information, data, and facts surrounding the case. By using a detailed process you will gain the ability to create a fact specific and fact supported conclusion based specifically on the information related to the client and case at hand.

We have found that the use of a questionnaire process such as a checklist as provided in Appendix VIII provides all of the initial information prior to the site tour and management interview to allow for a highly focused and more productive site tour and management interview process.

No matter what interview or questionnaire tools you decide to use you will be in a much better position to support your conclusions and in developing an appropriate value based on the specific facts in a case.

- Basic information such as valuation date, purpose, intended use, valuation date and standard of value as well as a list of data requested for the valuation.
- Entity information as to capital and legal structure such as, C-Corporation, S-Corporation, Partnership, Proprietorship, LLC, LLP, FLP.
- Company history including,(a) product lines/services, (b) customers, (c) locations, (d) marketing activities, (e) distribution methods, (f) employees, (g) acquisitions, and (h) ownership.
- Other categories include questions related to:

  - Prior transactions
  - Products or services
  - Customers
  - Competition
  - Suppliers
  - Operations
  - Intangibles
  - Sales
  - Marketing
  - Management
  - Industry
  - Economy
  - Financial information
  - Related party information
  - Company expectations
  - Litigation & claims

By focusing your data collection efforts in a detailed organized fashion and constructing your conclusions in a reasonable, objective fashion while satisfying the requirements of the established valuation standards, you will find that you will substantially reduce your exposure to the penalty provisions and the teeth of the Pension Protection Act.

Prevention is better than cure. By adhering to norms and being organized and cautious about the whole process would ensure that you have nothing to fear. Educating yourself about the new law and its

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implications will further minimize your chances of getting in the way of PPA radar and getting penalized heavily.

If you have any questions, please do not hesitate to contact the author at mel@melabraham.com. Further, for access to an audio presentation on IRS penalties and the Pension Protection Act visit www.valuationeducation.com/penalties.html, or this can be found at: www.nacva.com, under the Online Learning Lecture Series in the Course Catalog.

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APPENDIX IV

Answer Keys

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Answer Key – Chapter 4

Chapter 4 – Page 3

Sample Company
Financial Information

	2001	2002	2003	2004	2005	Total	Average	Weighted Average
Operating income EBITDA	$1,383,372	$1,377,400	$1,121,562	$1,718,470	$2,524,314	$8,125,118		
Deprecation and amortization	211,400	234,312	253,100	352,500	396,900	1,448,212		
Operating income EBIT	1,171,972	1,143,088	868,462	1,365,970	2,127,414	6,676,906		
Miscellaneous (income) expense	5,126	2,617	39,417	40,817	(5,983)	81,994		
Interest expense	149,413	150,048	135,195	131,038	105,643	671,337		
Income before tax	1,017,433	990,423	693,850	1,194,115	2,027,754	5,923,575		
Normalized adjustments								
Excess officers' compensation	110,000	110,000	110,000	110,000	110,000	550,000		
Non-operating expenses	18,326	23,017	23,217	23,417	23,617	111,594		
Total normalized adjustments	128,326	133,017	133,217	133,417	133,617	661,594		
Normalized income before tax	1,145,759	1,123,440	827,067	1,327,532	2,161,371	6,585,169		
Income taxes (37%)	423,930	415,670	306,010	491,190	799,710	2,436,510		
Normalized net income	$ 721,829	$ 707,770	$ 521,057	$ 836,342	$1,361,661	$ 4,148,659	$ 829,732	$ 923,614

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Answer Key – Chapter 4 (Continued)

Chapter 4 – Page 8

Sample Company
Unweighted Net Cash Flows to Equity (Rounded)
December 31, 2005

Unweighted average normalized net income	$ 829,700
Non-cash charges (e.g. depreciation, amortization, deferred revenue, deferred taxes)	400,000
Capital expenditures necessary to support projected operations	(300,000)
(Additions) deletions to net working capital necessary to support projected operations	(100,000)
Changes in long-term debt from borrowing necessary to support projected operations	-
Changes in long-term debt for repayments necessary to support projected operations	(100,000)
Unweighted net cash flows to equity	$ 729,700

Chapter 4 – Page 9

Sample Company
Weighted Average Net Cash Flows to Equity (Rounded)
December 31, 2005

Weighted average normalized net income	$ 923,600
Non-cash charges (e.g. depreciation, amortization, deferred revenue, deferred taxes)	400,000
Capital expenditures necessary to support project operations	(300,000)
(Additions) deletions to net working capital necessary to support projected operations	(100,000)
Changes in long-term debt from borrowing necessary to support projected operations	-
Changes in long-term debt for repayments necessary to support projected operations	(100,000)
Weighted net cash flow to equity	$ 823,600

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Answer Key – Chapter 4 (Continued)

Chapter 4 – Page 10

Sample Company
Unweighted Net Cash Flows to Invested Capital (Rounded)
December 31, 2005

Unweighted average normalized net income	$ 829,700
Non-cash charges (e.g. depreciation, amortization, deferred revenue, deferred taxes)	400,000
Capital expenditures necessary to support projected operations	(300,000)
(Additions) deletions to net working capital necessary to support projected operations	(100,000)
Interest expense (net of tax deduction resulting from interest as a tax deductible expense)	60,000
Unweighted net cash flows to invested capital	$ 889,700

Chapter 4 – Page 11

Sample Company
Weighted Average Net Cash Flows to Invested Capital (Rounded)
December 31, 2005

Weighted average normalized net income	$ 923,600
Non-cash charges (e.g. depreciation, amortization, deferred revenue, deferred taxes)	400,000
Capital expenditures necessary to support project operations	(300,000)
(Additions) deletions to net working capital necessary to support projected operations	(100,000)
Interest expense (net of tax deduction resulting from interest as a tax deductible expense)	60,000
Weighted net cash flow to invested capital	$ 983,600

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Answer Key – Chapter 4 (Continued)

Chapter 4 – Page 12

Sample Company
Projected Income and Cash Flows

	2006	2007	2008	2009	2010
Sales	$24,851,400	$25,596,900	$26,364,800	$27,155,700	$27,970,400
Cost of Sales	18,079,390	18,621,740	19,180,390	19,755,770	20,348,470
Gross profit	6,772,010	6,975,160	7,184,410	7,399,930	7,621,930
Operating expenses	4,199,900	4,325,900	4,455,700	4,589,300	4,727,000
Operating EBITDA	2,572,110	2,649,260	2,728,710	2,810,630	2,894,930
Depreciation and amortization	400,000	400,000	400,000	400,000	400,000
Operating income EBIT	2,172,110	2,249,260	2,328,710	2,410,630	2,494,930
Miscellaneous (income) expense	16,400	16,400	16,400	16,400	16,400
Interest expense	99,600	93,600	87,600	81,600	75,600
Income before taxes	$ 2,056,110	$ 2,139,260	$ 2,224,710	$ 2,312,630	$ 2,402,930
Normalized adjustments:					
Excess officers' compensation	$ 110,000	$ 110,000	$ 110,000	$ 110,000	$ 110,000
Non-operating expenses	23,817	24,017	24,217	24,417	24,617
Total normalized adjustments	133,817	134,017	134,217	134,417	134,617
Normalized income before tax	2,189,927	2,273,277	2,358,927	2,447,047	2,537,547
Income taxes	810,300	841,100	872,800	905,400	938,900
Normalized net income	1,379,627	1,432,177	1,486,127	1,541,647	1,598,647
Cash flow adjustments:					
Depreciation and amortization	400,000	400,000	400,000	400,000	400,000
Less additions to working capital	(100,000)	(100,000)	(100,000)	(100,000)	(100,000)
Less capital expenditures	(300,000)	(300,000)	(300,000)	(300,000)	(300,000)
Less debt payments	(100,000)	(100,000)	(100,000)	(100,000)	(100,000)
Normalized net cash flow to equity	1,279,627	1,332,177	1,386,127	1,441,647	1,498,647

See following page for assumptions

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Sample Company
Assumptions Projected Income and Cash Flows

Sales	3.00% growth
Cost of Sales	72.75% of sales
Gross profit	27.25% of sales
Operating expenses	16.90% of sales
Depreciation and amortization	400,000 per year
Miscellaneous (income) expense	16,400
Interest expense	6,000 reduction/yr
Excess Officers' compensation	110,000 per year
Non-operating expenses	200 increase/year
Income taxes	37.0%
Depreciation and amortization	(100,000) per year
Less additions to working capital	(100,000) per year
Less capital expenditures	(300,000) per year
Less debt payments	(100,000) per year

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Answer Key – Chapter 4 (Continued)

Chapter 4 – Page 13

Sample Company
Present Value of Future Cash Flows and Terminal Value
December 31, 2005

Net cash flow to equity discount rate: 21.5%
NPV Formula: (1/(1+Discount rate)^(N-.5))

2006	$ 1,279,627	90.7181%	$ 1,160,853
2007	1,332,177	74.6590%	994,590
2008	1,386,127	61.4427%	851,674
2009	1,441,647	50.5659%	728,982
2010	1,498,647	41.6146%	623,656
Net present value of future cash flows			4,359,755
Net cash flow to equity capitalization rate next year		18.50%	
2010	$ 1,498,647		
Growth factor	3%		
Cash flows with growth	$ 1,543,600		
Cap rate	18.5%		
Terminal	$ 8,343,784	41.6146%	3,472,234
Net present value of business			$ 7,831,989

Used mid-period discounting
Assumes business will continue into perpetuity
Terminal value calculated using Gordon Growth Model assuming liquidity event occurs January 1, 2011

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Answer Key – Chapter 5

Chapter 5 – Page 8

Sample Company
Build-Up Method
December 31, 2004

Risk-free long-term U.S. Government bond rate			+	4.80%	Note A
Equity risk premium	+	7.20%			Note B
Size premium	+	6.41%			Note C
Return in excess of risk-free rate	=		+	13.61%	
Industry risk premium			+	-2.40%	Note D
Risk premium for company specific risk:					
Additional risk for size premia	+	1.00%			Note E
Leverage/liquidity	+	1.50%			Note E
Earnings volatility	+	1.25%			Note E
Other factors peculiar to entity	+	1.75%			Note E
Total risk premium for company specific risk	=		+	5.50%	
After-tax net cash flow discount rate			=	21.51%	
Long-term sustainable growth rate			-	3.00%	Note F
After-tax net cash flow capitalization rate for next year			=	18.51%	
Adjustment to current year (1 plus growth rate)			÷	1.03	
After-tax net cash flow capitalization rate for current year			=	17.97%	
Cash to earnings factor			+	6.10%	Note G
After-tax net income capitalization rate for the current year			=	24.07%	
Intangible earnings factor			+	5.00%	Note H
After-tax intangible capitalization rate for the current year			=	29.07%	
Tax effect [1-tax rate (40%)]			÷	60.00%	
Pre-tax net income capitalization rate for the current year			=	40.12%	
Pre-tax intangible capitalization rate for the current year			=	48.45%	

Note A	20-year yield to maturity on U.S. government bonds at the valuation date, from *Wall Street Journal.*
Note B	Long-horizon expected equity risk premium (historical) from *Stocks, Bonds, Bills, and Inflation: Valuation Edition: 2005 Valuation Edition,* ©2005 Ibbotson Associates, Inc.
Note C	Micro-Cap, 10, Size decile portfolios of NYSE/AMEX/NASDAQ, size premium, from *Stocks, Bonds, Bills and Inflation: 2005 Valuation Edition* ©2005 Ibbotson Associates, Inc.
Note D	Consider using: Industry premia estimates from *Stocks, Bonds, Bills, and Inflation: 2005 Valuation Edition*, ©2005 Ibbotson Associates, Inc.
Note E	Subjective risk premium for company-specific risks.
Note F	Long-term sustainable growth rate of economic equity returns based on industry outlook and discussions with management.
Note G	Increment to convert to net earnings; EPS less dividend per share, or company's actual increment.
Note H	Additional subjective risk premium associated with intangible earnings.

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Answer Key – Chapter 5 (Continued)

Chapter 5 – Page 9

Sample Company
Cash to Earnings Factor

	Earnings	Depr	Working Capital	CapX	Debt	Cash Flow	Factor
2005	$ 1,361,661	$ 396,900	$ (100,000)	$ (300,000)	$ (100,000)	$ 1,258,561	92.43%
2004	836,342	352,500	(100,000)	(300,000)	(100,000)	688,842	82.36%
2003	521,057	253,100	(100,000)	(300,000)	(100,000)	274,157	52.62%
2002	707,770	234,312	(100,000)	(300,000)	(100,000)	442,082	62.46%
2001	721,829	211,400	(100,000)	(300,000)	(100,000)	433,229	60.02%
	$ 4,148,659	$1,448,212	$ (500,000)	$(1,500,000)	(500,000)	$ 3,096,871	
Averages	$ 829,730	$ 289,640	$ (100,000)	$ (300,000)	(100,000)	$ 619,370	74.65%

After-tax net income capitalization rate for the current year (17.97% / 74.65%)	24.07%
After-tax net cash flow capitalization rate for the current year	17.97%
Cash to earnings factor	6.10%

Proof

	Earnings	Cash Flow
Benefit Stream	$ 829,730	$ 619,370
Capitalization Rate	24.07%	17.97%
Enterprise Value (rounded)	$3,400,000	$ 3,400,000

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Answer Key – Chapter 5 (Continued)

Chapter 5 – Page 14

Sample Company
Modified CAPM Build-Up Method
December 31, 2004

Risk-free long-term U.S. Government bond rate			+	4.80%	Note A
Equity risk premium	+	7.20%			Note B
Beta	x	1.15			Note B1
Average company comparative return	=	8.28%			
Size premium	+	2.86%			Note C
Return in excess of risk-free rate	=		+	11.14%	
Risk premium for company specific risk:					
Additional risk for size premia	+	0.50%			Note D
Leverage/liquidity	+	0.25%			Note D
Earnings volatility	+	0.75%			Note D
Other factors peculiar to entity	+	0.00%			Note D
Total risk premium for company specific risk	=		+	1.50%	
After-tax net cash flow discount rate			=	17.44%	
Long-term sustainable growth rate			-	3.00%	Note E
After-tax net cash flow capitalization rate for next year			=	14.44%	
Adjustment to current year (1 plus growth rate)			÷	1.03	
After-tax net cash flow capitalization rate for current year			=	14.02%	
Cash to earnings factor			+	4.76%	Note F
After-tax net income capitalization rate for the current year			=	18.78%	
Intangible earnings factor			+	5.00%	Note G
After-tax intangible capitalization rate for the current year			=	23.78%	
Tax effect [1-tax rate (40%)]			÷	60.00%	
Pre-tax net income capitalization rate for the current year			=	31.30%	
Pre-tax intangible capitalization rate for the current year			=	39.63%	

Note A	20-year yield to maturity on U.S. government bonds at the valuation date, from *Wall Street Journal.*
Note B	Long-horizon expected equity risk premium (historical) from *Stocks, Bonds, Bills, and Inflation: 2005 Valuation Edition,* ©2005 Ibbotson Associates, Inc.
Note B1	Source: Standards & Poors
Note C	Micro-Cap, 9-10, Size decile portfolios of NYSE/AMEX/NASDAQ, size premium, from *Stocks, Bonds, Bills and Inflation: 2005 Valuation Edition* ©2005 Ibbotson Associates, Inc.
Note D	Subjective risk premium for company-specific risks.
Note E	Long-term sustainable growth rate of economic equity returns based on industry outlook and discussions with management.
Note F	Increment to convert to net earnings; EPS less dividend per share, or company's actual increment.
Note G	Additional subjective risk premium associated with intangible earnings.

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Answer Key – Chapter 5 (Continued)

Chapter 5 – Page 26

Sample Company
Weighted Average Cost of Capital (WACC)
December 31, 2005

Debt	$ 1,516,337	18.09%
Equity (at market value)	$ 6,864,862	81.91%
Total	$ 8,381,199	100.00%

	Weight		Cost		1-Tax Rate		
Cost of Debt	18.09%	x	7.00%	x	63.00%	=	0.80%

	RF		ERP		SSP		SCR		
Cost of Equity	4.80%	+	8.28%	+	2.86%	+	1.50%	=	17.44%
Weight								x	81.91%
								=	14.29%
Cost of Debt									0.80%
Cost of Equity									14.29%
WACC									15.09%

Reiteration

Weighted average net cash flow to invested capital	$ 983,600
Times 1 plus growth rate	1.03
Weighted average net cash flow to invested capital times growth rate	1,013,100
WACC (discount rate)	15.09%
Less growth rate	3.00%
WACC (capitalization rate)	12.09%
Total invested capital	8,379,653
Less debt	1,516,337
Market value of equity	$ 6,863,316

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Answer Key – Chapter 5 (Continued)

Chapter 5 – Page 28

Sample Company
Historical Comparable Price Earnings Ratio
December 31, 2005

	Weights	2001	2002	2003	2004	2005
Weights		1	2	3	4	5
Category:						
Basset Furniture, Inc.	3	14.0	20.0	17.5	15.5	18.0
LADD Furniture	1	38.0	65.5	44.0	N/A	N/A
Kimbell	2	13.0	20.5	16.0	13.5	15.5
Pulaski	4	20.0	13.5	22.5	12.0	12.0
Weighted average price/earnings ratio multiplier						16.2
Convert public company P/E ratios to percentage (capitalization rate) (100 ÷ 16.2)						6.17%

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Answer Key – Chapter 6

Chapter 6 – Page 2

Sample Company
Schedule of Adjusted Assets
December 31, 2005

	Book Value	Adjustments	Market Value
Assets			
Current assets			
Cash	$ 896,406	$ (200,000)	$ 696,406
Accounts receivable	2,166,908	(163,000)	2,003,908
Inventories	2,994,742	312,600	3,307,342
Other current assets	88,600	-	88,600
Total current assets	6,146,656	(50,400)	6,096,256
Property, Plant and equipment (net of depreciation)			
Property, plant and equipment	2,144,453	355,547	2,500,000
Land	-	-	-
Total property, plant and equipment	2,144,453	355,547	2,500,000
		-	
Other assets			
Deposits	110,000	-	110,000
Art and condo – net of depreciation	270,406	(270,406)	-
Total other assets	380,406	(270,406)	110,000
Total assets	$ 8,671,515	$ 34,741	$ 8,706,256

Sample Company
Schedule of Adjusted Liabilities
December 31, 2005

	Book Value	Adjustments	Market Value
Liabilities			
Current liabilities			
Notes payable	$ 247,800	-	$ 247,800
Accounts payable	1,137,600	-	1,137,600
Current maturity of long-term debt	127,285	-	127,285
Other current liabilities	769,200	-	769,200
Total current liabilities	2,281,885	-	2,281,885
Long-term liabilities			
Notes payable	695,793	-	695,793
Other long-term debt	593,259	-	593,259
Deferred income taxes	-	140,000	140,000
Total long-term liabilities	1,289,052	140,000	1,429,052
Total liabilities	$ 3,570,937	$ 140,000	$ 3,710,937
Net book value	$ 5,100,578		
Net operating assets			4,995,319
Non-operating assets (fair market value net of deferred tax)			600,000
Adjusted net tangible assets			$ 5,595,319

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Answer Key – Chapter 6 (Continued)

Chapter 6 – Page 3

Sample Company
Adjusted Net Asset Method Summary
December 31, 2005

Adjusted net asset value (from previous exercise)	$	5,595,319	
Shares outstanding		100,000	
Per share value		55.95	
Discount – First discount or premium:			
Lack of control discount percentage		-	%
Lack of control discount		-	
Adjusted per share value		55.95	
Discount – Second discount or premium:			
Lack of marketability discount percentage		(5.00)	%
Lack of marketability discount		(2.80)	
Adjusted per share value		53.15	
Number of shares valued		100,000	
Value of 100% equity	$	5,315,000	

Assumptions:

1 Sales of 100% equity interest
2 Business brokering commissions would be between 3% and 4%
3 Professional services for the sale of the Company would be between 1% and 2%
4 Use marketability discount of 5%. No control premium
5 Total shares outstanding are 100,000

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Answer Key – Chapter 6 (Continued)

Chapter 6 – Page 5

Sample Company
Capitalization of Earnings Method
December 31, 2005

Benefit stream	$ 823,600	
Capitalization rate	17.97	%
Value of the business before non-operating assets	4,583,194	
Non-operating assets	600,000	
Value of the business	5,183,194	
Shares outstanding	100,000	
Per share value	51.83	
Discount – First discount or premium:		
Lack of control discount percentage	-	%
Lack of control discount	-	
Adjusted per share value	51.83	
Discount – Second discount or premium:		
Lack of marketability discount percentage	(5.00)	%
Lack of marketability discount	(2.59)	
Adjusted per share value	49.24	
Number of shares valued	100,000	
Value of 100% equity	$ 4,924,000	

Assumptions:
1 Sale of 100% equity interest
2 Business brokering commissions would be between 3% and 4%
3 Professional services for the sale of the Company would be between 1% and 2%
4 Use marketability discount of 5%. No control premium
5 Total shares outstanding are 100,000
6 Type of benefit stream – weighted average of net cash flows to equity
7 Capitalization rate is 17.97% – see Ibbotson Build-Up Method
8 Long-term sustainable growth rate of 3%
9 Non-operating assets are $600,000

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Answer Key – Chapter 6 (Continued)

Chapter 6 – Page 7

Sample Company
Capitalization of Earnings Method
December 31, 2005

Benefit stream	$ 729,700	
Capitalization rate	14.02	%
Value of the business before non-operating assets	5,204,924	
Non-operating assets	600,000	
Value of the business	5,804,924	
Shares outstanding	100,000	
Per share value	58.05	
Discount – First discount or premium:		
Lack of control discount percentage	0.20	%
Lack of control discount	(11.61)	
Adjusted per share value	46.44	
Discount – Second discount or premium:		
Lack of marketability discount percentage	0.28	%
Lack of marketability discount	(13.00)	
Adjusted per share value	33.44	
Number of shares valued	46,000	
Value of 46% equity	$ 1,538,240	

Assumptions:
1 Sale of 46% equity interest
2 Minority interest discount of 20%
3 Marketability discount of 28%
4 Type of benefit stream – unweighted average of net cash flows to equity
5 Total shares outstanding are 100,000
6 Capitalization rate is 14.02% – see capital asset pricing model
7 Long-term sustainable growth rate of 3%
8 Non-operating assets are $600,000

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Answer Key – Chapter 6 (Continued)

Chapter 6 – Page 10

Sample Company
Discounted Future Earnings Method
December 31, 2005

Benefit stream – present value of projected cash flows to equity	$	4,359,754	
Present value of residual (terminal value)		3,470,356	
Value of the business before non-operating assets		7,830,110	
Non-operating assets		600,000	
Value of business		8,430,110	
Shares outstanding		100,000	
Per share value		84.30	
Discount – First discount or premium:			
Lack of control discount percentage		-	%
Lack of control discount		-	
Adjusted per share value		84.30	
Discount – Second discount or premium:			
Lack of marketability discount percentage		(5.00)	%
Lack of marketability discount		4.22	
Adjusted per share value		80.08	
Number of shares valued		100,000	
Value of 100% equity	$	8,008,000	

Assumptions:
1 Sale of 100% equity interest
2 Business brokering commissions would be between 3% and 4%
3 Professional services for the sale of the Company would be between 1% and 2%
4 Use marketability discount of 5%. No control premium
5 Total shares outstanding are 100,000
6 Type of benefit stream – projected net cash flows to equity
7 Discount rate – use Ibbotson Build-Up Method
8 Long-term sustainable growth rate of 3%
9 Non-operating assets are $600,000

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Answer Key – Chapter 6 (Continued)

Chapter 6 – Page 13

Sample Company
Excess Earnings Return on Assets (Treasury) Method
December 31, 2005

Benefit stream			$ 923,600	
Weighted average net GAAP operating assets	3,304,915			
Weighted average industry rate of return	17.01	%		
Return on net GAAP operating assets			562,166	
Excess earnings over industry rate of return on GAAP operating assets			361,434	
Capitalization rate			29.07	%
Value of the intangible assets			1,243,323	
Value of the adjusted net asset			5,595,319	
Value of the business			6,838,642	
Shares outstanding			100,000	
Per share value			68.39	
Discount –First discount or premium:				
Lack of control discount percentage			-	%
Lack of control discount			-	
Adjusted per share value			68.39	
Discount – Second discount or premium:				
Lack of marketability discount percentage			(5.00)	%
Lack of marketability discount			(3.42)	
Adjusted per share value			64.97	
Number of shares valued			100,000	
Value of 100% equity			$ 6,497,000	

Assumptions:
1 Sale of 100% equity interest
2 Business brokering commissions would be between 3% and 4%
3 Professional services for the sale of the Company would be between 1% and 2%
4 Use marketability discount of 5%. No control premium
5 Total shares outstanding are 100,000
6 Type of benefit stream – weighted average adjusted net income
7 Capitalization rate – use Ibbotson Build-Up Method
8 Long-term sustainable growth rate of 3%
9 The weighted average net GAAP operating assets are $3,304,915
10 Assume the weighted average industry rate of return in 17.01%
11 Adjusted net tangible assets is $5,595,319

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Answer Key – Chapter 6 (Continued)

Chapter 6 – Page 15

Sample Company
Reasonable Rate of Return
December 31, 2005

Asset Descriptions	FMV	% Leverage	Borrowing Capacity	Cost of Capital	Interest
Cash	$ 696,406	100.00%	$ 696,406	5.50%	$ 38,302
Accounts receivable	2,003,908	80.00%	1,603,126	7.00%	112,219
Inventories	3,307,342	50.00%	1,653,671	7.00%	115,757
Other current assets	88,600	0.00%	-	0.00%	-
Property and equipment	2,500,000	60.00%	1,500,000	7.00%	105,000
Land	-	60.00%	-	0.00%	-
Total	$ 8,596,256		5,453,203		371,278
Tax effect					63.000%
After tax cost of capital					233,905
Equity capital			3,143,053	17.97%	564,807
Total capital			$ 8,596,256		$ 798,712

	Cost of Cap/ Capital	Reasonable Rate of Return
Cost of capital	$ 798,712	
Market value of capital	$ 8,596,256	9.000%

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Answer Key – Chapter 6 (Continued)

Chapter 6 – Page 16

Sample Company
Excess Earnings Return on Assets Reasonable Rate Method
December 31, 2005

Benefit stream	$	923,600
Adjusted net tangible operating assets		4,995,319
Reasonable rate of return		9.00%
Reasonable rate of return on net tangible operating assets		449,579
Excess earnings over reasonable rate of return on operating assets		474,021
After-tax intangible assets capitalization rate		29.07%
Value of the intangible assets		1,630,619
Fair market value of the adjusted net tangible assets		5,595,319
Value of the business		7,225,938
Shares outstanding		100,000
Per share value		72.26
Discount - first discount or premium		
Lack of control discount percentage		0.00%
Lack of control discount		-
Adjusted per share value		72.26
Discount - second discount or premium		
Lack of marketability discount percentage		-5.00%
Lack of marketability discount		(3.61)
Adjusted per share value		68.65
Number of shares valued		100,000
Value of 100% of the equity	$	6,865,000

Assumptions:
1 Sale of 100% equity interest
2 Business brokering commissions would be between 3% and 4%
3 Professional services for the sale of the Company would be between 1% and 2%
4 Use marketability discount of 5%. No control premium
5 Total shares outstanding are 100,000
6 Type of benefit stream – weighted average adjusted net income
7 Capitalization rate – use Ibbotson Build-Up Method is 29.07%
8 Long-term sustainable growth rate of 3%
9 The reasonable rate of return on adjusted net operating assets is 9%
10 Adjusted net operating assets is $4,995,319
11 Adjusted net tangible assets is $5,595,319

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Answer Key – Chapter 6 (Continued)

Chapter 6 – Page 18

Sample Company
Price Earnings Ratio Method
December 31, 2005

Benefit stream	$ 829,700	
Capitalization rate	6.17	%
Value of the business before non-operating assets	13,447,326	
Non-operating assets	600,000	
Value of business	14,047,326	
Shares outstanding	100,000	
Per share value	140.47	
Discount – First discount or premium:		
Lack of	-	%
Lack of	-	
Adjuste	140.47	
Discour		
Lack of	(5.00)	%
Lack of	(7.02)	
Adjuste	133.45	
Number of shares valued	100,000	
Value of 100% equity	$ 13,345,000	

Assumptions:
1 Sale of 100% equity interest
2 Business brokering commissions would be between 3% and 4%
3 Professional services for the sale of the Company would be between 1% and 2%
4 Use marketability discount of 5%. No control premium.
5 Total shares outstanding are 100,000
6 Type of benefit stream – unweighted average net income
7 Capitalization rate – public company P/E rations
8 Long-term sustainable growth rate of 3%
9 Non-operating assets are $600,000

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Answer Key – Chapter 6 (Continued)

Chapter 6 – Page 21

Sample Company
Dividend Paying Capacity Method
December 31, 2005

Benefit stream	$ 923,600	
Dividend payout	16.27	%
Dividend paying capacity	150,270	
Capitalization rate	2.67	%
Value of the business before non-operating assets	5,628,090	
Non-operating assets	600,000	
Value of business	6,228,090	
Shares outstanding	100,000	
Per share value	62.28	
Discount – First discount or premium:		
Lack of control discount percentage	-	%
Lack of control discount	-	
Adjusted per share value	62.28	
Discount – Second discount or premium:		
Lack of marketability discount percentage	(5.00)	%
Lack of marketability discount	(3.11)	
Adjusted per share value	59.17	
Number of shares valued	100,000	
Value of 100% equity	$ 5,917,000	

Assumptions:
1 Sale of 100% equity interest
2 Business brokering commissions would be between 3% and 4%
3 Professional services for the sale of the Company would be between 1% and 2%
4 Use marketability discount of 5%. No control premium
5 Total shares outstanding are 100,000
6 Type of benefit stream – weighted average net income
7 Capitalization rate – dividend yield (pre-tax to investors)
8 Long-term sustainable growth rate of 3%
9 Non-operating assets are $600,000

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APPENDIX V

Sample Industry Economic Study

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Sample Industry Economic Study

THE FURNITURE/BEDDING INDUSTRY 2000

Provided by the Center for Economic and Industry Research (dba: KeyValueData)

I. HOME FURNISHINGS AND FURNITURE INDUSTRY

Analysts agree that the boom felt by the nation's furniture dealers may be slowing and that sales and shipments of furniture could be lower for the year 2001. Factors leading to the market softening are slowdowns in the number of housing starts and home sales and the national economy's slowdown. Spending on furniture and home furnishings is expected to decline from years past. Sales in 2000 were $64.2 billion, and they are forecast to be $67.4 billion in 2001 and $69.5 billion in 2002. The yearly average growth rate is expected to be around 3 percent, which is the smallest year-on-year increase since 1991.

According to the Census Bureau, sales of furniture and home furnishings have increased faster than have retail sales (1998 to 1999). From 1992 to 1999, sales of furniture and household products have grown faster than have retail sales for the same time period.

Sales at retail establishments should hold steady, but manufacturers shipments will lag and inventories will begin to pile up. Shipments in 2001 will be about 1 percent behind shipments in 2000, and shipments in 2002 should be about 2 percent behind what they were in 2000. This phenomenon is mainly due to a trend of continued growth in imports that has occurred over the last few years. Manufacturer shipments, in the first quarter of 2001 have slowed, and inventories have begun to increase, according to Furniture Today.

New home sales, which play a large role in furniture and home furnishings sales, are expected to slow over the next few years. New home sales in 2000 were about 1.59 million; they were expected to decline to 1.51 million in 2001 and in 2002 to about 1.47 million. New home sales expected to decline in the coming years as are single-family resales. There were about 4.94 single-family resales in 2000, and they are expected to decline to 4.86 million units in 2001 and to 4.59 million units in 2002, according to Furniture Today.

Growth in the Gross Domestic Product (GDP) will also be decelerating over the next couple of years, according to analysts. GDP grew about 4.8 percent in 2000 and is expected to grow by about 3.5 percent in 2001 and by 3.3 percent in 2002.

A. FURNITURE MARKETS BY REGION

The decline of the equity markets in the Northeast will act to slow the growth of the region's economy, due to the region's huge financial service industry. The service industry has begun to contract and consolidate and layoffs loom in the near future. The furniture and home furnishings industry could feel a chill in the near future because individuals in the area tend to be high earners.

Furniture and home furnishings retailers in the Southern United States should feel the contraction in the market, as downturns in other industries ultimately affect the furniture and home furnishings industry. Rapid growth in technology jobs in states, such as Virginia, North Carolina, Maryland, and Texas, has fueled growth in the region for many years, but high

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technology jobs are slowing. The region employs many individuals in the automotive industry, which has been slowing recently. Based on these factors, furniture and home furnishings sales gains in the region should be modest for the 2000 to 2002 period.

The Western United States could feel little economic slowdown depending on the fate of the technology sector, which has been a major catalyst in recent years. Other factors that could benefit furniture and home furnishings dealers in the area are strong gains in global trade in aircraft, shipping, and agricultural industries.

The Midwestern United States has benefited from global trade and China's entry into the World Trade Organization (WTO). The large agricultural sector in the region has benefited from global trade. However, the tight labor markets have stopped growth in many industries dead in its tracks. The region is beginning to respond with an influx of capital investment in productivity-enhancing equipment that is a key growth factor for the region.

B. GEOGRAPHIC TRENDS IN THE FURNITURE/HOME FURNISHINGS MARKET

Furniture and bedding sales are expected to increase over all regions of the country through 2005, according to Furniture Today's 2001 Retail Planning Guide. However, growth will not be occurring as quickly as it has in previous years mainly due to a general slowing of the whole economy. Sales are forecast to increase by at least 10 percent in every region in the United States for the 2000 to 2005 period. Sales for the whole domestic market are expected to increase by about 15 percent for the same period.

The largest furniture and bedding market in the country is the Chicago Metro market. Since 1997, sales in the region have topped all other markets. New York, L.A., and other well-established cities have topped the charts as the largest furniture and bedding markets. Sales growth within each of the 20 largest markets is expected to increase for the period from 2000 to 2005 by at least 9 percent, with some areas growing more than 25 percent.

The fastest growing furniture and bedding markets are in less traditionally well-established cities, where growth is taking place due to a rapid population influx for reasons characteristic to the region. The Austin-San Marcos, TX, region is growing the fastest in the country, with over $337 million in sales in 2000 and sales projected at over $464 million in 2005, an increase of almost 40 percent.

Furniture and bedding retailers and wholesalers serving these hot markets will be less likely to feel a cooling economy than firms serving alternative markets. While the 25 fastest growing regions of the country are still growing faster than all other regions of the country, they are not growing as fast as the previous years top 25 fastest growing markets. In the Retail Planning Guide (1999), the percent change in sales volume ranged from 69 percent to about 145 percent, compared to the range of 24 to 38 percent in the current Retail Planning Guide.

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C. IMPORTS WITHIN THE FURNITURE INDUSTRY

Imports have a dramatic effect on manufacturers of furniture and bedding products. As stated earlier, manufacturers are facing stiff competition from overseas markets with access to inexpensive production and labor. Since 1997, imports in the furniture industry have increased over 66 percent. Looking only at the 1998 to 1999 period, imports have increased over 20 percent.

From 1998 to 1999, imports from China have increased over 46 percent. Over the past few years' Chinese furniture factories have seen large capacity increases that have allowed them to pick up the production slack that has been felt in U.S. factories. Metal outdoor chairs with textile-covered seats imported from China have the highest demand in the United States. From 1998 to 1999, imports of this product alone have increased over 90 percent.

The United States exported about $1.6 billion of furniture products in 1999, which was a drop of about 2 percent from the previous year. Exports also dropped to the following countries:

- Japan—10 percent decline
- Saudi Arabia—17 percent decline
- Kuwait—7 percent decline
- Brazil—40 percent decline
- Netherlands—6 percent decline

D. TOP MANUFACTURERS

Collectively, the top 25 U.S. furniture manufacturers have had increased sales of over 19 percent from 1998 to 1999, as compared to sales increases of only 7 percent for the top 25 firms analyzed for the 1996 to 1997 period.

When polled, the top manufacturers stated that they expect the large companies within the industry to get larger through strategic processes such as mergers, acquisitions, and partnerships.

II. OUTLOOK

The merchant wholesale industry is forecast to achieve annual sales increases averaging 5 percent from 1998 to the decade's end and then declining through 2003, according to the U.S. Department of Commerce's Bureau of Economic Analysts. The primary brakes on sales should be competition from alternative distribution sources and the customer price sensitivity toward value-added services. Those alternative channels have increased, luring business that traditionally identified with wholesale. Among these channels are wholesale clubs, super centers, catalog sales, discount centers, and electronic commerce/direct mail. In the early 1980s, wholesale clubs and super centers provided competition mainly for the durable goods wholesaler. In the mid-1990s, growth for the wholesale clubs slowed as they reached the mature stage of the industry life cycle, but super centers still have significant room for expansion. A 1997 report by Degen & Co., cited by the U.S. Department of Commerce, identified super centers as reaching an estimated $34 billion in sales in 1996, and forecast those sales to surpass $80 billion (by 2000). By comparison, wholesale club sales should grow at a slower pace as 1996 levels reached $44 billion and are forecast to approach $57 billion (by 2000). These two challenging channels pressure distributors in two ways: They directly compete for wholesale customers, and when the distributor channel cannot be avoided due to contractual

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arrangements of certain manufacturers, they dictate the terms of sale to the distributor. This is the greatest threat to tight gross margins.

The outlook for certain segments of the furniture industry looks strong. Looking to 2001, the infant and juvenile products are in for a year of strong sales, according to *Furniture Today's Retail Planning Guide*. Sales have been up in this market every year since 1998, partly due to the increased number of births, which increased by over 2 percent (from 1997). The birth rate (number of births per 1,000 of population) has slightly increased in 1998. Births of twins increased about 6 percent in 1998 according to the National Center for Health Statistics. Sales within this market in 1999 were $5.39 billion, up from $4.86 billion (in 1998).

The upholstery industry has been unsettled for the last couple of years, but executives of upholstery firms are using tactics such as brand power or personalization to stave off the expected slowdown. *Furniture Today* polled several industry executives about how they felt business would be in the upcoming year. Many felt business would be better even if consumer spending decreases. They felt that if money were tight, consumers would spend their dollars at businesses with which they have had good experiences. Other firms are opting to use improved textile designs to "up the game" and appeal to the market's higher end.

Fabric makers are looking to 2001 with three issues on their mind: flammability of fabrics, imports, and the general economy. Flammability is an issue because consumers demand fabrics that are soft, but fireproof fabrics usually feel firm and stiff. Imports, mainly from China, will be on the mind of many fabric manufacturers in the coming year. Chinese imports are mostly facing the lower markets now. In the future, they will have fabrics in all price levels.

Furniture Today reports that five years after China joined the WTO, quotas will disappear and the United States market will be wide open. This will diminish the number of American manufacturing jobs. Manufacturing jobs pay more than service jobs, so the disposable income of all of the former employees will diminish ultimately affecting the furniture industry.

Most fabric manufacturers reported that 2000 was a fair to good year, and that the softened retail climate hurt their sales. The retail sector was softened, in part, by gasoline prices, interest rates, and the jumpy stock market. Most firms see business picking up in 2001 because of new product lines; others see business picking up because of new national accounts that they have landed in the past few months.

The bedding market has never been an industry characterized by tremendous growth; rather, it has been characterized by slow, steady growth. The International Sleep Products Association estimates that sales increases for the year 2001 will be about 4 percent. Several factors are to blame for the dismal outlook for the upcoming year: the shifty stock market, sluggish corporate earnings that consistently have failed to meet analysts' earnings, high-energy prices, and interest rates.

While analysts are predicting that 2001 will be a roller-coaster year for the bedding industry, some individual producers are expecting their gains to be in double digits. Companies, such as Simmons, saw 20 percent gains in 2000 due to new product introductions that have kept orders rolling in.

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The furniture and bedding industry and each of the specialty markets contained within the industry will have a mixed year of growth, depending on what the general economy does. Things could pan out differently if the stock market stabilizes, and energy prices lower; rather than if the stock market continues to be jittery and energy prices continue to soar.

February 2001

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III. BIBLIOGRAPHY FOR WHOLESALE DISTRIBUTOR STUDY

- Survey of Current Business; U.S. Department of Commerce/Economics & Statistics Administration, Bureau of Economic Analysis; November 1998
- Survey of Current Business; U.S. Department of Commerce/Economics & Statistics Administration, Bureau of Economic Analysis; June 1996
- U.S. Industry & Trade Outlook 2000; U.S. Department of Commerce/International Trade Administration and DRI/McGraw–Hill/Standard & Poors; 1999
- "Furniture Information Market Reports"; Aktrin Furniture Information Center; http://www.aktrin.com
- "Consumer Market Survey"; *Furniture Today*; April 28, 1997
- "Consumer Buying Trends"; *Furniture Today*; February 16, 1998
- "Survey of Top 25 U.S. Furniture Manufacturers"; *Furniture Today*; May 11, 1998
- "Distributor Survey"; *Furniture Today*; May 25, 1998
- "Retail Planning Guide"; *Furniture Today*; December 28, 1998
- "Retail Planning Guide"; *Furniture Today*; December 25, 2000
- "Import/Export Report"; *Furniture Today*; June 12, 2000
- "Overreaching for mass retailers"; *The McKinsey Quarterly*; 1997 Number 4
- "Channel Conflict: When is it dangerous?"; *The McKinsey Quarterly*; 1997 Number 3
- *Mergerstat Review*; Houlihan, Lokey, Howard & Zukin; 1997, 1998, 1999
- "CIT's Furniture Outlook Forecasts Long–Term Growth"; CIT Group; October 9, 2000

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NATIONAL RETAIL SALES/FURNITURE & HOME FURNISHINGS TRENDS 1992–2000

(Billions of chained 1992 Dollars)

	RETAIL SALES	DURABLE GOODS SALES	FURNITURE & HOME FURNISHINGS
1992	1,951.6	703.6	96.9
1993	2,072.8	776.1	105.4
1994	2,227.3	873.4	118.6
1995	2,324.0	925.0	127.3
1996	2,506.1	1,020.9	135.1
1997	2,615.7	1,066.1	140.8
1998	2,746.0	1,138.3	152.0
1999 (f)	2,912.1	1,207.1	163.6
2000 (e)	3,044.0	1,262.0	168.8
%CHANGE '96–‘97	4.4	4.4	4.2
%CHANGE '97–‘98	5.0	6.8	8.0
%CHANGE '98–‘99	6.0	6.0	7.6
%CHANGE '99–‘00	4.5	4.5	3.2

(e)=estimate, (f) =forecast

Source: U.S. Department of Commerce/Bureau of the Census

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NATIONAL RETAIL SALES/FURNITURE & HOME FURNISHINGS TRENDS 1992–2000

(Billions of chained 1992 Dollars)

	RETAIL SALES	DURABLE GOODS SALES	FURNITURE & HOME FURNISHINGS
1992	1,951.6	703.6	96.9
1993	2,072.8	776.1	105.4
1994	2,227.3	873.4	118.6
1995	2,324.0	925.0	127.3
1996	2,506.1	1,020.9	135.1
1997	2,615.7	1,066.1	140.8
1998	2,746.0	1,138.3	152.0
1999 (f)	2,912.1	1,207.1	163.6
2000 (e)	3,044.0	1,262.0	168.8
%CHANGE '96–'97	4.4	4.4	4.2
%CHANGE '97–'98	5.0	6.8	8.0
%CHANGE '98–'99	6.0	6.0	7.6
%CHANGE '99–'00	4.5	4.5	3.2

(e)=estimate, (f) =forecast
Source: U.S. Department of Commerce/Bureau of the Census

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2001 *FURNITURE TODAY* ECONOMIC FORECAST (% change year-on-year)

	Consumer Spending on Furniture & Bedding		Furniture Store Sales		Furniture Factory Shipments	
	Current $	**Constant $**	**Current $**	**Constant $**	**Current $**	**Constant $**
2000	8.1%	8.1%	8.0%	8.0%	3.3%	2.1%
2001	3.5%	3.4%	3.4%	3.3%	0.8%	0.5%
2002	3.2%	2.5%	3.2%	2.5%	2.0%	1.4%
1999 by Quarter:						
First	4.0%	4.3%	4.2%	4.6%	2.3%	2.2%
Second	2.9%	2.8%	4.1%	4.0%	2.6%	2.2%
Third	3.5%	3.4%	3.1%	3.0%	0.1%	–0.1%
Fourth	2.9%	2.8%	2.4%	2.3%	0.7%	0.4%

Source: *Furniture Today*

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LARGEST FURNITURE & BEDDING MARKETS RANKED BY 2005 PROJECTED SALES

MARKET	ACTUAL 2000 SALES	PROJECTED 2005 SALES	% CHANGE
Chicago	$2,336.6	$2,650.6	13.4%
New York	2,342.9	2,575.4	9.9%
LA-Long Beach	2,204.5	2,412.4	9.4%
Washington	1,598.1	1,838.8	1.5%
Philadelphia	1,390.7	1,532.1	10.2%
Atlanta	1,133.1	1,464.5	25.6%
Houston	1,113.4	1,361.0	22.2%
Detroit	1,213.4	1,621.9	8.9%
Dallas	993.7	1,259.2	26.7%
Boston	1,060.1	1,186.2	11.9%
Minn.-St. Paul	877.7	1,033.5	17.8%
Phoenix–Mesa	792.8	988.0	24.6%
Seattle-Bellevue-Everett	804.6	973.2	20.9%
Nassau-Suffolk	870.0	936.4	7.6%
Orange County	801.7	889.6	11.0%
Oakland	744.5	581.4	14.0%
San Diego, CA	707.7	810.2	14.5%
Denver, CO	644.3	801.6	24.4%
Baltimore, MD	699.8	780.3	11.5%
St. Louis, MO-IL	685.8	778.1	13.5%

(Dollars in Millions)
Source: *Furniture Today*

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LEADING SOURCES OF IMPORTED FURNITURE & PRINCIPAL PRODUCTS

SOURCE/PRODUCT	1998 Sales	1999 Sales	% Change
China	**$1,839.4**	**$2,682.0**	**46.0%**
Misc. Wood Furniture	489.7	656.5	34.0%
Metal Household Furniture	232.3	333.5	44.0%
Metal Outdoor Seats w/Cushions	151.2	289.9	91.0%
Metal Outdoor Seats w/o Cushions	148.4	160.6	8.0%
Wood Chairs	94.8	118.9	25.0%
Canada	**$1,765.2**	**$2,091.5**	**18.0%**
Misc. Wood Furniture	428.3	495.9	16.0%
Wood Bedroom Furniture	253.5	308.6	22.0%
Wood Furniture Parts	118.4	203.6	72.0%
Misc. Furniture Parts	150.8	160.5	6.0%
Upholstered Seats, Metal Frame	140.1	141.3	1.0%
Italy	**$ 847.9**	**$1,022.7**	**21.0%**
Upholstered Seats, Wood frame	276.2	332.8	17.0%
Misc. Wood Furniture	115.7	130.2	13.0%
Wood Bedroom Furniture	74.4	124.6	67.0%
Upholstered Chairs Wood Frame	94.4	95.9	2.0%
Metal Household Furniture	28.5	51.6	81.0%
Mexico	**$ 741.8**	**$ 869.2**	**17.0%**
Misc. Wood Furniture	132.2	138.6	5.0%
Wood Bedroom Furniture	122.2	132	8.0%
Upholstered Seats, Metal Frame	97.6	127.1	30.0%
Metal Household Furniture	112.8	112.9	0.0%
Upholstered Seats, Metal Frame	35.1	57.2	63.0%
Taiwan	**$ 793.1**	**$ 820.1**	**3.0%**
Misc. Wood Furniture	181.9	185.1	2.0%
Metal Household Furniture	130.9	133.8	2.0%
Wood Chairs	71.5	69.4	-3.0%
Upholstered Seats, Metal Frame	43.8	49.1	12.0%
Wood Furniture Parts	37.1	45.7	23.0%
Malaysia	**$ 398.6**	**$ 459.8**	**15.0%**
Wood chairs	117.1	133.1	14.0%
Misc. Wood Furniture	92.2	95.4	3.0%
Wood Dining Tables	59.6	77.2	29.0%
Wood Kitchen Dining Tables	10.3	20.7	100.0%
Upholstered Chairs, Wood Frame	24.2	19.2	-21.0%
Indonesia	**$ 340.1**	**$428.4**	**26.0%**
Misc. Wood Furniture	124.1	153.3	24.0%
Wood Beds	37.5	54.9	46.0%
Wood Bedroom Furniture	30.2	40.7	35.0%
Wood Chairs	17.6	24.9	42.0%
Rattan Seats	14.1	23.2	65.0%

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SOURCE/PRODUCT	1998 Sales	1999 Sales	% Change
Philippines	**$ 219.7**	**$ 246.7**	**12.0%**
Misc. Wood Furniture	57.6	68.4	19.0%
Metal Household Furniture	35.7	35.9	1.0%
Rattan Furniture	22.6	28.8	27.0%
Furniture, Other Materials	25.7	27.3	6.0%
Rattan seats	19.6	20.9	6.0%
Thailand	**$ 189.8**	**$ 240.9**	**27.0%**
Misc. Wood Furniture	83.8	102.4	22.0%
Wood Chairs	23.0	33.6	46.0%
Wood Dining Tables	11.2	14.2	27.0%
Other Seat Parts	10.7	12.8	19.0%
Wood Kitchen Furniture	14.2	10.1	-29.0%
United Kingdom	**$ 139.0**	**$ 150.5**	**8.0%**
Misc. Wood Furniture	60.0	59.7	-1.0%
Other Seat Parts	11.8	17.9	52.0%
Misc. Furniture Parts	17.5	15.2	-13.0%
Wood Bedroom Furniture	10.8	10.8	0.0%
Metal Furniture & Parts	8.7	10.4	20.0%
Total U.S. Imports from the World	**$10,277.6**	**$8,331.5**	**23.0%**

(Dollars in Millions)
Source: *Furniture Today*

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FASTEST GROWING FURNITURE & BEDDING MARKETS RANKED BY INCREASE

MARKET	ACTUAL 2000 SALES	PROJECTED 2005 SALES	% CHANGE
Austin-San Marcos, TX	$337.1	$464.9	37.9%
Las Vegas, NV	384.7	518.5	34.8%
Provo-Orem, UT	67.8	89.2	31.6%
Myrtle Beach, SC	46.1	60.5	31.1%
Fort Collins-Loveland, CO	67.5	88.6	31.1%
Boise, ID	106.4	138.9	30.6%
Panama City, FL	34.5	45.0	30.5%
Naples, FL	68.6	88.6	29.2%
Boulder-Longmont, CO	3.8	119.6	27.5%
Dallas, TX	993.7	1,259.2	26.7%
Raleigh-Durham-Chapel Hill, NC	330.1	415.7	25.9%
Fayetteville, NC	63.7	80.2	25.9%
Atlanta, GA	1,166.1	1,464.5	25.6%
Laredo, TX	27.3	34.3	25.3%
Reno, NV	94.4	118.8	25.2%
Fort Walton Beach, FL	43.5	54.4	25.0%
Portland Vancouver, OR-WA	545.8	682.3	25.0%
Salt Lake City-Ogden, UT	320.1	399.2	24.7%
Phoenix–Mesa, AZ	792.8	988.0	24.6%
Denver, CO	644.3	801.6	24.4%

(Dollars in Millions)
Source: *Furniture Today*

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FURNITURE SALES BY REGION 2000–2005

(Furniture & Bedding Sales in $millions)

Regional Market	2000 Sales	2005 Projected	Projected % change
Northeast	$12,880.30	$14,136.00	9.7%
South	$18,687.10	$22,056.30	18.0%
Midwest	$12,613.70	$14,350.10	13.8%
West	$13,979.50	$16,246.60	16.2%
Total Domestic Markets	**$58,160.60**	**$66,789.10**	**14.8%**

Source*: Furniture Today*

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HOUSEHOLD FURNITURE MANUFACTURING TRENDS & FORECAST

(Millions of Dollars)

INDICATORS	1992	1993	1994	1995	1996	1997(e)	1998(e)	1999(e)	2000(f)	%ch 97-98	%ch 98-99	%ch 99-00	%ch 96-00
Value of Shipments	20,507	21,906	23,603	24,458	25,426	26,702	28,528	30,495	31,424	6.8	6.9	3.0	5.4
Value of Shipments ($1992)	20,507	21,373	22,363	22,563	23,010	23,863	25,126	26,560	27,017	5.3	5.7	1.7	4.1
Total Employment (thousands)	253	255	267	271	273								
Capital Expenditures	346	393	436	528	481								
Value of Imports	2,995	3,397	3,965	4,448	4,988	5,882	7,009	8,408	9,837	19.2	20.0	17.0	18.5
Value of Exports	1,113	1,183	1,307	1,320	1,326	1,530	1,641	1,594	1,651	7.3	-2.9	3.6	5.6

*compound annual rate

(e) = estimate, (f) = forecast

Source: U.S. Department of Commerce/Bureau of the Census

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RETAIL TRADE TRENDS & FORECASTS
(Millions of Dollars)

	1992	1993	1994	1995	1996	1997	1998	1999(f)	2000(f)
Durable Goods	703,604	776,126	873,408	925,017	1,020,861	1,066,087	1,328,286	1,207,117	1,261,984
Bldg Matls & Garden	100,838	109,444	122,342	125,831	141,935	150,482	165,331	185,557	192,051
Automotive Dealers	406,935	456,332	518,492	551,330	608,781	632,885	668,658	732,047	752,269
Furn & Home Furnish	96,947	102,399	118,649	127,270	135,149	140,776	152,044	163,598	168,839
Non-Durables	1,247,985	1,296,662	1,353,917	1,399,021	1,485,280	1,549,582	1,607,725	1,704,944	1,782,439
General Merch Stores	246,420	264,613	283,203	299,169	313,342	330,216	351,436	381,510	389,742
Food Stores	377,099	384,978	398,845	409,617	415,170	425,170	438,212	460,277	485,236
Gasoline Stations	136,950	138,172	141,671	146,080	168,320	171,527	162,095	167,932	172,970
Apparel & Accessory	104,212	107,176	109,862	110,429	116,101	120,575	126,939	135,787	140,513
Eating & Drinking Places	200,164	213,461	223,485	232,060	238,474	253,551	266,544	285,263	295,234
Total Retail Sales	**1,951,589**	**2,072,788**	**2,227,325**	**2,324,038**	**2,506,141**	**2,615,669**	**2,746,011**	**2,912,061**	**3,044,422**

	%ch 96-97	%ch 97-98	%ch 98-99	%ch 99-00
Durable Goods	4.4	6.8	6.0	4.5
Bldg Matls & Garden	6.0	9.9	12.2	3.5
Automotive Dealers	4.0	5.7	9.5	2.8
Furn & Home Furnish	4.2	8.0	7.6	3.2
Non-Durables	4.3	3.8	6.0	4.5
General Merch Stores	5.4	6.4	8.6	2.2
Food Stores	2.4	3.1	5.0	5.4
Gasoline Stations	1.9	-5.5	3.6	3.0
Apparel & Accessory	3.9	5.3	7.0	3.5
Eating & Drinking Places	6.3	5.1	7.0	3.5
Total Retail Sales	**4.4**	**5.0**	**6.0**	**4.5**

f = forecast

Source: U.S. Department of Commerce/Bureau of the Census

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NATIONAL RETAIL SALES/FURNITURE & HOME FURNISHINGS TRENDS 1992–1999

(Billions of chained 1992 Dollars)

	RETAIL SALES	DURABLE GOODS SALES	FURNITURE & HOME FURNISHINGS
1992	1,951.6	703.6	96.9
1993	2,072.8	776.1	105.4
1994	2,227.3	873.4	118.6
1995	2,324.0	925.0	127.3
1996	2,445.3	993.3	133.5
1997 (e)	2,587.3	1,083.1	144.5
1998 (e)	2,703.7	1,148.1	152.5
1999 (f)	2,803.7	1,205.5	159.6
%CHANGE '92-96*	5.8	9.0	8.3
%CHANGE –'96-97	5.8	9.0	8.4
%CHANGE '97-98	4.5	6.0	5.4
%CHANGE '98-99	3.7	5.0	4.7

*Compound annual rate

(e)= estimate, (f) forecast

Source: U.S. Department of Commerce/Bureau of the Census

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MERCHANDISE WHOLESALE SALES TRENDS by Category

(Billions of Dollars)

CONSUMER DURABLES	1990	1991	1992	1993	1994	1995	1996	1997	1998	Annual %ch 90-94	Annual %ch 94-98
Motor Vehicles & Parts	174	167	171	175	188	189	193	195	203	2.0%	2.0%
Furniture & Home Furnishings	34	32	33	35	37	41	43	46	48	2.2%	7.4%
Lumber & Other Construction Materials	64	58	64	72	79	79	86	90	92	5.9%	4.1%
Professional & Commercial Equip & Supplies	114	124	140	161	171	203	224	240	256	12.5%	12.4%
Metals & Minerals except Petroleum	78	76	77	79	89	95	94	100	96	3.5%	2.0%
Electrical Goods	116	113	115	138	164	193	195	205	212	10.3%	7.3%
Hardware, Plumbing & Heating Equip	53	50	53	55	63	67	70	74	77	4.7%	5.6%
Machinery & Industrial Equip	157	146	149	163	175	191	206	223	241	2.9%	9.4%
Miscellaneous Durables	91	93	107	112	125	138	135	139	135	9.3%	2.0%
Total Wholesale Durables Sales	**881**	**860**	**909**	**990**	**1,091**	**1,196**	**1,246**	**1,312**	**1,360**	**6.0%**	**6.2%**

Source: U.S. Department of Commerce/Bureau of the Census

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MERCHANDISE WHOLESALE SALES TRENDS by Category

(Billions of Dollars)

NON-DURABLE GOODS	1990	1991	1992	1993	1994	1995	1996	1997	1998	%ch 90-94	%ch 94-98
Paper & Paper Products	52	52	55	59	66	80	80	84	90	6.7%	9.1%
Drugs & Proprietaries	52	60	67	69	76	84	94	107	124	11.5%	15.8%
Apparel, Piece Goods, Notions	65	64	68	70	72	70	75	85	86	2.7%	4.9%
Groceries & Related Products	273	277	279	288	293	312	320	332	347	1.8%	4.6%
Farm-product Raw Materials	108	105	106	98	99	120	138	125	108	-2.1%	2.3%
Chemicals & Allied products	36	37	39	40	43	50	53	55	55	4.9%	7.0%
Petroleum & Petrol products	149	140	143	132	130	131	149	145	121	-3.2%	-1.7%
Beer, Wine & Distilled Beverage	49	52	50	51	52	53	59	58	62	1.5%	4.8%
Miscellaneous Non-Durables	131	133	133	138	143	160	173	175	183	2.3%	7.0%
Total Wholesale Non-Durables Sales	**913**	**920**	**941**	**944**	**975**	**1,058**	**1,138**	**1,168**	**1,175**	**1.7%**	**5.1%**

Source: U.S. Department of Commerce/Bureau of the Census

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APPENDIX VI

Sample MSA Economic Study

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Sample MSA Economic Study

ATLANTA, GEORGIA
METROPOLITAN STATISTICAL AREA (MSA)
Provided by the Center for Economic and Industry Research (dba: KeyValueData)

I. INTRODUCTION

A metropolitan/economic study is a straightforward look at the economy in a specific geographic area. Data from various reliable sources is used to ensure a realistic view of the economy. The studies look at the key economic factors of an area including population, total personal income, per capita personal income, earnings and employment for the major industries, and unemployment rates. The numerous tables and graphs that accompany this report show how the major industries are doing relative to the overall economy and their respective economic share. The graphs provide a good snapshot of the recent trends and offer a well–delineated representation of what is discussed in this report, such as how one industry compares to the other industries, as well as the changes in population, income, earnings, and employment. Any economic trends that are taking place can be seen with a quick glance at the graphs and reviewed more closely with the specific data on the tables. The direction and rate of change from year to year for each major economic factor is indicated.

Having good economic information for a geographic area can be useful in many ways. Whether a business has done well or not, a metropolitan/economic study can be utilized when making a correlation between the performance of the business and the overall state of the economy. A metropolitan study can help to show what type of trend or amount of growth a business in a particular industry might be expected to have during certain years. Other purposes include being utilized by local Chambers of Commerce, developers, companies deciding whether to expand or relocate, and anyone needing comprehensive economic information on an area.

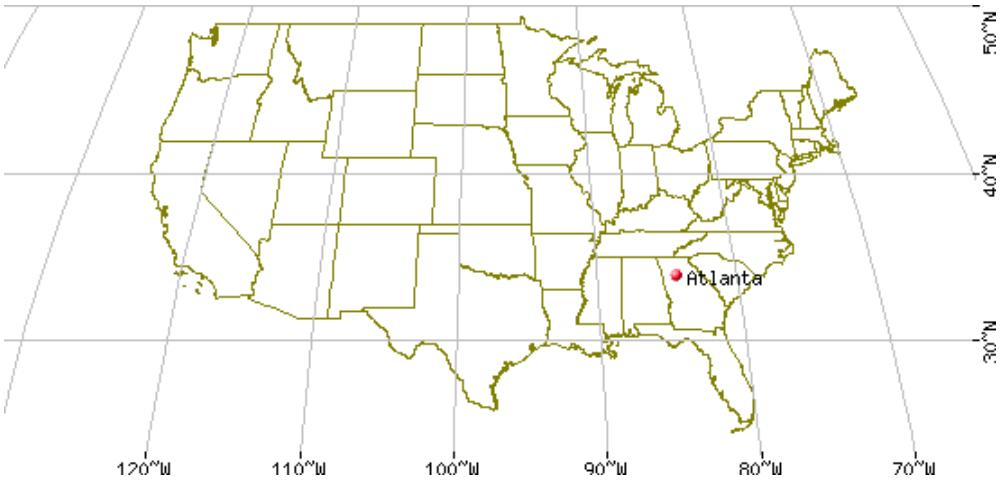
II. ATLANTA, GA, METROPOLITAN STATISTICAL AREA (MSA)

The Atlanta, GA, MSA includes the counties of Barrow, Bartow, Carroll, Cherokee, Clayton, Cobb, Coweta, De Kalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Newton, Paulding, Pickens, Rockdale, Spalding, and Walton. There are enough economic and social attachments between the city for which the economic area is named and the geographic area covered by the twenty counties for them to be grouped together as one economic unit.

Atlanta is the state capital of Georgia. A mayor and a 15-member city council, which is managed by a council, govern the city of Atlanta. Located in northwestern Georgia, the area is well served by abundance of major roadways, including interstates and state and national highways. This allows for good access to other areas of the state and nation, making it easy to get raw materials and finished goods in and out of the area. The Atlanta area is a major east–west and north–south crossroads for the state as well as that region of the United States. Atlanta has the world's largest inter–modal passenger terminal complex, and 80 percent of the population of the United States lives within a two–hour flight of Atlanta. Figure 1 shows Atlanta's location in comparison to the rest of the country.

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Figure 1–Location of Atlanta, GA



Atlanta is the home to many national and international firms. Atlanta is the headquarters of soft drink manufacturer Coca-Cola, home improvement retailer Home Depot, shipping giant UPS, and media suppliers such as HBO, CNN, and TNT. Atlanta is also home to many professional sports teams, such as baseball's Braves, football's Falcons, basketball's Hawks, and hockey's Thrashers. Atlanta was also home to the 1996 Olympic Summer Games. Atlanta is home to three symphonies (the Atlanta Community Orchestra, Atlanta Pops Orchestra, and Atlanta Symphony Orchestra) and the Atlanta Opera and Atlanta Ballet Company.

A. POPULATION

The population of the Atlanta, GA, MSA totaled 4,112,198 in 2000 according to the U.S. Department of Commerce/U.S. Census Bureau. Table 1 shows the age breakdown of the Atlanta, GA, MSA (in 2000).

Table 1–Age Breakdown of the Atlanta, GA, MSA (2000)		
Age	**Number**	**Percentage**
Under 5 years	308,723	7.5
5 to 9 years	314,712	7.7
10 to 14 years	302,816	7.4
15 to 19 years	279,509	6.8
20 to 24 years	280,979	6.8
25 to 34 years	725,452	17.6
35 to 44 years	732,661	17.8
45 to 54 years	553,932	13.5
55 to 59 years	178,431	4.3
60 to 64 years	124,280	3.0
65 to 74 years	174,590	4.2
75 to 84 years	101,754	2.5
85 years and over	34,359	0.8

Source: U.S. Department of Commerce/U.S. Census Bureau

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The U.S. Census Bureau reported the median age of the Atlanta, GA, MSA was 32.9 years old in 2000, younger than the state median age of 33.4 years old. The bureau reported that 26.6 percent of the total population of the MSA was under the age of 18 in 2000, and only 7.6 percent of the population was over 65 years old.

The state of Georgia had one of the best rates of growth for population of any state east of the Rocky Mountains during the 1990s. The Atlanta MSA grew at an even better rate than the strong growth rate of the 1980s. The population growth in Georgia has been centered mostly in the Atlanta area. By 1998, almost 50 percent of the state's total population resided in the 20-county MSA. More than half of the remarkable population growth of the 1990s is due to people moving to the Atlanta area from other areas of the United States. Natural increase (births minus deaths) accounted for about 40 percent of the population gain, and about 8 percent was due to immigration from abroad. Between 1995 and 2020, the state is projected to grow by 32.7 percent.

The U.S. Census Bureau reported that academic institutional enrollment in the Atlanta, GA, MSA totaled 1,112,254 in 2000, including enrollees in nursery school, preschool, college, and graduate school. High school enrollment totaled 226,370 in 2000, and college and graduate school enrollment totaled 221,819 people. Of those 25 and older, 5.4 percent had less than a ninth grade education, 10.6 percent had attended ninth to twelfth grade and received no diploma, and 24.4 percent had a high school diploma or high school equivalency. Of those 25 and older, 21.6 percent had a bachelor's degree and 10.4 percent had a graduate or professional degree.

B. TOTAL PERSONAL INCOME

The U.S. Department of Commerce's Bureau of Economic Analysis reported the Total Personal Income of the Atlanta, GA, MSA reached $136.8 billion in 2000, an increase of 52.4 percent from $89.8 billion (in 1995). Total Personal Income consists of Net Earnings, Transfer Payments, and Dividends, Interest, and Rent. In 2000, Net Earnings accounted for 77 percent of Total Personal Income in the Atlanta, GA, MSA, as compared to 68.8 percent nationally.

As of June 30, 2000, Federal Deposit Insurance Corporation (FDIC) insured bank deposits totaled $54.6 billion in 115 bank institutions. Deposits in commercial banks totaled $51.73 billion, and deposits in savings institutions totaled $2.88 billion.

C. PER CAPITA PERSONAL INCOME

Per Capita Personal Income increased 29.1 percent from $25,571 in 1995 to $33,013 (in 2000). Table 2 shows median hourly and mean annual wages in 2000 of select occupations in the Atlanta, GA, MSA.

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Table 2–Wages of Select Occupations in the Atlanta, GA MSA, (2000)		
Occupation	**Median Hourly**	**Mean Annual**
Farm Workers, Farm and Ranch Animals	$8.73	$20,560
Earth Drillers, Except Oil and Gas	$14.21	$29,460
Construction Laborers	$10.15	$21,800
Molders, Shapers, and Casters, Except Metal and Plastic	$11.11	$23,730
Bus Drivers, School	$6.35	$14,550
First-Line Supervisors/Managers of Non-Retail Sales Workers	$24.50	$53,970
Retail Salespersons	$8.29	$21,090
Securities, Commodities, and Financial Services Sales Agents	$20.32	$56,270
Pediatricians, General	$63.64	$121,520
Fire Fighters	$17.04	$33,890

Source: U.S. Department of Labor/Bureau of Labor Statistics

During 2000, the cost of living in the Atlanta metropolitan area was more expensive than national average according to the American Chamber of Commerce Research Association (ACCRA). The ACCRA examines the cost of living in specific areas based upon several factors that determine the composite cost of living. The areas are given a score based on the cost of living in the area compared with the national average (which equals 100). Table 3 shows the cost of living for the third quarter 2000 of several metropolitan areas.

Table 3–ACCRA Cost of Living Comparison (3rd Quarter 2000)							
	Composite	**Groceries**	**Housing**	**Utilities**	**Transport**	**Health Care**	**Misc.**
New York, NY	241.0	143.9	485.3	199.3	121.2	176.3	137.0
San Diego, CA	120.8	119.9	142.6	122.0	117.5	123.6	103.0
Denver, CO	110.0	113.1	123.4	82.9	107.0	128.5	101.7
Cleveland, OH	109.8	104.4	108.0	140.5	108.8	115.0	106.1
Minneapolis, MN	109.2	101.9	108.5	111.2	112.2	127.6	109.1
Tampa, FL	102.6	107.1	99.2	96.6	102.2	102.9	104.9
Atlanta, GA	102.0	102.2	103.8	90.4	108.3	104.0	101.0
Dallas, TX	99.9	97.0	98.8	95.0	105.6	101.4	101.4
Provo–Orem, UT	99.2	110.3	94.7	82.6	100.8	90.9	102.4
Houston, TX	94.3	93.5	84.0	95.9	108.8	109.1	96.4

Source: Utah Department of Workforce Services

The most expensive aspect of the cost of living in the Atlanta, GA MSA during the third quarter 2000 was transportation. In June 2000, the Metropolitan Atlanta Rapid Transit Authority (MARTA) approved a 25–cent increase in fares to help offset an expected deficit in the 2001 fiscal year. The increase will raise the rate to ride MARTA to $1.75.

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D. EARNINGS

The U.S. Department of Commerce's Bureau of Economic Analysis reported the construction sector had the largest percentage increase in earnings among major sectors between 1995 and 2000. Table 4 shows the percentage change in earnings of key non–farm sectors between 1995 and 2000. The table also shows the percentage of earnings each sector contributes to the non–farm total earnings in 2000.

Table 4–Earnings by Key Non-Farm Sector 1995–2000		
	Total % Change 1995–2000	**% of 2000 Non-Farm Total**
Construction	74.5%	6.2%
Manufacturing	32.1%	10.7%
Transportation, Public Utilities	63.2%	12.5%
Wholesale Trade	60.9%	11.1%
Retail Trade	50.7%	8.5%
Finance, Insurance, Real Estate	66.1%	9.3%
Services	70.8%	30.6%
Government	31.6%	10.6%

Source: U.S. Department of Commerce/Bureau of Economic Analysis

A rapid growth in disposable income and population in the Southeastern United States in the 1990s have led to an increased demand for retail shopping centers and restaurants. However, higher fuel costs, weakened consumer confidence, and lower stock returns have curtailed consumer spending. Many consumers have become more price conscious, leading to higher market share of discount retailers. The Federal Reserve Board reported that 2000 holiday spending in the Atlanta Federal Reserve District was low as compared to the 1999 holiday season. Discount retail stores fared better than did the department stores and mall retailers. The strongest sellers throughout the district were toys and apparel though jewelry and home related products sales were sluggish.

Atlanta's hotel occupancy rates posted little growth in 2000 due to a decline in the number of large conventions being held in the city. The Federal Reserve Bank of Atlanta reported 26 Atlanta citywide conventions were planned for 2001 based on bookings at the end of 2000, rivaling 1999's figure, which was the biggest year for conventions in two decades.

During the fourth quarter 2000, lackluster demand for the Ford Taurus and Mercury Sable helped to bring the Ford Motor Co. plant, in Hapeville, to a standstill. The General Motors plant, in Doraville, was idle due to slackened demand for the minivans produced at the plant.

High-tech and communication equipment production are expected to play a strong role in Atlanta's economy in the near future, as Lucent Technologies and Motorola Corp. are planning to make significant investments in plants just north of Atlanta. Lucent plans to invest $150 million in its Norcross, GA, optical fiber plant, and Motorola plans to build a new corporate campus in Suwannee, Georgia. Scientific Atlanta, the second largest manufacturer of television set-top boxes for cable, has had strong sales due to healthy demand of the product. The company continues to increase production as they expect strong demand in the future.

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Atlanta accounts for nearly two–thirds of Georgia's single–family construction activity. During the first half of 2000, single–family permits were nearly equal to year earlier levels, but in the third quarter 2000, building permits declined 7 percent year–on–year for single–family homes. Private housing permits totaled 4,475 in the Atlanta, GA MSA in December 2000, an decrease of 6.4 percent from December 1999 permits of 4,780. Year to date housing permits totaled 64,007 in December 2000, an increase of 5.8 percent from the year to date housing permits issued the previous year.

E. EMPLOYMENT

The Atlanta, GA MSA civilian labor force increased 1.6 percent from 2,268,589 in December 1999 to 2,305,445. The number unemployed fell 9.4 percent to 60,248 in December 2000 from 66,514 in December 1999, leading to an unemployment rate of 2.6 percent in December 2000 from 2.9 percent in December 1999. Table 5 shows the percentage change in employment by key non–farm sector. The table also shows the percentage of workers each sector contributed to the non–farm total work force in 2000.

Table 5–Employment by Key Non-Farm Sector (# of jobs, f/t & p/t) 1995–2000		
	Total % Change 1995–2000	**% of 2000 Non–Farm Total**
Construction	35.9%	6.5%
Manufacturing	3.6%	8.4%
Transportation, Public Utilities	30.2%	7.9%
Wholesale Trade	19.3%	7.5%
Retail Trade	17.6%	16.6%
Finance, Insurance, Real Estate	31.5%	8.6%
Services	31.6%	33.0%
Government	7.2%	10.4%

U.S. Department of Commerce/Bureau of Economic Analysis

Table 5 shows that, in 2000, the services sector accounted for nearly one third of total non-farm employment. The largest subsector in the services sector was the business services subsector, totaling 230,950 workers in 2000 according to the U.S. Department of Labor/Bureau of Labor Statistics. Business services establishments totaled 11,737 (in 2000). The health services subsector employment totaled 124,392 in 2000, an increase of 11.2 percent from 1997 employment (of 111,874). The engineering services subsector increased employment 21.6 percent from 54,773 in 1997 to 66,600 (in 2000).

The retail sector was the second largest non-farm sector in 2000, according to the U.S. Department of Commerce/Bureau of Economic Analysis. The eating and drinking places subsector totaled 141,430 workers, an increase of 9.2 percent from 129,500 in 1997, according to the U.S. Department of Labor/Bureau of Labor Statistics. The automotive dealers and service stations subsector saw a 6.6 percentage increase from 34.234 in 1997 to 36,483, and food stores increased employment 3.1 percent to 55,464 in 2000 from 53,815 (in 1997). The total number of retail establishments increased 1.3 percent from 19,127 in 1997 to 19,374 in 2000, according to the Bureau of Labor Statistics.

The Federal Reserve Bank of Atlanta reported that several businesses in the Atlanta, GA, MSA announced job cuts as the year ended. Some of the companies looking to eliminate jobs

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included AT&T Broadband, CNN, Amazon.com, Sony, and Cypress Express, an Atlanta-based telecommunications company. Lockheed Martin Corp. plans to outsource some parts production from its Marietta plant, which will cost 675 jobs. The plant assembles F–22 fighter planes and C–130J cargo planes.

F. PROJECTIONS

Woods and Poole Economics, a national econometric research firm, project the population of Atlanta will increase 28.9 percent (between 1995 and 2005). The 55-year-old to 59-year-old age group is projected to have the greatest percentage increase, increasing 89.9 percent (between 1995 and 2005). However, the 50-year-old to 54-year-old and the 60-year-old to 64-year-old age groups are each projected to increase over 60 percent.

Total employment is projected to increase 31 percent between 1995 and 2005, with the greatest percentage increase in the agricultural services sector, which is projected to increase 42.3 percent. The construction sector is projected to increase 40.3 percent (between 1995 and 2005).

Total earnings are projected to increase 57.3 percent between 1995 and 2005, according to Woods and Poole. The agricultural services sector is projected to increase 81.9 percent between 1995 and 2005, exhibiting the largest projected percentage increases in earnings.

In the short run, economic growth in the Southeast should match the slower rate found in the second half of 2000, due to higher oil prices, slowing stock market, and the move of interest rates to historical norms. The outlook for Georgia's factory sector is mixed as the slowing housing market will adversely affect companies tied to the construction industry, such as lumber and carpets. Companies working population in the apparel industry, which will have to cut employment as international competition drives down the cost of apparel.

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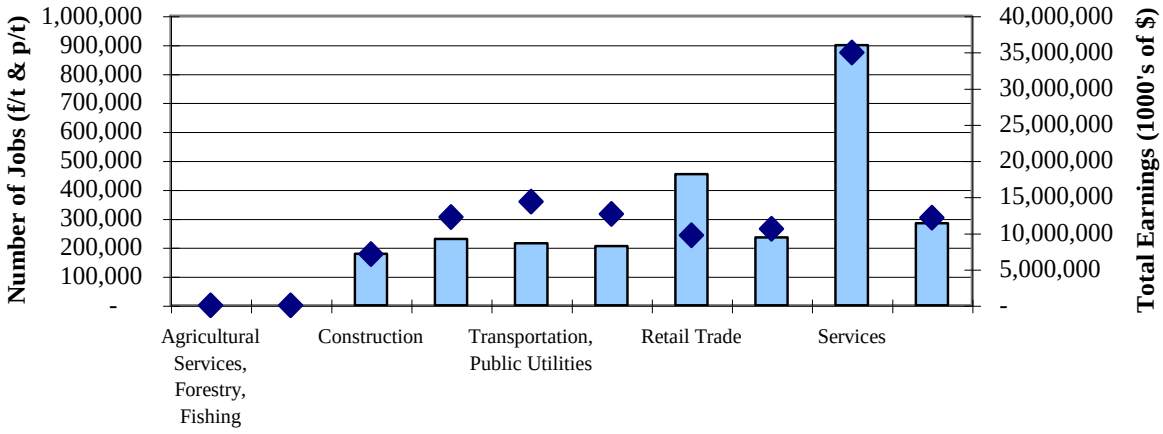
G. BIBLIOGRAPHY AND SOURCES ATLANTA, GEORGIA, MSA

- Metro Atlanta Chamber of Commerce; Atlanta Chamber of Commerce; www.metroatlantachamber.com;
- Regional Economic Information System (REIS); U.S. Department of Commerce/Bureau of Economic Analysis; http://fisher.lib.virginia.edu; 2002
- Geographic Names Information System (GNIS); U.S. Geological Survey/U.S. Department of the Interior; http://geonames.usgs.gov; November 1, 2001
- 2000 Metropolitan Area Occupational Employment and Wage Estimates; U.S. Department of Labor/Bureau of Labor Statistics; http://www.bls.gov/oes/2000/oes_0520.htm; November 1, 2001
- State and County Employment and Wages from Covered Employment and Wages, 1997–2000; U.S. Department of Labor/Bureau of Labor Statistics; http://data.bls.gov/labjava/outside.jsp?survey=ew; 2001
- ACCRA Cost of Living Comparisons, Third Quarter 2000; Utah Department of Workforce Services; http://jobs.utah.gov/wi/pubs/CostofLiving/accra300.pdf; 2001
- FDIC/OTS Summary of Deposits as of June 30, 2000; Federal Deposits Insurance Corporation; http://www3.fdic.gov/sod/sodSumReport.asp?barItem=3&sInfoAsOf=2000; November 26, 2002
- Summary of Commentary on Current Economic Conditions by Federal Reserve District; Federal Reserve Board; http://www.federalreserve.gov/FOMC/BeigeBook/2001/20010117/6.htm; January 17, 2001
- New Privately Owned Housing Units Authorized–Unadjusted Units by Metropolitan Area; U.S. Department of Commerce/U.S. Census Bureau; http://www.census.gov/const/C40/Table3/tb3u0012.txt;
- "Southeast Stays on Course for 2001: Slower but Steady"; EconSouth; Federal Reserve Bank of Atlanta; Fourth Quarter 2000
- "MARTA Approves 25–Cent Fare Hike"; Atlanta Business Chronicle; http://atlanta.bizjournals.com/atlanta/stories/2000/06/26/daily12.html; June 28, 2000

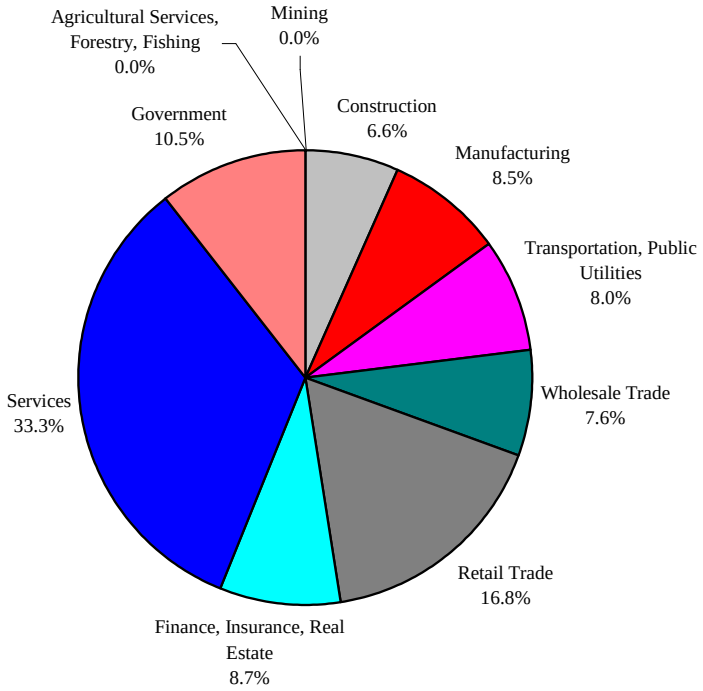
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2000 Employment & Earnings by Industry
Atlanta, GA MSA

NOTE: Differences between bars or points do not indicate growth or decline. This graph shows relative size of employment & earnings for each industry compared to other industries.

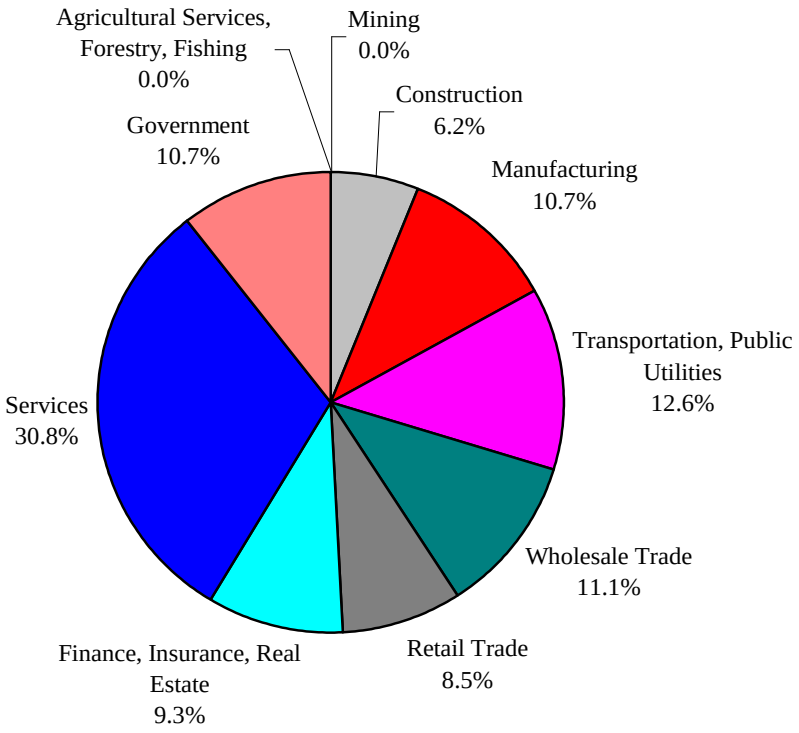


2000 Employment by Industry
(share of non-farm total)
Atlanta, GA MSA

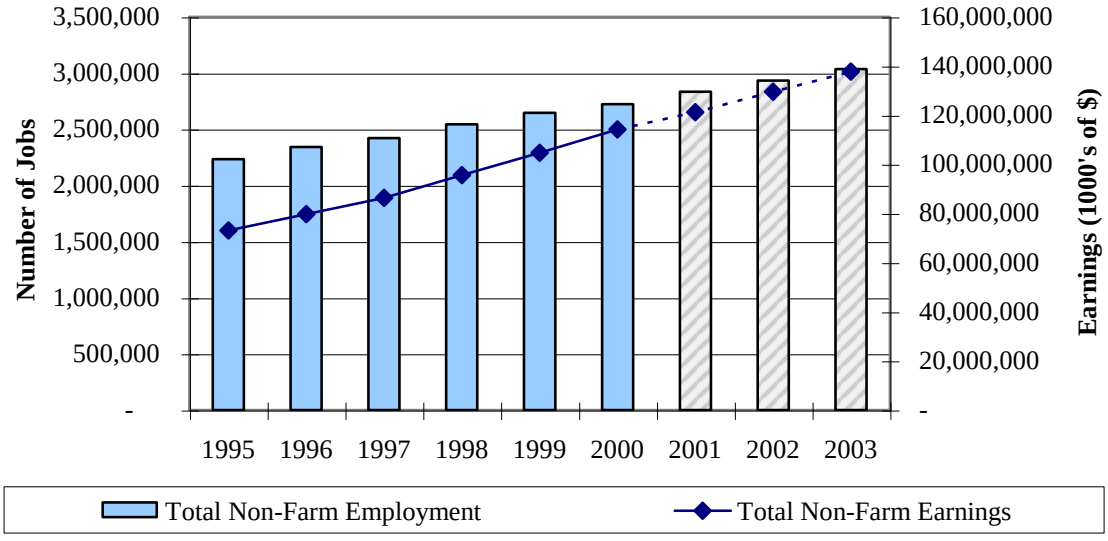


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2000 Earnings by Industry
(share of non-farm total)
Atlanta, GA MSA

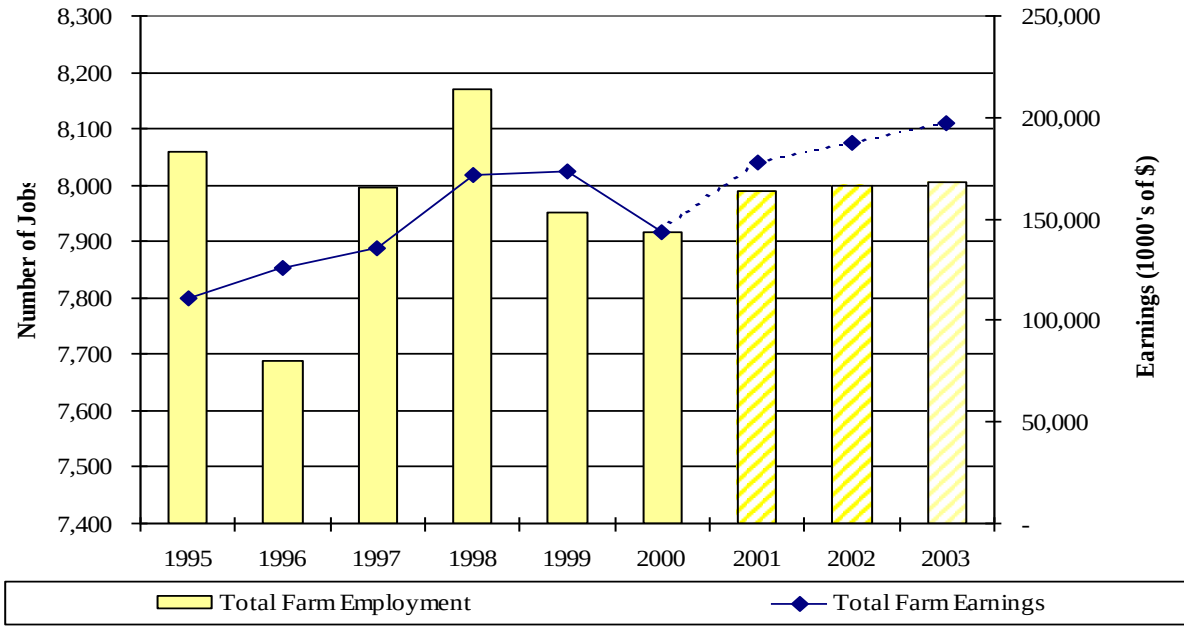


Non-farm Employment & Earnings 1995 to 2003
1995 to 2000 Actual - 2001 to 2003 Projected
Atlanta, GA MSA

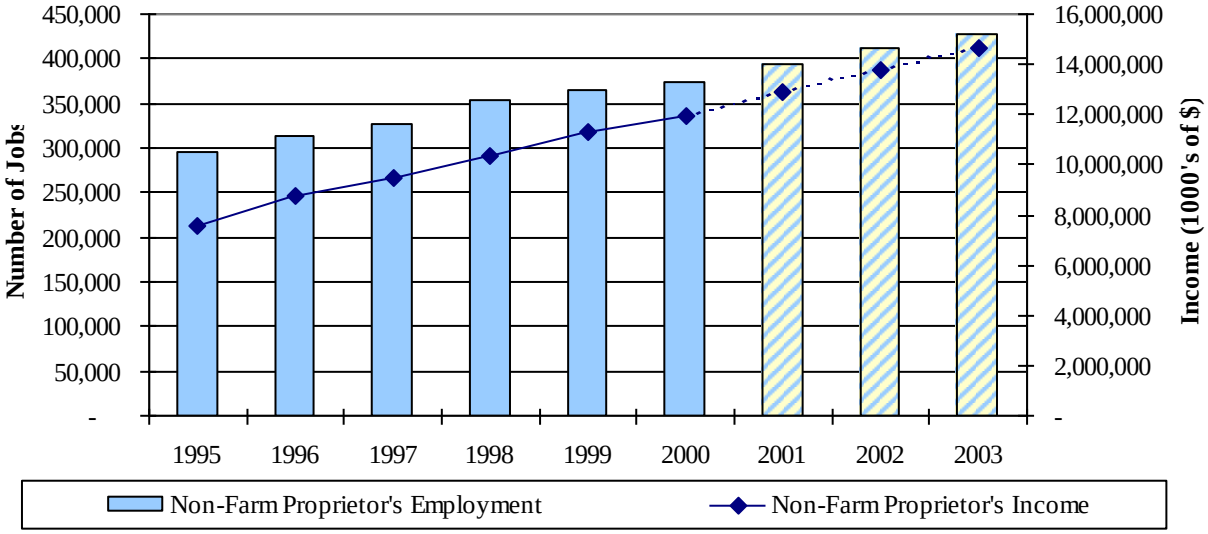


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Farm Employment & Earnings 1995 to 2003
1995 to 2000 Actual - 2001 to 2003 Projected
Atlanta, GA MSA

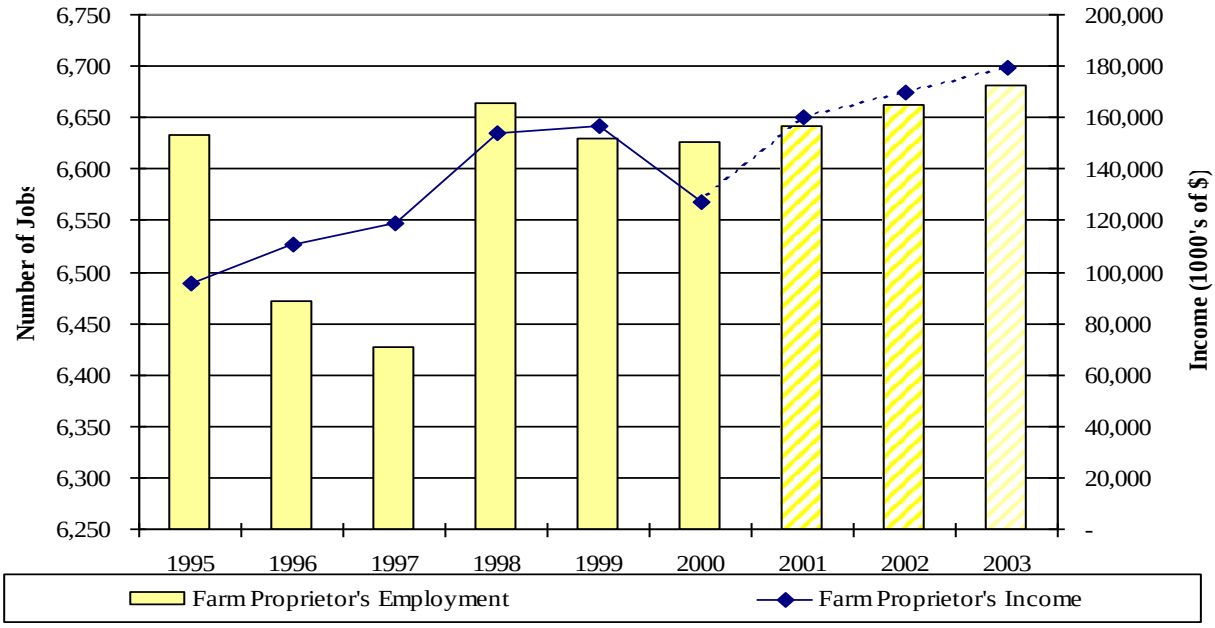


Non-farm Proprietor's Employment & Income 1995 to 2003
1995 to 2000 Actual - 2001 to 2003 Projected
Atlanta, GA MSA

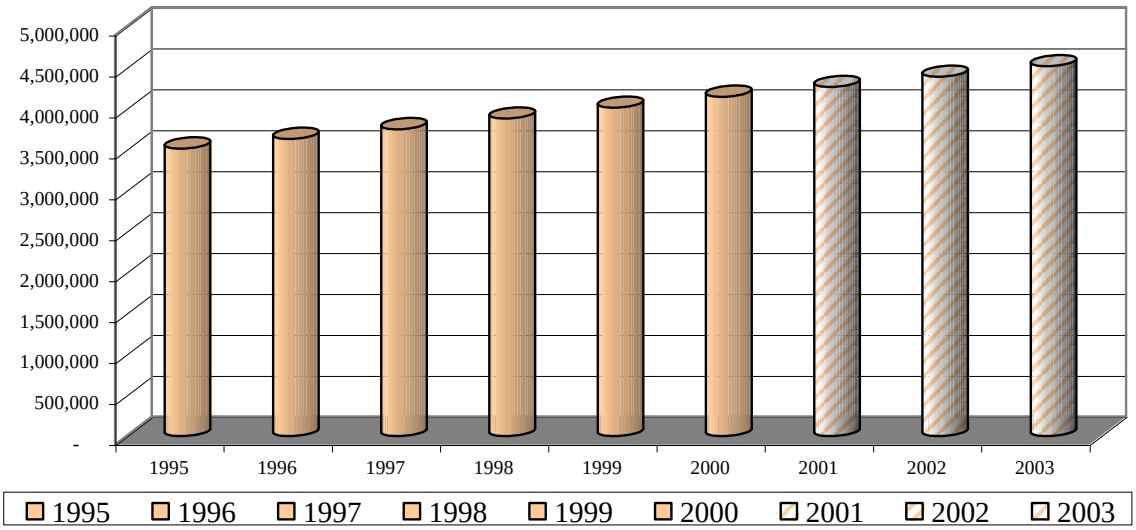


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Farm Proprietor's Employment & Income 1995 to 2003
1995 to 2000 Actual - 2001 to 2003 Projected
Atlanta, GA MSA

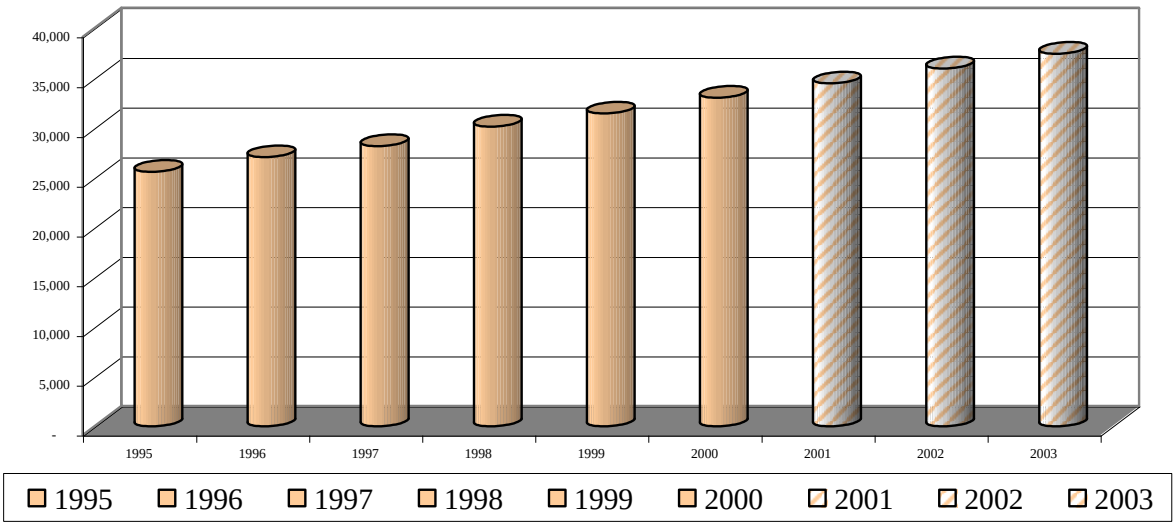


Population 1995 to 2003
1995 to 2000 actual population and 2001 to 2003 projected population
Atlanta, GA MSA

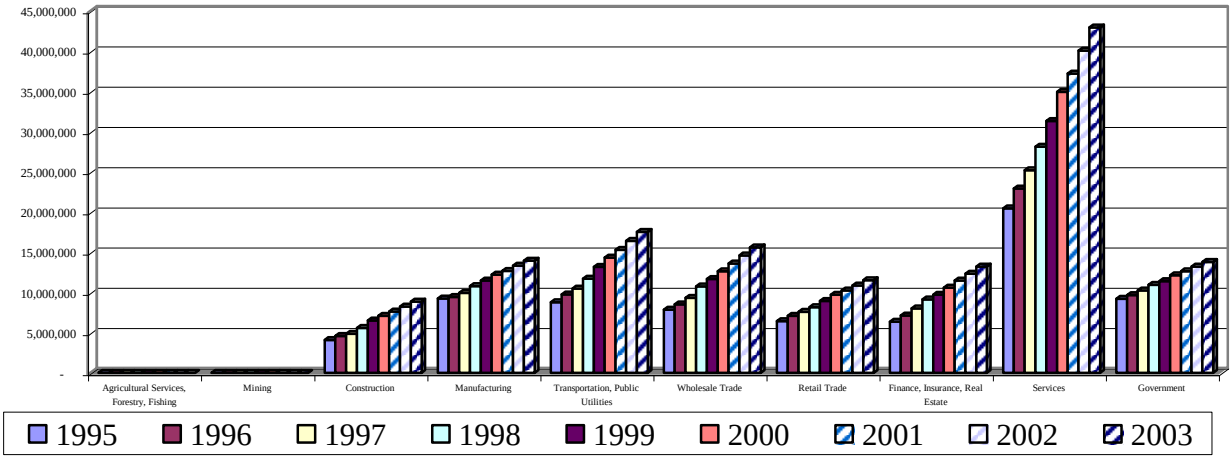


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Per Capita Personal Income (PCPI) (in dollars) 1995 to 2003
1995 to 2000 actual PCPI and 2001 to 2003 projected PCPI
Atlanta, GA MSA

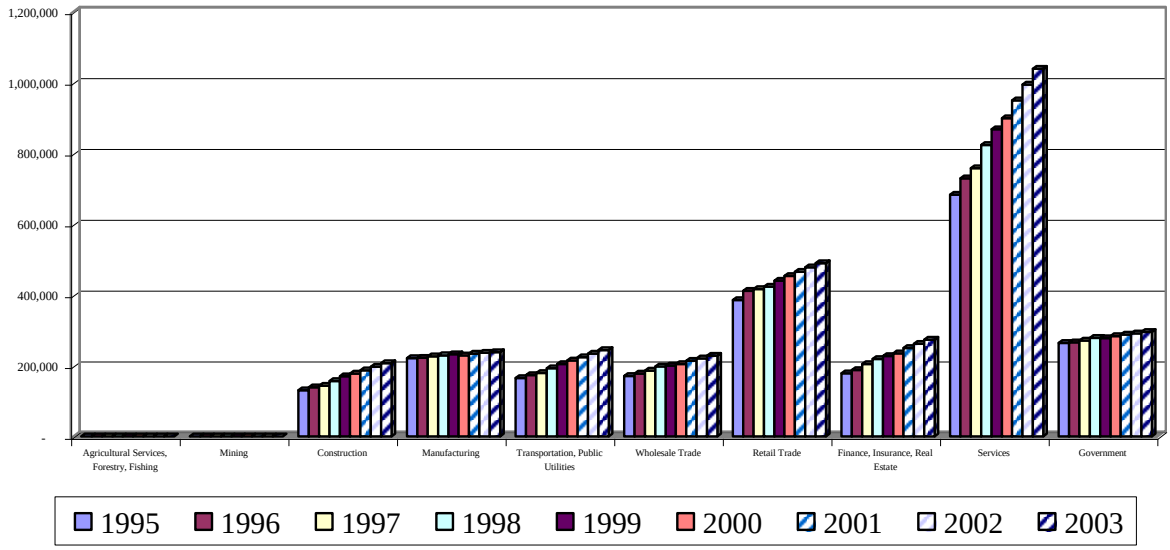


Earnings by Industry (1000's of dollars) 1995 to 2003
1995 to 2000 actual earnings and 2001 to 2003 projected earnings
Atlanta, GA MSA

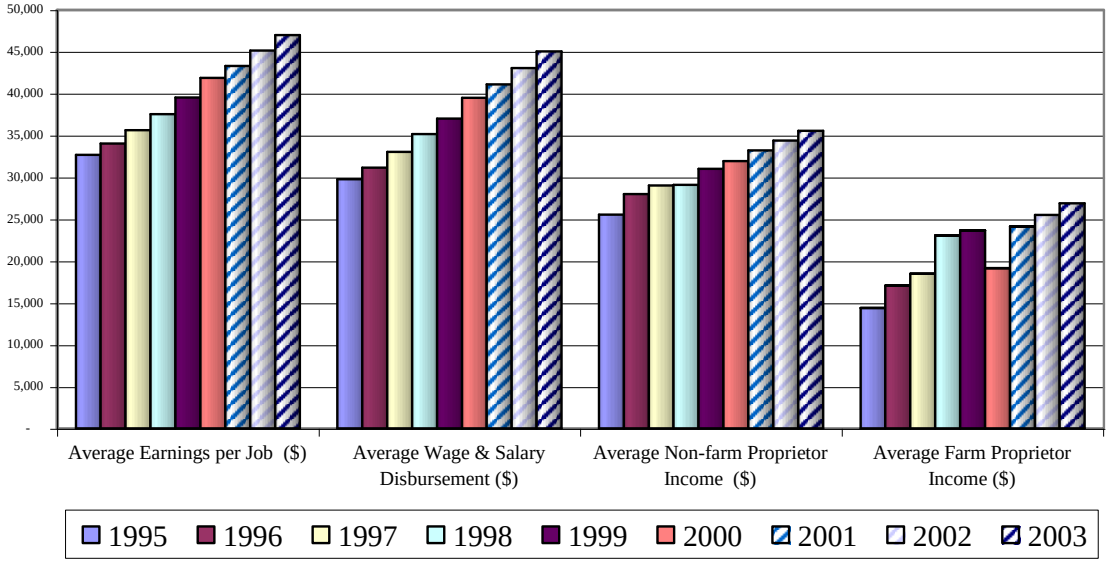


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Employment by Industry (number of jobs, f/t & p/t) 1995 to 2003
1995 to 2000 actual employment and 2001 to 2003 projected employment
Atlanta, GA MSA



Earnings and Income 1995 to 2003
1995 to 2000 actual and 2001 to 2003 projected
Atlanta, GA MSA



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PARTICIPANT NOTES

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APPENDIX VII

Income and Asset Approaches Answers to Chapter and Appendix Review Questions

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Review Question Chapter 1 Professional Standards

1. What are the types of Valuation Services recognized by the Professional Standards?
   a. The Professional Standards recognize two types of services, Conclusion of Value and Calculated Value.
      Incorrect—Conclusion of Value and Calculated Value are the results of the Valuation Services provided by the member.
   b. The Professional Standards recognize two types of services, Valuation Engagements and Calculation Engagements.
      B is Correct—These are the two types of services that can be provided by complying with the Development and Reporting Standards of the Professional Standards.
   c. The Professional Standards recognize three types of services, Conclusion of Value Services, Opinion of Value Services, and Estimate of Value Services.
      Incorrect—The Conclusion of Value is the end result of a Valuation Engagement, not a type of Valuation Service, while the Opinion of Value and Estimate of Value Services represent terms that are not defined by the Professional Standards.
   d. The Professional Standards recognize two types of services, Conclusion of Value Services and Opinion of Value Services.
      Incorrect—Conclusion of Value and Opinion of Value are not recognized services provided for in the Professional Standards.

2. The Professional Standards are applicable when valuing the following:
   a. Real estate
      Incorrect—The Professional Standards are not applicable to the valuation of real estate.
   b. Intangible asset
      Incorrect—Although the Professional Standards are applicable to the valuation of an intangible asset, they are also applicable to the value of a business ownership interest, option "c".
   c. Business ownership interest
      Incorrect—The Professional Standards are applicable to the valuation of more than a business ownership interest; they are applicable to valuing a "*business, business ownership interest, security, or intangible asset.*" as discussed in Section III.A.
   d. B and C
      D is Correct—The Professional Standards are applicable when valuing a *business, business ownership interest, security, or intangible asset* (Sec. III.A.)

3. The Professional Standards are:
   a. Rules-based
      Incorrect—The Professional Standards are principle-based, taking the form of general principles, relying on the interpretation and professional judgment of the member in order to be implemented. Rules-based standards would limit the flexibility and use of the member's professional judgment in the performance of their services.
   b. Applicable to economic damages reports
      Incorrect—The Professional Standards are for Valuation or Calculation Engagements, not for economic damages engagements.
   c. Not applicable to valuations performed for transactions (M&A engagements)
      Incorrect—The Professional Standards should be followed by members performing Valuation or Calculation Engagements for transactional purposes.
   d. Principles-based
      D is Correct—The Professional Standards are principle-based, taking the form of general principles, relying on the interpretation and professional judgment of the member in order to be implemented.

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4. If I am also a member of ASA must I still also follow the Professional Standards in a Valuation Engagement?
   a. No. As a member, you may select which organization's standards are most appropriate to the valuation you are performing and write your report in the manner prescribed by that organization.
      Incorrect—The member may not choose standards on a report by report basis. The member is bound by the standards of each organization to which the member belongs.
   b. No. This would confuse the requestor of the report.
      Incorrect—In fact, the report could well be in danger of being questioned as accurate or even totally denied by the report receiver if any standards by which the analyst is bound are callously ignored.
   c. Yes. If you are a member of more than one certifying organization with standards, you must adhere to all of them as required by that organization.
      C is Correct—You are required to follow the standards of each and every organization to which you belong. You should also state these organizations by name in your report.
   d. Yes. When the analyst is expressing a range of values, it is necessary to document the Professional Standards definition of a range of values.
      Incorrect—Documenting the Professional Standards definition—or any definition found in the International Glossary of BV Terms—is a good idea. This is not the reason why the member needs to adhere to professional standards of any certifying organization to which that member belongs.

5. Under the Professional Standards, when expressing a Conclusion of Value, the value amount may be communicated :
   a. As a range of values
      Incorrect—Although a Conclusion of Value may be communicated as a range of values, it may also be communicated as a single number as noted in Section IV.B.
   b. As a single number
      Incorrect—A Conclusion of Value may be communicated as either a single number or a range as noted in Section IV.B. of the Professional Standards.
   c. Orally
      Incorrect—The communication of a Conclusion of Value may be either oral or written as noted in Section V.B., the Reporting Standards, Form of Report.
   d. All of the above
      D is Correct—A conclusion of Value may be communicated as a single number or a range (Sec. IV.B) and either orally or in a written report (Sec. V.B).

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6. When performing Other Services as defined by the Professional Standards, all of the Professional Standards shall apply except for:
   a. General and Ethical Standards
      Incorrect—General and Ethical Standards apply to all professional services performed by members (Sec. III.A.).
   b. Development Standards
      Incorrect—According to Section IV.A., the Development Standards apply when a member expresses a Conclusion of Value or a Calculated Value and do not necessarily apply to Other Services.
   c. Reporting Standards
      Incorrect—Like the Development Standards, the Reporting Standards apply when a member expresses a Conclusion of Value or a Calculated Value as noted in Section V.A. and do not necessarily apply to Other Services.
   d. A and B
      Incorrect—Whereas General and Ethical Standards apply to all professional services performed by members according to the Scope of Services (Sec. III.A), the Development Standards apply when a member expresses a Conclusion of Value or a Calculated Value, not when a member is providing Other Services.
   e. None of the above, all standards apply
      Incorrect—Development and Reporting Standards do not necessarily apply when performing Other Services.
   f. B and C
      F is Correct—When performing Other Services, the Development and Reporting Standards do not apply.

7. A member may perform a Valuation Engagement for a contingent fee when expressing a Conclusion of Value.
   a. True
      A is Correct—Under Reporting Standard Sec. V.C.1.(g)(2), a member may perform a valuation engagement for a contingent fee when expressing a conclusion of value, but must disclose such financial arrangements in his or her report.
   b. False
      Incorrect—Performing a valuation engagement for a contingent fee is not expressly prohibited under the Professional Standards.

8. According to the Development Standards, a member must identify all of the following except for:
   a. Subject to be valued
      Incorrect—Under the Development Standards the subject to be valued must be identified.
   b. Purpose and use of the valuation
      Incorrect—Under the Development Standards the purpose of the valuation must be disclosed.
   c. Premise of value
      Incorrect—Under the Development Standards the premise of value must be disclosed.
   d. Member's industry experience
      D is Correct—The member may include their industry experience on their CV but it is not required to be identified according to the Development Standards.

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9. A member shall not express either a Conclusion of Value or a Calculated Value unless the member and the member's firm state whether or not the member or the member's firm has a financial interest in the subject of the engagement.
   a. True
      A is Correct—A member shall not express a Conclusion of Value or a Calculated Value unless the member or the member's firm state either of the following:
      "I (We) have no financial interest or contemplated financial interest in the subject of this report"
      "I (We) have a (specify) financial interest or contemplated financial interest in the subject of this report"
   b. False
      Incorrect—Without the independence statement, the valuator would violate the Professional Standards.

10. The Reporting Standards would NOT be exempt for a Valuation Engagement for what purpose?
   a. Gift tax
      A is Correct—Gift tax Valuation Engagements require a report for compliance and reporting purposes and are not exempt from the Reporting Standards.
   b. Family law
      Incorrect—The term "family law" implies a litigation engagement and as such, is exempt from the Reporting Standards as noted in Section V.D. of the Professional Standards.
   c. Shareholder oppression action
      Incorrect—A shareholder oppression action would be "*a valuation performed for a matter before a court, an arbitrator, a mediator, or other facilitator*" and therefore "*is exempt from the reporting provisions of these standards.*" (Sec. V.D.).
   d. Breach of contract litigation
      Incorrect—A breach of contract litigation is a litigation engagement and is exempt from the Reporting Standards but still must comply with the Development Standards and all other Professional Standards.

11. A report expressing a Conclusion of Value may be presented in a:
   a. Summary Report
      Incorrect—Although a Conclusion of Value may be presented in a written Summary Report, it may also be presented in a Detailed Report according to Section V.B., Form of Report.
   b. Detailed Report
      Incorrect—A Detailed Report is not the only form of report available for a Conclusion of Value, it may also be presented in a Summary Report which is an "*abridged version of the information that would be applied in a detailed report…*". (Sec. V.C.2.).
   c. Restricted Report
      Incorrect—The Professional Standards do not refer to a "Restricted Report."
   d. Letter Report
      Incorrect—The Professional Standards do not refer to a "Letter Report."
   e. A and B
      E is Correct—The Reporting Standards allow a Conclusion of Value to be presented in either a Summary Report or a Detailed Report.

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12. The primary difference between a Valuation Engagement and a Calculation Engagement is that:
    a. A Calculation Engagement is a shorter form of a Valuation Engagement.
    Incorrect—A Calculation Engagement is where the client and member agree to specific valuation approaches, methods, and the extent of selected procedures and a Valuation Engagement requires that a member applies valuation approaches and methods deemed in their professional judgment to be appropriate.
    b. A Calculation Engagement can result in a range of values whereas a Valuation Engagement can only result in a single value.
    Incorrect—Both a Calculation Engagement and a Valuation Engagement can result in a range of values.
    c. The results of a Valuation Engagement can only be presented in a Detailed Report while the results of a Calculation Engagement can only be presented in a Summary Report.
    Incorrect—Detailed Reports and Summary Reports are used to present the results of a Valuation Engagement whereas a Calculation Report is used to present the results of a Calculation Engagement.
    d. A Valuation Engagement requires that a member applies valuation approaches and methods deemed in their professional judgment to be appropriate, whereas a Calculation Engagement occurs when the client and member agree to specific valuation approaches, methods, and the extent of selected procedures.
    D is Correct—According to the definitions of Valuation Engagement and Calculation Engagement as found in the Professional Standards.

Chapter 1 Bonus Questions Reponses

1. Why isn't Fair Value defined in the glossary?
   Because there are two types of Fair Value used as a Standard of Value, one for stautory purposes and two for financial statement reporting, there isn't a single definition that currently will fit all possible engagements. For statutory purposes, Fair Value may be defined differently by each state and juristiction. And the definition of Fair Value for financial statement reporting purposes is still subject to revisions by certain regulatory bodies.

2. Why doesn't the Professional Standards endorse USPAP?
   The Uniform Standards of Professional Appraisal Practice (USPAP) is applicable to the appraisal process for many different disciplines including real property, personal property, intangibles, and business valuation. It attempts to provide a set of quality control standards for the appraisal process. The Professional Standards does not endorse USPAP as it already adequately addresses the quality control standards and valuation processes and procedures specifically for the valuation of businesses, business ownership interests, securities, and intangible assets. Although there are some sections of USPAP which apply to valuation of a business, the Professional Standards already include these items in its content.

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Review Questions Chapter 2 Valuation Engagement & Obtaining Information

1. External Information includes all of the following except:
   a. General Economic Information
      Incorrect—Economic Information is external information.
   b. General Industry Information
      Incorrect—General Industry Information is external
   c. Local and Regional Economic and Industry Information
      Incorrect—These are all external information.
   d. History, nature and organization of the subject company
      D is Correct—The history, nature and organization of the subject is all internal information.

2. What is the main purpose of obtaining external information?
   a. To provide the analyst with the most recent 5 years of financial information
      Incorrect—Financial information would be provided by management and considered internal information.
   b. To gain an understanding of the company's operations and its products or services
      Incorrect—This is internal information
   c. To give the analyst knowledge of any outside factors that may directly or indirectly affect the future operations of the subject company
      C is Correct—The analyst must consider external factors in all valuation engagements.
   d. To comply with the report writing standards as set forth by NACVA
      Incorrect—Analyzing external factors is part of the NACVA development standards.

3. The valuation engagement checklist for Adler-Cottino Wood Furniture, Inc. is found in Chapter 3. What Purpose, Standard and Premise of Value (in that order) were determined for this case?
   a. FMV, Controlling Interest and Arms-Length Transaction
      Incorrect—FMV is a standard of value, Controlling interest relates to possible discounts or premiums, Arms-length transaction relates to FMV.
   b. Related Party, Estate and Going concern
      Incorrect—Related Party is not the purpose of the valuation, Estate is the purpose of the valuation not the standard of value and going concern is the premise of value.
   c. Buy-Sell, Capitalization of Earnings, Net Asset Value
      Incorrect—Buy-Sell is not the purpose of the valuation, Capitalization of Earnings is a method of valuation and Net Asset Value is a method of valuation.
   d. Tax Valuation for 706 Estate, FMV and Going Concern
      D is Correct—Tax Valuation is the Purpose, FMV is the Standard and Going Concern is the premise of value.

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4. What is the valuation analyst's **main** objective when gathering internal information?
   a. To examine historical and projected financial data including Financial Statements, Income Tax Returns and Budgets
      Incorrect—This is one of the steps in gathering internal information but not the main objective.
   b. To keep abreast of changing general economics to ascertain how it may impact the assumptions that are made during the valuation process
      Incorrect—This is an objective of examining external information.
   c. To gain an adequate understanding of the subject company's operational management and earnings ability
      C is Correct—This is the main objective when gathering internal information.
   d. To examine the current location(s) and physical condition of the subject company's facilities and operational assets
      Incorrect—This is a small part of the overall objective of obtaining adequate understanding of the subject company's operational management and earnings ability.

5. The Market Approach for valuing businesses utilizes information from Specific Comparable Companies. In order for a company to be truly comparable it must share all of the following characteristics with the subject company except:
   a. Companies must have similar capital structures
      Incorrect—Large, diversified publicly traded companies cannot be comparable to smaller closely held businesses without similar capital structures.
   b. Companies must have the same number of stockholders
      B is Correct—Although the capital structure must be similar: there are no requirements for a specific number of stockholders.
   c. Companies must be of similar size, relative to sales volume and total assets
      Incorrect—Although there is debate as to how large the comparable company can be (ex. 10 – 25x revenue), there are basic financial indicators to ensure comparability.
   d. Companies must have similar competitive positions within the industry.
      Incorrect—Having similar competitive positions within the industry is a characteristic of comparability.

6. Independence of the valuator will be impaired if:
   a. The member who performs the appraisal or the member's firm prepares the tax return of the subject entity.
      Incorrect—Preparing a tax return will not result in a valuator's independence being impaired.
   b. The member or the member's firm performs an audit of the subject company's financial statement.
      B is Correct—Independence will be impaired if the members firm performs the auditing of the client.
   c. Your neighbor's best friend owns 100% of the subject company.
      Incorrect—This may end the friendship but will not impair you as a valuator.
   d. The member or member's firm performs a compilation of the subject company's financial statement.
      Incorrect—A compilation of the subject company by your CPA firm will not result in a conflict of interest.

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7. When defining the engagement the member should identify:
   a. Purpose, ownership interest, and profitability of the subject entity
      Incorrect—It is not necessary for the firm to be profitable when defining the engagement. However, it may indicate whether there is money to pay you.
   b. Purpose, valuation date, and valuation approach to be utilized
      Incorrect—The valuation approach will be determined once the analyst gains an understanding of the unique nature of the subject company, not when defining the engagement.
   c. Purpose, ownership interest, and valuation date
      C is Correct—When defining an engagement all three items, purpose, ownership and interest to be valued should be determined.
   d. Ownership interest, report date, and valuation approach
      Incorrect—When defining the engagement most likely the valuation approach will not be determined at this stage.

8. Before starting an engagement, the valuator must obtain an engagement letter.
   a. True
      Incorrect—Although not required, it cannot be emphasized enough how important a properly written engagement letter is.
   b. False
      B is Correct—§1.2(d) of NACVA's Professional Standards says *"A member shall establish, with the client, a written or oral understanding of the nature, scope and limitations of services to be performed and the responsibilities of the parties."*

9. In a litigation engagement a valuator should be independent and objective; if an attorney wants you to give a specific and tailored answer, this will not impair your independence or objectivity.
   a. True
      Incorrect—Although the reporting standards do not apply to litigation engagements, NACVA members are still required to adhere to §1.2(a) – Integrity & Objectivity.
   b. False
      B is Correct—If an attorney wants you to tailor your opinion to get the result the attorney wants as an objective and independent valuator you should decline this engagement.

10. Of the following sources of information, which source provides data which can be specifically compared to the subject company?
    a. US Bureau of Census
       Incorrect—This is a good source of economic information for such items as construction spending, manufacturing, retail sales, etc.
    b. Federal Reserve Banks
       Incorrect—This is a good source of economic information for such items as consumer credit, industrial production, capacity utilization, etc.
    c. Ibbotson Valuation Yearbook
       Incorrect—This is a good source for cost of capital information.
    d. BIZCOMPS
       D is Correct—BIZCOMPS is a source of specific company information.

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Review Questions Chapter 3 Search for Adjustments

1. After the historical financial statements have been adjusted for economic or normalizing items, the analyst should begin a thorough financial analysis of the adjusted financial statement data. Such analysis helps to identify all of the following trends except?
   a. Where has the company been?
      Incorrect—The historical performance of the company will be identified by a thorough financial analysis.
   b. Where is the company today?
      Incorrect—The financial condition of the company today will be identified by an analysis of its balance sheet.
   c. What are the current and future management needs?
      C is Correct—Current and future management needs are not determined by the valuation analyst.
   d. Where might the company be in the future?
      Incorrect—An analysis of the company's current balance sheet as well as its past performance through its historical income statements will assist in identifying the trends for its future.

2. When adjustments have been made to increase the value of assets to their appraised or market value, a corresponding adjustment recognizing the amount of deferred income taxes should also be made. There have been conflicting arguments for doing so in valuation literature. What is the most often cited argument against recording deferred income taxes on the increased value of assets over book values?
   a. When selling the stock of an entity and not the asset itself, the assets do not have to be adjusted to fair market value, therefore, deferred taxes would not need to be adjusted.
      Incorrect—Assets should be adjusted to fair market value for all valuations.
   b. Deferred taxes are only booked for timing issues related to the recognition of income statement items.
      Incorrect—Deferred taxes are recorded for balance sheet and income statement items.
   c. Deferred taxes should not be recorded unless the company has specific plans to liquidate within a reasonable period following the date of the valuation.
      C is Correct—The IRS, in Letter Ruling 9150001 (e) stated that ….income taxes are not taken into account where the event that would generate these expenses is speculative.
   d. The tax court has ruled in the *Estate of Dunn*, *Estate of Davis*, and the appeal of *Dunn* that no discount was given for taxes.
      Incorrect—In these three cases, a discount was given for income tax related to the trapped in gains.

3. Which of the following are categorized as "Risk" ratios of a company?
   a. Accounts Receivable Turnover Ratios and Current Liabilities as a percent of assets
      Incorrect—These are turnover ratios and balance sheet ratios, respectively.
   b. Total Debt as a percent of Assets and Long term Debt as a percent of Assets
      Incorrect—These are Balance Sheet ratios.
   c. Operating Profit as a percent of Sales and Interest Coverage Ratio
      Incorrect—These are Income statement ratios and Risk ratios, respectively.
   d. Current Ratio and Quick Ratio
      D is Correct—Both are considered risk ratios.

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4. When comparing Adler-Cottino to the Industry in Exhibits 10-7 and 10-8, Chapter 10, which of the following statements is/are true:
   a. The Company's current, quick, and debt/equity ratios are all significantly favorable relative to the industry
      Incorrect—Although this is correct, all of the options listed are correct.
   b. The Company has a different asset mix than the companies that make up the median of the RMA data
      Incorrect—This is but one of the correct options available as an answer.
   c. The Company's long-term debt as a percentage of assets is lower than the industry median
      Incorrect—All of the statements are correct.
   d. The Company's operating performance is much better than the industry on average and is superior to the industry relative to financial strength, leverage and liquidity
      Incorrect—This option, although correct, is not the only correct option available.
   e. All of the above
      E is Correct—All of the statements are correct.

5. A Comparative Analysis utilizes information from two sources and can involve either a comparison of the subject company with specific comparable companies or with industry averages for a historical period of one or more years. Which two sources of the subject company are used to perform a Comparative Analysis?
   a. RMA and Integra
      Incorrect—These are databases for various public companies.
   b. Common-Size Analysis and Ratio Analysis
      B is Correct—Both are necessary to prepare a Comparative analysis.
   c. Historical and Normalized Financial Statements
      Incorrect—Not used in a comparative analysis.
   d. Forecasted and Budgeted Financial Statements
      Incorrect—These are examples of projections.

6. Normalized financial statements should allow the valuation analyst to:
   a. Present a financial picture which represents fair market values
      A is Correct—Normalized financial statements should allow a valuator to represent market value and make meaningful comparisons.
   b. Present a financial picture to appease the client
      Incorrect—Valuation analysts are supposed to be objective and independent and normalized financial statements should present a true picture of operations.
   c. Present a financial picture to reflect a predetermined answer
      Incorrect—Normalized financial statements should present a true picture of operations.
   d. To increase a valuation anlysts fees
      Incorrect—Although it takes time to identify and determine relevant normalization adjustments, they are not applied simply to increase the fee for the valuation engagement.

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7. What is the best way to determine if a normalizing adjustment should be made to Accounts Receivable?
   a. Common size the balance sheet
      Incorrect—Common sizing would not indicate a collection issue
   b. Use trend analysis
      Incorrect—Trend analysis would not indicate a collection problem.
   c. Look at accounts receivable aging
      C is Correct—Looking at the accounts receivable aging is the first step in identifying if there is a collection issue.
   d. Discuss with management
      Incorrect—Although the valuation analyst should discuss the adjustment with management, if the valuation analyst does not first look at an aging report, the issue may never surface

8. In Exhibit 10-2, what would be a good reference source to use as a bench mark to determine excess cash?
   a. Ibbotson
      Incorrect—Ibbotson is a good reference side when determining a discount and capitalization rate.
   b. BizComps
      Incorrect—BizComps is a good reference when looking for market comparables to your subject company.
   c. RMA
      C is Correct—RMA is a good benchmark to use as a benchmark when determine average amounts of cash needed to operate the company.
   d. An inquiry with management provides enough support
      Incorrect—It is possible management will only tell you what they want you to hear.

9. Ratio Analysis can be an effective tool to compare how well a company is performing to industry bench marks.
   a. True
      A is Correct—Ratio Analysis can be an effective tool to compare how well a company is performing to industry bench marks.
   b. False
      Incorrect—Ratio analysis can be an effective tool, if properly applied, to compare how well a company is performing to industry bench marks.

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Review Questions Chapter 4 Estimating the Future Benefit Stream

1. Which statement is correct when earnings are selected as the type of benefits used to measure economic income?

   a. If pre-tax earnings are used, then the discount/cap rate must be on an after-tax basis.
   Incorrect—When using a pre-tax earnings, the discount/cap rate must also be pre-tax.
   b. When using earnings as the benefit stream, the analyst must have determined and documented that the future earnings and net cash flow are approximately the same and the discount/cap rate has been converted by the cash to earnings factor.
   B is Correct—Discount and Cap rates are always applied to cash flow. To use earnings, a cash to earnings factor must be calculated and applied.
   c. The method of averaging historical economic income to determine the estimated future benefit stream is a specific methodology to be used.
   Incorrect—This is a calculation of the benefit stream, not a valuation method.
   d. Historical earnings demonstrate a trend that is expected to always continue in the future.
   Incorrect—Historical earnings may not always be expected to continue in the future.

2. Which one of the following criteria is the estimated future benefits stream *not* base on:

   a. The type of benefits used as a measurement of economic income.
   Incorrect—This is criteria for estimating future benefit streams.
   b. The use of "historical" or "projected" economic income to estimate future benefits.
   Incorrect—This is a criteria for estimating future benefit streams.
   c. The method used to calculate the estimated future benefits.
   Incorrect—This is a method for estimating future benefit streams.
   d. The years projected prior to calculating a terminal value.
   D is Correct—This is a step in the calculation of the discounted future earnings method.

3. What is the most appropriate method to use for calculating future earnings where there appears to be a historical pattern or trend that is expected to continue into the future?

   a. Unweighted Average
   Incorrect—Unweighted average is used when no one year or years are any more indicative than the rest of the historical data.
   b. Weighted Average
   B is Correct—Weights are applied to years that may be more indicative of the future.
   c. Net Cash Flows to Equity
   Incorrect—This is a type of earnings, not a method of calculating earnings.
   d. Net Cash Flows to Invested Capital
   Incorrect—This is a type of earnings, not a method of calculating earnings.

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4. Which method of estimating expected future earnings is calculated by taking the sum of a set of values, and dividing the sum by the number of values used in deriving the sum? (Sum of Variables/Number of Variables)

   a. Net Cash Flows to Equity
      Incorrect—This is a type of earnings, not a method.
   b. Net Cash Flows to Invested Capital
      Incorrect—This is a type of earnings, not a method.
   c. Weighted Average
      Incorrect—This is calculated by taking the sum of a set of values that have been multiplied by some index or weighting factor. Then the sum is divided by the sum of the weights.
   d. Unweighted Average
      D is Correct—This is the formula for the calculation of the Unweighted Average method.

5. What type of earnings does the following formula represent? (After-tax net income + Non-cash charges – Capital expenditures – Additions/Deletions to net working capital + After-tax interest expense)

   a. Net Cash Flows to Equity
      Incorrect—The formula for Net Cash Flows to Equity does not add back the after-tax interest expense.
   b. Net Cash Flow to Invested Capital
      B is Correct—This formula is correct.
   c. Total Cash Flow to Marketability
      Incorrect—There is no such formula.
   d. Both B and C
      Incorrect—C is not a correct answer.

6. Which of the following is the most preferred measure of economic income to use with a cost of capital analysis?

   a. Net Income
      Incorrect—Net Cash Flows is more representative of future benefits.
   b. Pre-tax Income
      Incorrect—Net Cash Flows is more representative of future benefits.
   c. Net Cash Flow
      C is Correct—Weighted Average Cost of Capital (WACC) uses Net Cash Flow to Invested Capital to measure economic income.
   d. Gross Cash Flow
      Incorrect—Gross cash flow is not an appropriate measure of economic income.

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7. What are the most common mistakes analysts make when determining future cash flows?

    a. The analyst uses the unweighted average instead of the weighted average historical cash flows.
    Incorrect—Annual cash flows are calculated prior to applying a simple average or weighted average to the calculated cash flows.
    b. The analyst uses pre-tax earnings with an after-tax discount rate.
    Incorrect—This is an example of incorrect matching of the type of earnings stream with the type of discount rate.
    c. The analyst does not consider the effects of annual economic growth.
    Incorrect—Annual economic growth is factored into the build up of the discount rate.
    d. The analyst bases the components of cash flows on historical data and does not adjust for capital expenditures and working capital requirements to support the projected operations.
    D is Correct—The analyst cannot base the cash flows solely on historical data, but must factor in future cash flow requirements.

8. When valuing an equity interest, what type of benefit stream will the analyst normally use as a measurement of economic income?

    a. Net Cash Flows to Invested Capital
    Incorrect—This method is used to value the entire invested capital of a company by discounting or capitalizing expected cash flows.
    b. Net Cash Flows to Equity
    B is Correct—This method is generally used to value an equity interest.
    c. After-tax Earnings
    Incorrect—This does not take into consideration working capital requirements, capital expenditures and debt required for future operations.
    d. Income from Operations
    Incorrect—This does not take into consideration working capital requirements, capital expenditures and debt required for future operations.

9. When are Earnings used as the type of benefits to measure economic income?

    a. When there is an expectation of heavy borrowing for capital expenditures.
    Incorrect—Heavy borrowing would require the use of projected cash flows.
    b. When using the Ibbotson build up method to derive a capitalization.
    Incorrect—Ibbotson capitalization rate is applied to net cash flows.
    c. When calculating a terminal value for the business.
    Incorrect—Calculating the terminal value is a component of the discounted future cash flows method.
    d. When the valuator expects that the future earnings will approximate the future net cash flows.
    D is Correct—When the analyst projects that earnings and cash flows will approximate the same amount.

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10. Most of the cost of capital derived from the capital markets and other empirical data that is used to derive the discount rate represents what type of earnings to measure economic income?

    a. Pre-tax earnings
    Incorrect—Pre-tax earnings do not take into effect changes in working capital, debt, capital expenditures and taxes.
    b. After-tax cash flows
    B is Correct—Net cash flows is utilized in most cost of capital formulas to represent economic income.
    c. EBITDA
    Incorrect—EBITDA does not take into effect changes in working capital, debt, capital expenditures, interest and taxes, depreciation or amortization.
    d. After-tax earnings
    Incorrect—Pre-tax earnings do not take into effect changes in working capital, debt and capital expenditures.

11. Net cash flow to equity will result in what type of value:

    a. Invested Capital
    Incorrect—Net cash flow to invested capital will result in value of Invested Capital.
    b. Equity
    B is Correct—Net cash flow to equity will result in an equity value.
    c. Controlling interest
    Incorrect—Controlling interest relates to the level of value of the ownership interest of the entity.
    d. Minority Interest
    Incorrect—Minority interest relates to the nature of the interest being value and the level of control.

12. When discounting cash flow to invested capital the appropriate discount rate is:

    a. Cost of Equity
    Incorrect—The appropriate discount rate when discounting cash flow to equity is cost of equity
    b. Weighted Average Cost of Capital
    B is Correct—When discounting cash flow to invested capital, the appropriate discount rate is the weighted average cost of capital. As it name implies WACC actually blends a company's cost of equity with its cost of debt to arrive at the company's overall cost of capital.
    c. Capital Asset Pricing Model
    Incorrect—This is an appropriate discount rate when discounting cash flow to equity.
    d. Ibbotson Buildup Method
    Incorrect—This is an appropriate discount rate when discounting cash flow to equity.

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13. Generally, estimated future benefits are based on historical economic income when:

    a. There is a lack of historical information
    Incorrect—Used when historical information is indicative of future benefits, if there is a lack of historical information, estimated future benefits would be based on projected income.
    b. Start up or development stage companies
    Incorrect—If valuing a start up or development stage company future benefits would generally be based on projected income.
    c. Future benefits stream is non linear
    Incorrect—If estimated future benefits are based on historical economic income the future benefit stream is generally linear.
    d. Future benefits are linear
    D is Correct—Estimated future benefits are based on historical income when future benefits are linear.

14. A linear benefit stream is a stream of future benefits that is expected to grow or decline at a variable rate.

    a. True
    Incorrect—A linear benefit stream is a stream of future benefits that is expected to grow or decline at a constant rate
    b. False
    B is Correct—A non linear benefit stream is a stream of future benefits that is expected to grow or decline at a variable rate.

15. Two most commonly used methods to estimate future benefits based a linear benefit stream are:

    a. Weighted Average Method and Unweighted Average Method
    A is Correct—Two of the most commonly used methods to estimate future benefits based on a linear benefit stream are weighted average method and unweighted average method.
    b. Weighted Average Method and Projected Cash Flow Method
    Incorrect—Projected cash flow would be used when the benefit stream in non linear.
    c. Unweighted average Method and Projects Cash Flow Method
    Incorrect—Projected cash flow would be used when the benefit stream in non linear.
    d. Projected cash flow method and projected earnings method
    Incorrect—The projected cash flow and projected earnings method are most commonly used methods to determine future benefits of a non linear benefit stream.

16. Using a weighted average method to determine future benefits an valuator assigns more weight to the most recent years. This indicates:

    a. The valuator determined the most recent year is the most indicative of future years
    A is Correct—When the valuator determines the most recent year is the most indicative of future years, the valuator assigns more weight to the most recent years.
    b. All of the past earnings are representative of the expected future benefits
    Incorrect—This would be unweighted average method.
    c. No existing patter or trend would suggest that any one year or years is more indicative than the rest of the historical data
    Incorrect—This would be unweighted average method.
    d. There is no apparent trend in the historical earnings
    Incorrect—A valuator may only weight the year most representative of future earnings..

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Review Questions Chapter 5 Capitalization/Discount Rates

1. When using the Build-Up Method, which of the following would be used as "Equity Risk Premium"?

    a. Short-term expected risk on large equity securities on the S&P 500
    Incorrect—Long-term expected equity risk premium would be used.
    b. Expected mid-capitalization equity size premium
    Incorrect—Mid-Capitalization refers to a size premium.
    c. Long-term U.S. Treasury Bond Yield
    Incorrect—This refers to the riskless rate.
    d. Long-horizon expected equity risk premium: Large company stock returns minus long-term government bond income returns.
    D is Correct—This component is used as the large stock equity risk premium.

2. Regarding the equity risk premium and size premiums found in the Ibbotson data, which of the following statement(s) is correct?

    a. The specific company risk is also considered systematic risk.
    Incorrect—Specific company risk is considered unsystematic risk.
    b. The short-term arithmetic average equity risk premium is the best proxy for today's equity risk premium.
    Incorrect—The long-term average is the best proxy for today's equity risk premium.
    c. The Ibbotson premiums are not industry specific.
    C is Correct—SBBI premiums are not industry specific.
    d. You do not have to calculate specific company risk when the company you value does not approach the size of a publicly traded company.
    Incorrect—It is important to calculate specific company risk for any valuation.

3. The specific company risk is also defined as the unsystematic risk? What does this risk measure?

    a. This risk measures the uncertainty of returns arising from other factors such as industry and individual company factors.
    A is Correct—In a well-balanced economic portfolio the unsystematic risk can be eliminated through diversification, this is not the case with investment in a closely held company.
    b. This risk measures the well-balanced rate of return that the investor wants.
    Incorrect—The rate of return the investor wants is also considered the cost of capital.
    c. This risk measures the stability of long-term historical returns.
    Incorrect—The stability of long-term historical returns is a component of the General Risk Premium.
    d. This risk measures the size premium risk of mid-cap equities.
    Incorrect—The mid-cap equity risk is a size premium related to investing in a small cap stock versus a large cap stock.

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4. Which of the following would not be considered a Company Specific Factor when calculating specific company risk premium?

   a. The expected return on the security
      A is Correct—The expected return on the security is considered the cost of capital and is not a specific company risk factor.
   b. Abnormal present or pending competition
      Incorrect—This is one of the factors to take into consideration when quantifying specific company risk.
   c. Pending regulatory changes
      Incorrect—This is one of the factors to take into consideration when quantifying specific company risk.
   d. Concentration of customer base
      Incorrect—This is one of the factors to take into consideration when quantifying specific company risk.

5. By definition, the Build-Up Method using Ibbotson or Duff & Phelps data calculates a rate to be applied to which of the following?

   a. After-Tax Net Income
      Incorrect—The Ibbotson rate must be adjusted by a cash to earnings factor in order to be applied to after-tax net income.
   b. After-Tax Net Cash Flows
      B is Correct—By definition, the Ibbotson build-up method calculates an after-tax cash flows discount rate.
   c. Pre-Tax Net Income
      Incorrect—A cash to earnings factor and a pre-tax conversion must be applied to Ibbotson in order to derive a Pre-Tax Net Income rate.
   d. EBITDA
      Incorrect—Earnings before interest, taxes, depreciation and amortization would have to be converted to after-tax cash flow in order to use the Build-Up Method using either the Ibbotson or Duff & Phelps data.

6. What method for determining a capitalization or discount rate is based on the theory that investors in risky assets require a rate of return above and beyond a risk-free rate as compensation for bearing the risk associated with holding the investment?

   a. Build-Up
      Incorrect—Although the Build-Up Method recognizes that riskier the investment the corresponding return for the investment increases, the CAPM is based on the overall theory investors requiring a rate of return above and beyond the risk free rate as compensation for bearing the risk associated with holding an investment.
   b. Modified CAPM
      B is Correct—This is the theory upon which the Capital Asset Pricing Model is based.
   c. WACC
      Incorrect—This approach is based on the assumption that projects of leveraged firms can be simultaneously financed with both debt and equity.
   d. RRCM
      Incorrect—This is a business-build-up-model designed to identify an appropriate capitalization rate to surmise the value of risk associated with an enterprise.

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7. Which of the following is probably the most commonly used market method to describe the price of a share of stock?

   a. WACC
   Incorrect—WACC calculates the rate of return the investor wants.
   b. Dividend/Price
   Incorrect—This is called the dividend yield and since most closely held companies do not pay dividends, this approach to pricing a share of closely held stock is not very reliable.
   c. S & P 500
   Incorrect—This refers to a group of publicly held companies that make up the S&P 500.
   d. Price/Earnings Ratio
   D is Correct—This method uses price/earnings (P/E) ratios of comparable publicly traded companies involved in the same industry as the subject company.

8. What is the primary argument against using the Price/Earnings Ratio method to value closely held companies?

   a. Large, diversified, publicly traded companies are not reasonably comparable for a smaller closely held business.
   A is Correct—Price/Earnings ratio method is difficult to use for small companies because public and private companies are usually not comparable.
   b. P/E ratios are based on earnings after interest and taxes.
   Incorrect—This is a characteristic of the P/E ratio method and not an argument against using it.
   c. P/E ratios are the inverse of the capitalization rate.
   Incorrect—This is a characteristic of the P/E ratio method and not an argument against using it.
   d. P/E ratios are difficult to calculate for public companies.
   Incorrect—P/E ratios are easy to calculate for public companies.

10. Which of the following statements are true for the RRCM (buildup summation capitalization method)?

   a. This build-up method uses the large-capitalization and small-capitalization premiums from Ibbotson.
   Incorrect—The RRCM is a business build-up model designed to identify an appropriate capitalization rate based on the perceived risks associated with an enterprise. It begins with a safe or reasonable rate of return and adds a risk premium based on 4 primary risks factors. RRCM does not tax into account any premiums from Ibbotson (Morningstar)
   b. RRCM risk factors are Competition, Financial Strength, Management Ability and Depth, and Profitability and Stability of Earnings.
   B is Correct—The RRCM begins by taking a safe or reasonable rate of return (e.g., intermediate term bond rate) and adds to that rate a weighted average risk premium for each of the following 4 Primary Factors 1) Competition; 2) Financial strength; 3) Management ability and depth; and 4) Profitability and stability of earnings.
   c. The RRCM method is favored over Ibbotson or CAPM for valuing small businesses.
   Incorrect—Many valuation analysts believe that a business build-up model is a better approach to use when the enterprise is considered too small for market data methods.
   d. No working paper documentation is required with the RRCM method.
   Incorrect— The valuator should document each factor and how the weighting was assigned a good example is using a quantification chart.

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11. The following is the primary formula for the Build-Up Method using Ibbotson data:

    a. Rf + ERP + IRPi + SP + SCR
    A is Correct—The primary formula for the Build-Up Method using Ibbotson data is the risk free rate of return + the equity risk premium + the industry risk premium + a size premium + company specific risk
    b. Rf +B(ERm-Rf)+SP
    Incorrect—This is the formula for the Capital Asset pricing Model.
    c. Rf +B(ERm-Rf)+SP+SCR
    Incorrect—This is the formula for Modified CAPM
    d. (ke x We) + (Kd/(pt)(1-t)x Wd)
    Incorrect—This is the formula for the Weighted Average Cost of Capital.

12. The Size Premium found in the Ibbotson data is:

    a. The return an investor would have received in excess of the return on Treasury securities by the S&P 500.
    Incorrect—This return is known as the equity risk premium
    b. The extra return a willing investor would expect to receive over the large equity security by investing in smaller equity securities.
    B is Correct—The extra return an investor would receive over large securities by investing in smaller equity securities would is known as the size premium.
    c. Risk associate with specific industries.
    Incorrect—This is known as the industry risk premium
    d. Risk associated with characteristics of the Company.
    Incorrect—This is known as Company Specific Risk.

13. Using the Build-Up Method to determine the capitalization rate for the current year, a valuator would:

    a. Do nothing. The Build-Up Method provides a capitalization rate based on current year cash flow.
    Incorrect—The Build-Up Method provides you with a capitalization rate that should be applied to next years after-tax cash flow.
    b. Divide by 1-the growth rate
    Incorrect—To determine the current year capitalization rate divide next years capitalization rate by 1 – the long term growth rate.
    c. Multiply by 1 – growth rate.
    Incorrect—To determine the current year capitalization rate divide next years capitalization rate by 1 – the long term growth rate.
    d. Divide by 1+ the growth rate
    D is Correct—To determine the current year capitalization rate divide next year's capitalization rate by (1+ plus the long term growth rate).

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14. Which of the following is not an assumption of the Capital Asset Pricing Model?

    a. Investors are risk adverse
    Incorrect—This is an assumption of CAPM
    b. Rational investors seek to hold portfolios, which are fully diversified.
    Incorrect—This is an assumption of CAPM
    c. Not all investors have identical investment holding periods
    C is Correct—An assumption of CAPM is that all investors have identical holding periods.
    d. All investors have the same expectations regarding the expected rate of return.
    Incorrect—This is an assumption of CAPM

15. The difference between CAPM and Modified CAPM:

    a. Modified CAPM does not include company specific risk
    Incorrect—CAPM does not include company specific risk.
    b. Modified CAPM takes into consideration company specific risk
    B is Correct—Modified CAPM adds additional risk for company specific factors.
    c. Beta
    Incorrect—Both CAPM and MCAPM take into account beta when determining the equity risk premium.
    d. Size premium
    Incorrect—Both CAPM and MCAP take into account a size premium

16. Duff & Phelps can be used to determine:

    a. An appropriate risk free rate
    Incorrect—Duff & Phelps is another source to determine the equity risk premiums.
    b. The supply side adjustment
    Incorrect—Duff & Phelps is another source to determine the equity risk premiums.
    c. The equity risk premium
    C is Correct—Duff & Phelps is another source to determine the equity risk premiums.
    d. Company specific risk
    Incorrect—Duff & Phelps is another source to determine the equity risk premiums.

17. Which of the following is not a criterion companies must meet to be included in the Duff & Phelps equity risk premium?

    a. Must be included in both the CRSP and CompUSA data base
    Incorrect—To be included in the Duff and Phelps equity risk premium report companies must be included in both the CRSP and CompUSA data base.
    b. Must be publicly traded for 5 years
    Incorrect—to be included in the Duff and Phelps equity risk premium report companies must have been publicly traded for 5 years.
    c. Must have sales greater than $1 Million
    Incorrect—to be included in the Duff and Phelps equity risk premium report companies must sales greater than $1 Million
    d. Must have a positive 5 year EBITDA
    D is Correct—to be included in the Duff and Phelps equity risk premium report companies must have a positive 5 year EBITDA.

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18. Duff & Phelps has a separate equity risk premium exhibit specifically for CAPM.

    a. True
    A is Correct—The Duff and Phelps Risk Premium report has exhibits for calculating the equity risk premium using a build-up methodology and an exhibit for a CAPM calculation.
    b. False
    Incorrect—The Duff and Phelps Risk Premium report has exhibits for calculating the equity risk premium using a build-up methodology and an exhibit for a CAPM calculation.

19. Which methodology to determine a capitalization rate, considers debt and equity of a company?

    a. Build up
    Incorrect—Ibbotson determines the capitalization rate based on the equity of a Company.
    b. Duff & Phelps
    Incorrect—Used to determine the equity risk premium.
    c. Weighted Average Cost of Capital
    C is Correct—Weighted average cost of capital considers the debt and equity of the Company.
    d. Capital Asset Pricing Model.
    Incorrect—CAPM determines the capitalization rate based on the equity of a Company.

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Review Questions Chapter 6 Valuation Methods

1. When should you use the capitalization of earnings method?

   a. When expected growth rates are predictable.
      A is Correct—This method is used when the investor's intent is to provide a return on investment over and above reasonable compensation.
   b. When the company is a start-up company.
      Incorrect—This method is used with a profitable business, not a start-up business.
   c. When expected growth rates are unpredictable.
      Incorrect—This method assumes that the historical earnings are an indicator of future earnings.
   d. None of the above
      Incorrect—A is the correct answer.

2. If using a discounted earnings method to determine value, how far in the future should earnings be projected?

   a. At least 10 years
      Incorrect—It is typically difficult to project earnings more than five years out.
   b. Through the year after a stabilized level of operations is reached.
      Incorrect—This is one of the two correct answers. D is the most correct answer.
   c. Until profit margins return to normal after a period of unusually high or low earnings.
      Incorrect—This is one of the two correct answers. D is the most correct answer.
   d. B and C
      D is Correct—Earnings should be projected until a stable level of operations is reached and profit margins return to normal or a consistent level, then terminal value can be calculated.

3. Which method is most appropriate for estimating the value of a non-operating business or a business that continues to generate losses, or which is to be liquidated?

   a. Capitalization of Earnings
      Incorrect—This method is used with a profitable company.
   b. Market Approach – Dividend Paying Capacity
      Incorrect—This method is used with a company that has excess earnings that can be used to pay dividends.
   c. Adjusted Net Assets method
      C is Correct—This method is used when the adjusted net assets have more value than the projected earnings stream.
   d. Discounted Future Earnings Method
      Incorrect—This method is used when future earnings are projected.

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4. Which statement is true when using the Adjusted Net Assets method of valuation?

    a. The fair market value of the net assets are then reduced by the fair market value of any recorded and unrecorded liabilities.
    A is Correct—All assets are first adjusted to fair market value and then reduced by the outstanding liabilities to arrive at the Adjusted Net Assets value.
    b. This method also addresses the operating earnings of the business.
    Incorrect—The adjusted net assets method does not address operating earnings.
    c. This method relies on comparable company data to adjust the value of the net assets to market value.
    Incorrect—This method does not use comparable company data.
    d. This method always under-estimates the value of a business.
    Incorrect—This method sets the "floor" value for a business.

5. Which valuation method has the negative aspect of not addressing the operating earnings of the business and would be inappropriate to use to value intangible assets such as patents or copyrights that are typically valued based on some type of operating earnings?

    a. Retained Earnings Method
    Incorrect—This is not a valuation method.
    b. Capitalization of Earnings Method
    Incorrect—This method addresses operating earnings.
    c. Excess Earnings Reasonable Rate Method
    Incorrect—This method addresses operating earnings.
    d. Adjusted Net Assets Method
    D is Correct—This method does not address operating earnings.

6. Which method assumes all of the assets, tangible or intangible is indistinguishable parts of the business and does not attempt to separate the values of the two?

    a. Capitalization of Earnings Method
    A is Correct—This method does not attempt to separate the values of the two. The critical component to the value of the business is its earnings.
    b. Discounted Future Earnings Method
    Incorrect—This method discounts future earnings and adds a terminal value.
    c. Excess Earnings Treasury Method
    Incorrect—This method adds the value of the assets to the excess earnings.
    d. Excess Earnings Reasonable Rate Method
    Incorrect—This method adds the value of the assets to the excess earnings.

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7. Which method applies a reasonable rate of return to the latest year's balance of adjusted net assets rather than to an unweighted or weighted average of net assets?

    a. Capitalization of Earnings Method
    Incorrect—This method assumes that the value of the assets is already a component of the future income.
    b. Discounted Future Earnings Method
    Incorrect—This method calculates a terminal value for the company based upon capitalizing and present valuing the last year's projected revenue.
    c. Excess Earnings Treasury Method
    Incorrect—This method applies a market rate to the unweighted or weighted average of net assets.
    d. Excess Earnings Reasonable Rate method
    D is Correct—This method applies a reasonable rate of return to the latest year's adjusted net assets.

8. Which method is sometimes referred to as the Discounted Cash Flow Method?

    a. Capitalization of Earnings Method
    Incorrect—This method uses a capitalization rate not a discount rate.
    b. Discounted Future Earnings Method
    B is Correct—This method is sometimes referred to as the Discounted Cash Flow Method.
    c. Excess Earnings Treasury Method
    Incorrect—This method uses a capitalization rate, not a discount rate.
    d. Excess Earnings Reasonable Rate Method
    Incorrect—This method uses a capitalization rate, not a discount rate.

9. Which of the following statements is not applicable to the Price/Earnings Ratio Method?

    a. The Price/Earnings Ratio Method is also an income-oriented approach.
    Incorrect—This method is a market approach income-oriented method.
    b. This method is mainly used when valuing closely held companies.
    B is Correct—This method rarely used for closely held companies.
    c. The P/E Ratios are typically obtained from comparable publicly traded companies.
    Incorrect—The P/E ratios are obtained from comparable publicly traded companies.
    d. The earnings portion of the P/E ratio is represented by net after-tax income of comparable companies.
    Incorrect—The earnings portion is always represented by net after-tax income because public companies earnings are always stated as an after-tax number.

10. Which statement applies to the Dividend Paying Capacity Method?

    a. To use this method, the Company must always have had a history of paying dividends.
    Incorrect—The Company must have the Capacity to pay dividends.
    b. This method does not consider liquidity as a factor in the valuation.
    Incorrect—Liquidity is a major factor in having the capacity to pay dividends.
    c. This method is highly regarded because it utilizes market comparisons.
    C is Correct—Market comparables are considered good indicators of value.
    d. This method can only be used when valuing 100 percent of the company and not a portion of the company.
    Incorrect—Can be used to value any percentage.

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11. When valuing the stock of a real estate holding company, most likely the valuator will give the greatest weight to which method:

    a. Capitalization of Earnings Method
    Incorrect—When valuing a real estate holding company, the value of the stock is most closely related to the underlying assets owned not the earnings generated from the asset. Therefore an asset method would be the primary method selected by the valuator.
    b. Book Value Method
    Incorrect—The book value method is based on the company's book value and does not take into account current market conditions.
    c. Adjusted Book Value Method
    C is Correct
    d. Rule of Thumb
    Incorrect—Rules of thumb should primarily be used as a sanity check.

12. Using the adjusted net asset method the valuator only values tangible assets.

    a. True
    Incorrect—Both tangible and identifiable intangible assets are valued in determining total adjusted net assets.
    b. False
    B is Correct—Both tangible and identifiable intangible assets are valued in determining total adjusted net assets.

13. The adjusted net asset method generally sets a _____ for determining total entity value.

    a. Floor value
    A is Correct—The adjusted net asset method generally sets a floor value for determining entity value.
    b. High value
    Incorrect—The adjusted net asset method generally sets a floor value or minimum value an owner with a controlling interest would sell their ownership interest for.
    c. Forced liquidation value
    Incorrect—In a forced liquidation a shareholder may not be able to obtain the fair market value of the underlying assets.
    d. Investment value
    Incorrect—Investment value represents the value to a particular investor.

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14. Which one of the following adjustments would be made on the balance sheet to reconcile the book value to adjusted fair market value?

    a. Convert inventory from FIFO to LIFO
    Incorrect—Inventory should be valued on a FIFO basis; the carrying cost of inventory on the balance sheet should be representative of the most recent prices to acquire the inventory.
    b. Remove excess cash
    B is Correct—If the valuator identifies excess cash, the excess cash would be considered a non operating asset and removed from a normalized balance sheet.
    c. Adjust owner's compensation
    Incorrect—An adjustment to owner's compensation would be an appropriate adjustment on the income statement not the balance sheet.
    d. A large account receivable write off due to a major customer filing for bankruptcy.
    Incorrect—An adjustment for accounts receivable write off would be adjusted on the income statement.

15. A Company has a five year weighted average after tax cash flow of $125,000. It has been determined the discount rate is 19%, short term expected growth is 11% and long term sustainable growth is 3%. The valuator has also determined excess cash of 25,000. What is the value of the company based on the capitalization of after tax cash flows?

    a. $625,000
    b. $657,895
    c. $829,400
    C is Correct—After tax cash flow of $125,000 divided by current year capitalization rate of 15.54% (discount rate – long term growth) / (1 + long term growth rate) (19%-3%) / (1.03) which is $804,400. Then you add the excess cash of $25,000 to arrive at $829,400.
    d. $909,090

16. Which method is based on the theory that the total value of a business is the present value of its projected future earnings, plus the present value of the terminal value?

    a. Capitalization of earnings
    Incorrect—The capitalization of earnings is determined based on a single earning stream and divided by the discount rate less a long term growth rate.
    b. Discounted Cash flows
    B is Correct—The Discounted cash flow method is based on the theory that the total value of a business is the present value of its projected future earnings plus the present value of the terminal value.
    c. Excess earnings
    Incorrect—The excess earnings method is a formula method that combines both an income and asset approach.
    d. Adjusted book value method
    Incorrect—The adjusted book value method is based on the fair market value of the assets.

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17. ABC Company has projected the following cash flows:

    Year 1: 85,000
    Year 2: 105,000
    Year 3: 109,000
    Year 4: 115,000

The valuator has determined an appropriate discount rate is 26% and the long term growth rate is 2%. Using the Gordon Growth Model, what is the terminal value?

a. 175,596
b. 193,936
   B is Correct—
   TV = ((Yr 4 Cash Flow * (100% + growth rate)) / Capitalization rate) * (Year 4 PV factor)
   = (($115,000 * (100% + 2%)) / 24%) * ((1/1.26) ^ 4)
   = ($117,300 / 24%) * (.3968)
   = $488,750 * .3968
   TV = $193,936
c. 187,096
d. 202,687

18. The Mid period method of discounting should be used when the equity holder:

a. Has access to a dividend once a year
   Incorrect—If the equity holder only has access to the cash flows at the end of the year, then the valuator should use an end of period discount rate.
b. Has access to a dividend throughout the year
   B is Correct—The mid period discounting method should be used when the equity holder has access to the cash flow throughout the year.
c. Has not received a dividend
   Incorrect
d. A & B
   Incorrect

19. Which method combines the income and asset based approaches to arrive at a value of a closely held business?

a. Book Value
   Incorrect—This is an asset based approach
b. Discounted cash flows
   Incorrect—This is an income based approach
c. Guideline Public Companies
   Incorrect—This is a market based approach
d. Excess Earnings Method
   D is Correct—The excess earnings method incorporates both and income and asset approach to arrive at the value of a privately held company.

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Review Questions Appendix II Revenue Ruling 59-60

1. The definition of Fair Market Value found in Revenue Ruling 59-60 states that:

   a. The buyer and seller are not under any compulsion to act.
      Incorrect—This is only one component of the answer.
   b. The buyer and seller have reasonable knowledge of the relevant facts.
      Incorrect—This is only one component of the answer.
   c. The buyer and seller are hypothetical.
      Incorrect—This is only one component of the answer.
   d. The buyer and seller are willing and able to act.
      Incorrect—This is only one component of the answer.
   e. All of the above
      E is Correct—All of the above are components of 59-60.

2. Revenue Ruling 59-60 requires consideration of which of the following?

   a. Regression analysis
      Incorrect—Not required by 59-60.
   b. Dividend Paying Capacity
      B is Correct—Requirement of 59-60
   c. Using a discount rate of at least 25-30 percent
      Incorrect—Not required by 59-60
   d. Using a capitalization rate of at least 18-20 percent
      Incorrect—Not required by 59-60

3. Revenue Ruling 59-60 lists certain factors that must be used in a valuation:

   a. An appraisal of all of the fixed assets of the company
      Incorrect—This is not a requirement of 59-60
   b. The nature and history of the business
      Incorrect—This as well as answer C are requirements
   c. The earning capacity of the company
      Incorrect—This as well as answer B are requirements
   d. Both b and c
      D is Correct
   e. All of the above
      Incorrect—Only B and C are requirements

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4. Which of the following statements is not found in Revenue Ruling 59-60 in Section 6, Capitalization Rates?

   a. A determination of the proper capitalization rate presents one of the most difficult problems in valuation.
      Incorrect—Proper capitalization rates are one of the most difficult problems in valuations.
   b. There is no ready or simple solution—meaning you cannot refer to a single source to get an appropriate capitalization rate.
      Incorrect—There is no single source to get an appropriate cap rate.
   c. No standard tables of capitalization rates applicable to closely held corporations can be formulated.
      Incorrect—No Standard Capitalization rates can be formulated as all circumstances are different.
   d. Once developed, the ratio will not fluctuate from year to year.
      D is Correct—A ratio will fluctuate from year to year depending on the current economic conditions.

5. Which of the following is a true statement related to Revenue Ruling 59-60?

   a. The combination and/or weighting of the results of several valuation methods is highly recommended by Revenue Ruling 59-60.
      Incorrect—Weighting of methods is discouraged by 59-60.
   b. Under Revenue Ruling 59-60 the alternative valuation date is not applicable in valuing closely held companies.
      Incorrect—59-60 allows consideration of an alternate valuation date when the valuation is prepared for estate purposes.
   c. Revenue Ruling 59-60 discourages the use of publicly traded company information.
      Incorrect—59-60 encourages the use of publicly traded company information.
   d. When shares of stock were acquired by a decedent subject to an option reserved by the issuing corporation to repurchase at a certain price, the option price is usually accepted as the fair market value for estate tax purposes.
      D is Correct—59-60, Section 8, Restrictive Agreements and Rev. Ruling 54-76 address the use of restricting agreements as a possible value for a decedent's ownership interest.

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PARTICIPANT NOTES

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APPENDIX VIII

Business Valuation Development Checklist

NOTE:
The following pages represent an example of a checklist, which could be used by a valuation analyst. NACVA suggests the analyst use this checklist as a guide to preparing his or her own checklist(s). For those conversant with laptop computers or other personal data assistants, making a checklist to interact with software on your laptop can be a time saver.

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Comprehensive Business Valuation Development Checklist

Use of this document in obtaining the necessary information and addressing the specific areas of development to conduct your analysis in the performance of a business valuation will help in complying with the Development Standards promulgated by the National Association of Certified Valuators and Analysts (NACVA) and the American Institute of Certified Public Accountants (AICPA) in their recently published Statement on Standards for Valuation Services No. 1 (SSVS), which have an effective implementation date of January 1, 2008.

Disclaimers:

1) By no means is the use of this document intended to replace the User's responsibility for having read and being fully conversant with both NACVA's and the AICPA's standards. The authors of this document are fallible and it is very possible that items have been overlooked. Thereby, we disclaim any and all liability for one's use of this document should it turn out that the valuation report produced while using this Checklist is not in compliance with the aforementioned standards.

2) Provisions under SSVS #46 pertaining to "Calculation of Value" have been omitted.

3) This comprehensive checklist is designed for use in engagement to determine a "Conclusion of Value."

4) SSVS #24 states that the sequence of implementation of the Developmental Standards is at the option of the Valuation Analyst.

5) SSVS #45 provides that the Valuation Analyst should retain the documentation for a period of time sufficient to meet the needs of applicable legal, regulatory, or other professional requirements for records retention.

6) Specifically not referenced, herein, as the pronouncements did not pertain to the gathering or collection of data are: SSVS numbers 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 19, 21, 22, 23, 26, 30, 31, 32, 38, and 42.

7) All SSVS references herein, are to paragraph numbers in the SSVS.

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Comprehensive Business Valuation Development Checklist

—— Table of Contents ——

I. ANALYSIS OF THE SUBJECT INTEREST OWNERSHIP INFORMATION 1
Company Information 1
Organizational Information 1
Shareholder Information 1
Ownership 1
Participation 2
Related Party Information 3
Recent Stock Sale Information 3
II. VALUATION ESSENTIALS 3
Purpose of Valuation 3
Standard/Premise of Valuations 3
Requesting Party 4
Contact Person 5
III. NON-FINANCIAL INFORMATION 5
Location Information 5
Employee Turnover 5
Family Involvement 6
IV. MANGEMENT 6
Key Management 6
Basis of Officer/Owner Compensation 7
Officer/Owner Prerequisites 7
Board of Directors and Level of Involvement 7
Staffing 7
V. PRODUCTS / SERVICES AND MARKETS 7
Barriers to Entry 8
VI. COMPETITION AND PRODUCT DIFFERENTIATION 10
Major Competitors 10
Environmental Issues 11
Market Size and Share 11
VII. FINANCIAL INFORMATION 12
VIII. NATIONAL AND LOCAL ECONOMIC INFORMATION 15
National 15
Local and Regional 16
IX. NATIONAL AND LOCAL INDUSTRY INFORMATION 16
National 16
Local and Regional 18
X. VALUATION APPROACHES AND METHODS—CONSIDERATIONS 19
Income Approach 19
Asset Approach and Cost Approach 20
Market Approach 20

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—— Table of Contents ——

(continued)

XI. GUIDELINE PUBLIC COMPANY AND MARKET APPROACH 21
Guideline Company Search 21
Sales Transaction Search 21
XII. VALUATION ADJUSTMENTS 22
XIII. NON-OPERATING / EXCESS ASSETS 22
XIV. SUBSEQUENT EVENTS 22
XV. DOCUMENTATION 23
XVI. OTHER 23
Copyright Clearance 23
XVII. DOCUMENT AND DATA REQUEST CONTROL FORM 24
Subject Company Financial Data 24
Operational and Legal Documentation 25
EXHIBIT I 26
List of Assumptions and Limiting Conditions 26

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I. ANALYSIS OF THE SUBJECT INTEREST OWNERSHIP INFORMATION

Workpapers Page Reference

Company Information

Name: _____ Company: _____

Street address: _____

City: _____ State: _____ ZIP: _____

Tel: _____ Fax: _____ Email: _____

DBA (if applicable): _____

Organizational Information

- Corporation type: _____
- Date incorporated: _____
- State of incorporation: _____
- S election: _____
- Merger date: _____
- Recapitalization _____
- Agreement: _____

Common Shares

- # of shares authorized: _____
- # of shares issued and outstanding: _____
- Restrictions, if any: _____
- Voting or non-voting: _____

Treasury Shares

- # of shares held: _____
- Date of purchase: _____
- Purchase price: _____
- Date of cancellation: _____

Preferred Shares

- # of shares authorized: _____
- # of shares issued and outstanding: _____
- Description of preference: _____
- Dividend %: _____

Shareholder Information

	Common		Preferred		
Name	# of Shares	%	# of Shares	%	
Totals:					

This page and above addresses: SSVS 13b, 13c

Ownership

- Determine the type of ownership interest being valued and ascertain whether that interest exhibits control characteristics: _____

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	Workpapers Page Reference
• Analyze the different ownership interests of other owners and assess the potential effect on the value of the subject interest:	
• Understand the classes of equity ownership interests and rights attached thereto:	
• Understand the rights included in, or excluded from, each intangible asset:	

Understand other matters that may affect the value of the subject interest, such as:

• For a business, business ownership interest, or security: shareholder agreements, partnership agreements, operating agreements, voting trust agreements, buy-sell agreements, loan covenants, restrictions, and other contractual obligations or restrictions affecting the owners and the subject interest.	
• For an intangible asset: legal rights, licensing agreements, sublicense agreements, non-disclosure agree-ments, development rights, commercialization or exploitation rights, and other contractual obligations:	
• To the extent any of these agreements are applicable, request for our file:	

Participation

Name	Title	% of Time Devoted to Business	Duties	

This page and above addresses: SSVS 23, 27, 28

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Related Party Information

Name	Relationship	Involvement Described	Workpapers Page Reference

Recent Stock Sale Information

- Type of stock sold: _____
- Sold to: _____
- # of shares sold: _____
- Price of shares sold: _____
- Date of sale: _____
- % sold: _____
- Restrictions, if any: _____
- Reason for sale: _____
- How valued: _____
- Stock options: _____
- Terms: _____
- Type: _____

- Type of stock sold: _____
- Sold to: _____
- # of shares sold: _____
- Price of shares sold: _____
- Date of sale: _____
- % sold: _____
- Restrictions, if any: _____
- Reason for sale: _____
- How valued: _____
- Stock options: _____
- Terms: _____
- Type: _____

This page and above addresses: SSVS 13c, 29

II. VALUATION ESSENTIALS

Purpose of Valuation

- Purpose of valuation: _____
- Valuation date: _____
- # of shares to be valued: _____
- % of interest to be valued: _____

Assumptions and limiting conditions: *use Exhibit I*

- Type of report to be issued: _____
- Use of specialists: _____
- Competency issue: _____

Standard/Premise of Valuation

- Define standard of value: _____

- Define premise of value: _____

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	Workpapers Page Reference
• Are we valuing equity, invested capital or intangible assets? _____	
• Is there a jurisdictional exception: _____	
• Are there governmental regulations: _____	
• AICPA professional standards: _____	

Check those that apply:

- ❑ AICPA Code of Professional Conduct: _____
- ❑ Statement on Standards for Consulting Services: _____
- ❑ Consulting services: definitions & standards AICPA professional standards, Vol. 2, CS Sec 100: _____
- ❑ Rule 201-A professional competence of AICPA Code of Professional Conduct: _____

• Is this an attest client? If so, the firm is not able to perform the engagement unless the analyst meets all requirements of Interpretation 101-3: _____

This page and above addresses: SSVS 3, 12d (iii, iv), 12e, 13c, 14, 15, 20, 25

Requesting Party

Name: _____ Title: _____

Street address: _____

City: _____ State: _____ ZIP: _____

Tel: _____ Fax: _____ Email: _____

Relationship: _____

Describe understanding with client:

- Scope limitations: _____
- Restrictions: _____
- Hypothetical conditions: _____
- Obligation to update: _____
- Conflicts of interest: _____
- Independence issues: _____
- Due date: _____
- Client's responsibilities: _____
- Analyst's responsibilities: _____
- Assumptions: _____
- Report type: _____
- Nature, purpose and objective of valuation: _____

• Document terms of valuation engagement, procedural requirements, objectivity, and independence:

This page and above addresses: SSVS 13a, 14, 16, 17

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Contact Person | Workpapers Page Reference

Name: _____ Title: _____

Street address: _____

City: _____ State: _____ ZIP: _____

Tel: _____ Fax: _____ Email: _____

Relationship: _____

III. NON-FINANCIAL INFORMATION

- History / background: _____
- Major historical events: _____
- Annual gross revenues: _____ • Average # of employees: _____

Location Information

Location	Date Occupied	Leased/ Owned	Function

- SIC code: _____ • NAICS code: _____
- Principle activity: _____

Employee Turnover

- Describe management turnover: _____
- Describe non-management turnover: _____

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Family Involvement Workpapers Page Reference

- Does the company have family members working for the company? _____
- How many family members work for the company? _____
- What is the amount and basis for each family member's compensation? _____
- Do family members have proper education and experience for position held? _____
- Is there absentee management? _____
- Provide owners and family fringe benefits: _____
- Describe related party transactions: _____

This page and above addresses: SSVS 27

IV. MANAGEMENT

Key Management

Name	Title	Duties	Age / Health	

- Describe key management background, education, longevity, and experience: _____
- Are employment contracts in place? _____ • Are key man policies in place? _____

  Describe: _____

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Identify Basis of Officer / Owner Compensation

Name	Title	Basis of Compensation	Workpapers Page Reference

Identify Officer / Owner Prerequisites

Name	Title	Type of Benefit	Annual Cost	

Board of Directors and Level of Involvement

Name	Title	Basis of Compensation	

Staffing

	Total	Full-Time	Part-Time	
• Number of employees:				
• Number of managers:				
• Number of sales staff:				
• Number of service staff:				
• Number of clerical staff:				

This page and above addresses: SSVS 27, 29

V. PRODUCTS / SERVICES AND MARKETS

• Describe products / services *(indicate proprietary nature, if any)*:

• Describe customers:

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Workpapers Page Reference

- Describe market area: _____
  - Estimated total market: _____
  - Estimated market share: _____
- Describe cyclical or seasonal: _____
- Describe distribution channels: _____
- Summary of barriers to market entry: _____

Description of Barriers to Entry

- Describe the economies of scale: _____
- Describe the product differentiation: _____
- Describe the capital requirements: _____
- Describe the access to distribution channels: _____

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Workpapers Page Reference

- Describe the cost disadvantages independent of scale: _____
- Describe the proprietary product technology: patents / trademarks: _____
- Describe the favorable access to raw materials: _____
- Describe the favorable locations: _____
- Describe the government subsidies: _____
- Describe the learning or experience curve: _____
- Describe the government policies applicable to the company: _____
- Describe the bargaining power of your suppliers: _____
- Describe the bargaining power of your customers: _____
- Describe the threat of substitute products: _____
- Describe the rivalry between incumbent companies in the industry: _____
- Describe the stability of earnings: _____

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Workpapers Page Reference

VI. COMPETITION AND PRODUCT DIFFERENTIATION

Identify Major Competitors

Name	Location	Estimated Market Share	

- Describe product differentiation from competition: _____
- List competitive strengths: _____
- List competitive weaknesses: _____
- List product lines: _____
- Describe the method of pricing competition: _____
- Describe any proprietary content: _____
- Describe any patents: _____
- Describe any copyrights: _____

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Workpapers

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Page Reference

- Describe the product mix: _____

Environmental Issues

Describe any environmental issues related to the following:

- Asbestos: _____
- Polychlorinated biphenyl's (PCB's): _____
- Fuel/chemical tanks, drums, and pipelines: _____
- Water discharges: _____
- Air emissions: _____
- Waste disposal: _____
- Soil contamination: _____
- Agricultural property / pesticides, herbicides, or other agricultural chemicals: _____

Market Size and Share

- Describe customer's status in the industry and their estimated market share: _____
- Describe the market area that the company serves: _____

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VII. FINANCIAL INFORMATION

Workpapers Page Reference

- Describe financial statement generation (in-house, CPA, etc.): _____
- If CPA involvement, indicate type—GAAP, tax basis or other: _____
- What is the fiscal year-end of company: _____
- How often are financial statements generated: _____
- Describe significant accounting policies: _____
- Describe extent of GAAP compliance: _____
- Identify recent changes in accounting policies: _____
- Describe book to tax adjustments: _____
- Are budgets or forecasts prepared: _____
  - If so, how often: _____
- How has company performed relative to budget: _____
- Describe future planned capital expenditures: _____
- Describe short-term financing arrangements: _____
- Describe long-term financing arrangements: _____

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	Workpapers Page Reference
• Describe retirement plan:	
• Identify pending or threatened litigation:	
• Identify major customers:	
• Identify major vendors:	
• Identify primary discretionary expenses:	
• Identify major non-recurring and extraordinary expenses:	
• Identify non-operating assets & liabilities:	
• Are current appraisals of tangible assets available? Describe:	
• Has company been denied credit? Describe:	
• Are there contracts of advantage or disadvantage to company? Describe:	
• Is company carrying assets not in use? Describe:	
• Are there any subsidiaries owned by the company? Describe:	

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	Workpapers Page Reference
◆ If yes, describe the subsidiaries (name, date acquired, ownership interest, etc.):	
• Describe leasing activities:	
• Describe government and/or environmental regulations:	
• Is company capital intensive? Describe:	
• Is company labor intensive? Describe:	
• Discuss condition of facilities and equipment:	
• Describe merger authority:	
• Describe any tax issues:	
• Describe recent merger activity:	
• Contingent off balance sheet financing:	
• Describe the regulatory issues that impact the company:	
• Describe other significant matters:	

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This page and above addresses: SSVS 27, 29

Workpapers Page Reference

The valuation analyst should obtain, where applicable and available, financial information on the subject entity such as:

- Historical financial information (including annual and interim financial statements and key financial statement ratios and statistics) for an appropriate number of years: _____
- Prospective financial information (for example, budgets, forecasts, and projections): _____
- Comparative summaries of financial statements or information covering a relevant time period: _____
- Comparative common size financial statements for the subject entity for an appropriate number of years:
- Comparative common size industry financial information for a relevant time period: _____
- Income tax returns for an appropriate number of years: _____
- Describe recent merger activity: _____

This page and above addresses: SSVS 27, 29

VIII. NATIONAL AND LOCAL ECONOMIC INFORMATION

National

- Valuation date short-term bond yield: _____ Source: _____
- Valuation date intermediate bond yield: _____ Source: _____
- Valuation date long-term bond yield: _____ Source: _____
- Expected inflation rate: _____ Source: _____
- Expected GNP growth: _____ Source: _____
- Current unemployment rate: _____ Source: _____

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This section above addresses: SSVS 27

Workpapers Page Reference

- Describe current and/or expected major changes in tax law: _____
  _____
  _____
  _____
  _____
  Source: _____
- General description of the economy: _____
  _____
  _____
  _____
  _____
  Source: _____

Local and Regional

- Describe local and regional market: _____
  _____
  _____
  _____
  _____
  Source: _____
- Describe personal income growth: _____
  _____
  _____
  _____
  _____
  Source: _____

IX. NATIONAL AND LOCAL INDUSTRY INFORMATION

National

- Total market: _____ Source: _____
- Short-term industry growth: _____ Source: _____
- Long-term industry growth: _____ Source: _____
- Growth industry stability: _____
  _____
  _____
  _____
  _____
  Source: _____

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This page and above addresses: SSVS 27

Workpapers Page Reference

- Describe market trends: _____
  _____
  _____
  _____
  _____
  Source: _____
- Describe technology advancements: _____
  _____
  _____
  _____
  _____
  Source: _____
- Describe effects of government regulation: _____
  _____
  _____
  _____
  _____
  Source: _____
- Describe industry outlook: _____
  _____
  _____
  _____
  _____
  Source: _____
- Describe industry financial data: _____
  _____
  _____
  _____
  _____
  Source: _____
- Describe industry long-term prospects: _____
  _____
  _____
  _____
  _____
  Source: _____
- Source of industry financial data: _____
  _____
  - Period covered: _____

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Local and Regional | Workpapers Page Reference

- Total market: _____ Source: _____
- Short-term industry growth: _____ Source: _____
- Long-term industry growth: _____ Source: _____
- Describe: _____
- Growth industry stability: _____

  Source: _____
  Describe: _____
- Describe local market trends: _____

  Source: _____
- Describe effects of local government regulation: _____

  Source: _____
  Describe: _____
- Describe local industry outlook: _____

  Source: _____
- Describe local industry long-term prospects: _____

  Source: _____
- Source of local industry financial data: _____
  - Period covered: _____

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X. VALUATION APPROACHES AND METHODS—CONSIDERATIONS

Workpapers Page Reference

Income Approach:

- ❑ Capitalization of earnings / cash flow: _____ _____
- ❑ Normalization adjustments: _____ _____
- ❑ Non-recurring revenue and expense items: _____ _____
- ❑ Taxes: _____ _____
- ❑ Capital structure and financing costs: _____ _____
- ❑ Appropriate capital investments: _____ _____
- ❑ Non-cash items: _____ _____
- ❑ Qualitative judgments for risks used to compute discount and capitalization rates: _____ _____

  _____ _____
- ❑ Expected changes (growth or decline) in future benefits (for example, earnings, or cash flows): _____ _____

  _____ _____

Discounted future benefits method (for example, earnings, or cash flows). In addition to the items above, the valuation analyst should consider:

- ❑ Forecast/projection assumptions: _____ _____
- ❑ Forecast/projected earnings or cash flows: _____ _____
- ❑ Terminal value: _____ _____

For an intangible asset, the valuation analyst should consider:

- ❑ Remaining useful life: _____ _____
- ❑ Current and anticipated future use of the intangible asset: _____ _____
- ❑ Rights attributable to the intangible asset: _____ _____
- ❑ Position of intangible asset in its life cycle: _____ _____
- ❑ Appropriate discount rate for the intangible asset: _____ _____
- ❑ Appropriate capital or contributory asset charge, if any: _____ _____
- ❑ Research and development or marketing expense needed to support the intangible asset in its existing state: _____ _____

  _____ _____
- ❑ Allocation of income (for example, incremental income, residual income, or profit split income) to intangible asset: _____ _____
- ❑ Whether any tax amortization benefit would be included in the analysis: _____ _____
- ❑ Discounted multi-year excess earnings: _____ _____
- ❑ Market royalties: _____ _____
- ❑ Relief from royalty method: _____ _____

This page and above addresses: SSVS 33a, 33b, 33c

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Workpapers Page Reference

Asset Approach and Cost Approach:

When using the adjusted net asset method in valuing a business, business ownership interest, or security, the valuation analyst should consider, as appropriate, the following information related to the premise of value:

- ❑ Identification of the assets and liabilities: _____
- ❑ Value of the assets and liabilities (individually or in the aggregate): _____
- ❑ Liquidation costs (if applicable): _____

When using methods under the cost approach to value intangible assets, the valuation analyst should consider the type of cost to be used (for example, reproduction cost or replacement cost), and, where applicable, the appropriate forms of depreciation and obsolescence and the remaining useful life of the intangible asset.

- ❑ Describe: _____

Market Approach:

Three frequently used market approach valuation methods for intangible assets are:

- ❑ Comparable uncontrolled transactions method (which is based on arm's-length sales or licenses of guideline intangible assets)
- ❑ Comparable profit margin method (which is based on comparison of the profit margin earned by the subject entity that owns or operates the intangible asset to profit margins earned guideline companies)
- ❑ Relief from royalty method (which is based on the royalty rate, often expressed as a percentage of revenue that the subject entity that owns or operates the intangible asset would be obligated to pay to a hypothetical third-party licensor for the use of that intangible asset)

For the methods involving guideline intangible assets (for example, the comparable profit margin method), the valuation analyst should consider the subject intangible asset's remaining useful life relative to the remaining useful life of the guideline intangible assets, if available.

In applying the methods listed above or other methods to determine valuation pricing multiples or metrics, the valuation analyst should consider:

- ❑ Qualitative and quantitative comparisons
- ❑ Arm's-length transactions and prices
- ❑ The dates and, consequently, the relevance of the market data

Rules of thumb. Although technically not a valuation method, some valuation analysts use rules of thumb or industry benchmark indicators (hereinafter, collectively referred to as rules of thumb) in a valuation engagement. A rule of thumb is typically a reasonableness check against other methods used and should generally not be used as the only method to estimate the value of the subject interest.

- ❑ Describe: _____

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This page and above addresses: SSVS 34, 35, 36, 37, 39

XI. GUIDELINE PUBLIC COMPANY AND MARKET APPROACH

Guideline Company Search

Name	Customer IP #	Exchanges	Historical Beta	Total Equity	Total Assets	Mil $ Net Sales	5-Year Earnings Growth	5-Year ROE	SIC
1.									
2.									
3.									
4.									
5.									

- Workpapers page reference: _____
- Source: _____
- Comments: _____

Sales Transaction Search

SIC	Description	Ask Price	Annual Gross	SDE	Sales Date	Sales Price
1.						
2.						
3.						
4.						
5.						

SDE—Seller's discretionary earnings

% Down	Terms	Sales/Gross	Sales/Net	FF&E	Area
1.					
2.					
3.					
4.					
5.					

FF&E—Furniture, fixtures & equipment

- Workpapers page reference: _____
- Source: _____
- Comments: _____
  - Are they comparable? Describe: _____

This page and above addresses: SSVS 36

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Workpapers Page Reference

XII. VALUATION ADJUSTMENTS

Examples of valuation adjustments for valuation of a business, business ownership interest, or security include a discount for lack of marketability or liquidity and a discount for lack of control. An example of a valuation adjustment for valuation of an intangible asset is obsolescence.

- ❑ Lack of control: _____
- ❑ Voting / non-voting: _____
- ❑ Lack of marketability or liquidity: _____

XIII. NON-OPERATING / EXCESS ASSETS

When valuing a controlling ownership interest under the income approach, the value of any non-operating assets, non-operating liabilities, or excess or deficient operating assets should be excluded from the computation of the value based on the operating assets and should be added to or deleted from the value of the operating entity. When valuing a non-controlling ownership interest under the income approach, the value of any non-operating assets, non-operating liabilities, or excess or deficient operating assets may or may not be used to adjust the value of the operating entity depending on the valuation analyst's assessment of the influence exercisable by the non-controlling interest. In the asset-based or cost approach, it may not be necessary to separately consider non-operating assets, non-operating liabilities, or excess or deficient operating assets.

- ❑ Comments: _____

This page and above addresses: SSVS 40, 41

XIV. SUBSEQUENT EVENTS

The valuation date is the specific date at which the valuation analyst estimates the value of the subject interest and concludes on his or her estimation of value. Generally, the valuation analyst should consider only circum-stances existing at the valuation date and events occurring up to the valuation date. An event that could affect the value may occur subsequent to the valuation date; such an occurrence is referred to as a *subsequent event.* Subsequent events are indicative of conditions that were not known or knowable at the valuation date, including conditions that arose subsequent to the valuation date. The valuation would not be updated to reflect those events or conditions. Moreover, the valuation report would typically not include a discussion of those events or conditions because a valuation is performed as of a point in time-the valuation date-and the events described in this subparagraph, occurring subsequent to that date, are not relevant to the value determined as of that date.

- ❑ Comments: _____

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XV. DOCUMENTATION

Workpapers Page Reference

Documentation is the principal record of information obtained and analyzed, procedures performed, valuation approaches and methods considered and used, and the conclusion of value. The quantity, type, and content of documentation are matters of the valuation analyst's professional judgment. Documentation may include:

- ❑ Document understanding with client _____
- ❑ Information gathered and analyzed to obtain an understanding of matters that may affect the value of the subject interest _____
- ❑ Assumptions and limiting conditions _____
- ❑ Any restriction or limitation on the scope of the valuation analyst's work or the data available for analysis _____
- ❑ Basis for using any valuation assumption during the valuation engagement _____
- ❑ Valuation approaches and methods considered _____
- ❑ Valuation approaches and methods used including the rationale and support for their use _____
- ❑ If applicable, information relating to subsequent events considered by the valuation analyst _____
- ❑ For any rule of thumb used in the valuation, source(s) of data used, and how the rule of thumb was applied to the engagement by the valuation analyst _____
- ❑ Other documentation considered relevant to the engagement by the valuation analyst _____
- ❑ The analyst should read and evaluate information to determine that it is reasonable for the purposes of the engagement _____

This page and above addresses: SSVS 16, 17, 43, 44

XVI. OTHER

- ❑ Management representation letter: _____ _____

Copyright Clearance

- ❑ RMA: _____ _____
  _____ _____
  _____ _____
- ❑ Other: _____ _____
  _____ _____
  _____ _____

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XVII. DOCUMENT AND DATA REQUEST CONTROL FORM

Workpapers Page Reference

Request from: _____ Title: _____ _____

Requested by: _____ Title: _____ _____

Subject Company Financial Data

Description	Date Requested	Date Received	Comments	Workpapers Page Reference
Engagement letter:				
Financial statements for 5 years:				
Federal & state income tax returns for 5 years:				
Historical budget vs. actual report for ____ years:				
Prospective budget report for year:				
Accounts receivable aging report:				
Inventory summary reports and costing method summaries:				
Detailed schedule of fixed assets:				
Schedule of investments:				
Accounts payable aging report:				
Schedule of accrued liabilities:				
Schedule of notes payable, equipment, or real property leases & other term debt:				
Appraisal reports: • Real Estate				
• Equipment				
• Other (trademarks & patents)				
Key-man life policies:				
Other:				

This page and above addresses: SSVS 16, 44

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Operational and Legal Documentation

Description	Date Requested	Date Received	Comments	Workpapers Page Reference
Organizational chart:				
Buy / Sell agreements:				
Stockholders agreements:				
Stock subscription agreements:				
Public or private offering memoranda:				
Employment contracts:				
Pension / profits sharing plans:				
Other Benefit Plans:				
Schedule of pension / profit sharing funding for ____ Years:				
Significant contracts:				
Property tax returns for ____ years:				
Client representation letter:				
Legal representation letter:				
Other: • a) _____				
• b) _____				
• c) _____				
• d) _____				
• e) _____				
• f) _____				
• g) _____				
• h) _____				
• i) _____				
• j) _____				
• k) _____				

This page and above addresses: SSVS 13d, 13e, 18 (Appendix A), 25

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EXHIBIT I

Workpapers Page Reference

List of Assumptions and Limiting Conditions

- Comments: _____

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APPENDIX IX

Reporting Checklist for Detailed Reports

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Comprehensive Business Valuation
—— Reporting Checklist for Detailed Reports ——

Use this document in verifying that the necessary information has been addressed in your valuation report to communicate your analysis and the results in the performance of a business valuation, thus gaining added assurance you are in compliance with the Reporting Standards promulgated by the National Association of Certified Valuators and Analysts (NACVA) in their newly released Professional Standards, and the American Institute of Certified Public Accountants (AICPA) in their recently published Statement on Standards for Valuation Services No. 1 (SSVS). Both organizations' new standards have an effective implementation date of January 1, 2008.

Disclaimers:

1) By no means is the use of this document intended to replace the User's responsibility for having read and being fully conversant with both NACVA's and the AICPA's standards. The authors of this document are fallible and it is very possible that items have been overlooked. Thereby, we disclaim any and all liability for one's use of this document should it turn out that the valuation report produced while using this Checklist is not in compliance with the aforementioned standards.

2) This comprehensive checklist is designed for use in engagement to determine a "Conclusion of Value."

3) SSVS #49 states the report should indicate restrictions on its use, which is elaborated on in SSVS #65.

4) SSVS #67 states the report should contain information on the analyst's qualifications.

5) SSVS #71 states a Summary Report is an abridged version of a Detailed Report, and lists the minimum requirements of a Summary Report.

6) SSVS #73 through SSVS #76 refer to the requirements of a Calculation Report and lists the minimum requirements for reporting.

7) Specifically not referenced, herein, as the pronouncements did not pertain to the reporting of your results are: SSVS numbers 47, 48, 50, 69, 70, 72, 77, 78, and 79.

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—— Table of Contents ——

CRITICAL ELEMENTS 1
1. Summary And Dates 1
2. Limiting Conditions and Assumptions 1
3. Purpose And Function of the Valuation 1
4. Standard of Value 1
5. Methods of Valuation 2
6. Workpapers 2
7. Report Writing 2

I. REPORT FUNDAMENTALS 3
1. Introduction and Sources of Information 3

II. QUALITATIVE FOUNDATIONS 3
2. Analysis of Subject Entity and Non-Financial Information 3
3. Economic Condition 5

III. ANALYTICAL FOUNDATIONS 5
4. Financial Statement/Information Analysis 5
5. Financial Statement/Information Analysis—Industry Comparison 6
6. Financial Statement/Information Analysis—Ratios 7
7. Financial Statement/Information Analysis—Ratios Normalizing Adjustments 7

IV. VALUATION APPROACHES AND METHODS USED 8
Methods of Valuation—Asset
8. Asset Approach 8
9. Excess Earnings Method 8
Methods of Valuation—Market Approach
10. Market Data Analysis—Public Companies 8
11. Direct Market Data Method—Mid Market 9
12. Direct Market Data Method—Transaction Databases 10
13. Industry Specific Multiples 10
Methods of Valuation—Income Approach
14. Income Approach 11
15. Capitalization of Earnings Method 11
16. Discounted Cash Flow Method 11
17. Weighted Average Cost of Capital—WACC 12
18. Build-Up Methods 12
19. Capital Asset Pricing Model—CAPM 13
20. Risk Rate Component Model—RRCM 13
21. Use of Projections 13
22. Intangible Asset Valuation 14

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—— Table of Contents ——

Continued

V. VALUATION ADJUSTMENTS 15
23. Discounts and Premiums 15

VI. REPRESENTATIONS OF THE VALUATION ANALYST 15
24. Attributes Present that apply to the Valuation Analyst 15

VII. CONCLUSION OF VALUE 16
25. Conclusion of Value 16
- Final Comments 17

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—— Critical Elements Summary ——

1. SUMMARY AND DATES:

- ❑ The effective date of the valuation (and alternative valuation date if appropriate)
- ❑ The date and type of report
- ❑ The shares/units or ownership interested to be valued
- ❑ An overview of the company
- ❑ Historical operating performance
- ❑ And a conclusion of value stated in total and per share/unit or in ownership interest as appropriate

Comments: _____

_____

The above addresses: SSVS 51, 52

2. LIMITING CONDITIONS AND ASSUMPTIONS:

- ❑ A statement of disinterestedness in the report
- ❑ A statement that the report complies with various organizations standards as applicable to the report writer
- ❑ A statement that the report is for a single purpose only and for only the stated valuation date
- ❑ A statement that the data received has been relied on with/without independent verification
- ❑ Limiting conditions (including hypothetical assumptions)
- ❑ Qualifications of the valuation analyst

Comments: _____

_____

The above addresses: SSVS 51, 52, 65

3. PURPOSE AND FUNCTION OF THE VALUATION:

- ❑ Statement as to why the company is being valued,
- ❑ Purpose and intended use of the valuation,
- ❑ Intended users of the valuation,
- ❑ The type (estate tax, gifting, ESOP, divorce, etc.) of the valuation, and
- ❑ The premises of value (going concern, liquidation, etc.)

Comments: _____

_____

The above addresses: SSVS 51, 52

4. STANDARD OF VALUE:

- ❑ A definition of the standard of value selected, along with
- ❑ The reason (e.g., the statute or buy/sell agreement or other reason which may dictate its use) this standard of value is the most appropriate to value the subject interest

Comments: _____

_____

The above addresses: SSVS 51, 52

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—— Critical Elements Summary ——

Continued

5. METHODS OF VALUATION:

- ❑ All three valuation approaches (asset, market, income) must be considered
- ❑ Methods used
- ❑ Analysis of subject entity and related non-financial information
- ❑ Financial statement analysis/Information analysis
- ❑ Valuation adjustments

Comments: _____

_____

_____

_____

The above addresses: SSVS 59, 60, 67

6. WORKPAPERS:

- ❑ The workpapers must be included (Developmental Standards)

Comments: _____

_____

7. REPORT WRITING:

- ❑ Letter of transmittal
- ❑ Table of contents
- ❑ Introduction section
- ❑ Sources of information, names of persons interviewed
- ❑ Appendices and exhibits
- ❑ Identity of client
- ❑ Restrictions or limitations
- ❑ Subsequent events
- ❑ Jurisdiction exception
- ❑ Non-operating assets, non-operating liabilities, and excess or deficient operating assets (if any)
- ❑ Representation of the valuation analyst
- ❑ Reconciliation of estimates and conclusion of value
- ❑ Industry and economic data
- ❑ Identification of financial statements used

Comments: _____

_____

_____

_____

The above addresses: SSVS 51, 52

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REPORT ELEMENTS IN DETAIL

Insert Page Ref. in Report, N/A, or ✓

SECTION I—REPORT FUNDAMENTALS

1. Introduction and Sources of Information

a. Provide all of the sources used to value the company

b. Where information is received from management, provide a list of documents received and reviewed

c. Where information is utilized from other resources, provide the proper footnote or endnotes

d. Describe who engaged you

e. Transmittal letter—who engaged valuator, purpose for valuation, per unit value

f. Is the report understandable to the reader?

g. Is there an appropriate table of contents?

h. Are there any obvious errors in the report?

i. Are there any obvious omissions in the report?

j. Does the report lead to a logical conclusion?

k. Is the report signed by the valuation analyst or persons responsible for issuing the report?

l. Is the report free of mathematical errors?

m. Is the report free of spelling errors?

n. Is the company identified?

o. Purpose and intended use of report

p. Identify subject entity

q. Provide valuation and report dates

r. Identify premise and standard of value

s. State source of financial information

t. Description of subject interest

u. Control characteristics and degree of marketability

v. Type of report issued

Comments: _____

_____

_____

_____

The above addresses: SSVS 51, 52, 53

SECTION II—QUALITATIVE FOUNDATIONS

2. Analysis of Subject Entity and Non-Financial Information

a. Number of shares/units or percentage of ownership interest to be valued

b. Discuss the voting characteristics of the shares/units being valued. If more than one class of stock/units is being valued—discuss the characteristics of all classes of stock/units.

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SECTION II—QUALITATIVE FOUNDATIONS

— Continued —

Insert Page Ref. in Report, N/A, or ✓

2. Analysis of Subject Entity and Non-Financial Information—*Continued*

c. Discuss related party transactions

d. Site visits—discuss the circumstances and observations of the site visit, including date(s) and names of persons interviewed

e. History and background of the company (provide a history of the company that includes the legal name of the company, form or organization such as C-Corp or S-Corp, the state of incorporation, who started the company, when started, type, and changes of entity type)

f. Prior sales transactions of company stock

g. Restrictions on the sale of company stock, and details on any buy/sell agreements in place. Discuss any restrictions on the transfer of the shares/units being valued.

h. Dividend payments, historical and current

i. Subsidiaries and affiliates

j. Management and staffing—discuss number of employees by function. Discuss the succession of existing management.

k. Products and services—discuss the various product and services provided by the company

l. Sales and marketing—discuss how the company generates sales and markets its products or services

m. Discuss the industry and geographical issues

n. Customer concentration—discuss the customer concentration for the years being analyzed

o. Size of the company, pricing competition, and competition—discuss how the size of the company affects value, how the company competes on pricing, who the competitors are and on what basis they compete

p. Physical facilities—discuss the adequacy and condition of the physical facilities

q. Employee benefits—discuss the various employee benefits and the related costs

r. Proprietary content and proprietary technology—discuss any proprietary content, patents or copyrights, etc.

s. Discuss favorable access to raw materials, locations, government subsidies, or experience curve

t. Discuss long-term lease arrangements (including real estate) and their impact on value

u. Product/Service differentiation—discuss how the company's products and/or services differ from its competitors

v. Relative product/service quality—discuss the quality of the products and/or services provided by the company

w. Covenant not to compete—discuss the terms of any covenant not to compete

x. Contracts—discuss how the company handles its contracts with customers

y. Family involvement—discuss the related parties working in the company, their job functions, compensation, etc.

z. Quality of books and records—discuss the internal controls that are in place and how their compliance may affect the value of the company

aa. Employee turnover—discuss the turnover and address how the turnover affects the risk associated with the company

bb. Environmental issues—discuss any known environmental issues and how they affect the value of the company

cc. Future prospects—discuss the future prospects of the company

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SECTION II—QUALITATIVE FOUNDATIONS

Insert Page Ref. in Report, N/A, or ✓

— Continued —

2. Analysis of Subject Entity and Non-Financial Information—*Continued*

dd. Summary of positive and negative company-specific factors and how they impact the risk associated with the company

Comments: _____

The above addresses: SSVS 57

3. Economic Condition

a. U.S. economy—discuss consumer spending, services, manufacturing, capital spending, real estate and construction, agriculture, natural resource industries, financial services and credit, employment and wages, etc., of the national economy and how they affect the company

b. State economy—discuss consumer spending, services, manufacturing, capital spending, real estate and construction, agriculture, natural resource industries, financial services and credit, employment and wages, etc., of the state economy and how they affect the company

c. Regional/Local economy—discuss how the company is affected by the regional or local economy

d. Summary and conclusion of economic conditions—provide a recap of how the company is affected by the national, state, and local economic conditions

Comments: _____

The above addresses: SSVS 53h

SECTION III—ANALYTICAL FOUNDATIONS

4. Financial Statement/Information Analysis

a. List the various NAICS or SIC codes for the industry and a brief description of the industry

b. Overview—provide an adequate overview of the industry, explaining the industry trends, current status, and the future prospects in the industry. Also, discuss any regulatory agency that has a voice in the industry the company operates in and how the regulations affect the company.

c. Market share—discuss the company's positioning relative to the industry and competition

d. Ease of market entry, threat of market entry, barriers to market entry—discuss the ease, barriers, and obstacles of entering the market. Provide a summary of the barriers to entry and how they affect the company.

e. Economies of scale—discuss the economies of scale including product differentiation, capital requirements, switching costs, access to distribution channels, cost disadvantages independent of scale.

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SECTION III—ANALYTICAL FOUNDATIONS

— Continued —

Insert Page Ref. in Report, N/A, or ✓

4. Financial Statement/Information Analysis—*Continued*

f. Threat of new entrants—discuss the bargaining power of suppliers, the bargaining power of customers, the threat of substitute products, and the rivalry between incumbents. Provide a summary of how the threats of new entrants affect the value of the company.

g. Financial information provided—discuss how the financial information was prepared, audited, reviewed, compiled, internally prepared, tax returns, who prepared the financial information, etc.

h. Results of operations and comparison to the industry—provide a summary description of the financial performance of the company over the years of the analysis.

i. Balance sheet review—provide the company's historical balance sheets in the report or as exhibits with adequate detail to review for possible normalizing entries. Provide adequate support for all balance sheet adjustments.

j. Income statement review—provide the company's income statements in the report or as exhibits with adequate detail to review for possible normalizing entries.

k. Statement of cash flows—provide the company's historical statement of cash flows in the report or as exhibits with adequate detail to review for possible normalizing entries.

l. Years analyzed—provide a discussion of the years used for the valuation analysis. Justify why the beginning years were used and why the number of years of analysis was selected.

m. Inventory—discuss the method of costing the inventory, FIFO, LIFO, etc., and provide analysis and calculations for LIFO adjustment if LIFO is used.

Comments: _____

The above addresses: SSVS 54, 55, 56, 58b, 58c

5. Financial Statement/Information Analysis—Industry Comparison

a. Comparative ratio analysis—provides the company's comparative ratio analysis in the report or as exhibits with adequate detail.

b. Liquidity ratios—provide a discussion and trend comparison of the liquidity ratios. At a mini-mum, discuss the current ratio, the quick ratio, and the working capital turnover.

c. Turnover ratios—provide a discussion and trend comparison of the turnover ratios. At a mini-mum, discuss the accounts receivable turnover, inventory turnover ratio, accounts payable turnover, and the operating cycle.

d. Leverage ratios—provide a discussion and trend comparison of the leverage ratios. At a mini-mum, discuss the net fixed assets to tangible net worth, the total liabilities to tangible net worth, the current liabilities to tangible net worth, the total assets to equity, the total debt to total assets, and the long-term debt to equity.

e. Solvency ratios—provide a discussion and trend comparison of the solvency ratios. At a mini-mum, discuss the interest coverage ratio.

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SECTION III—ANALYTICAL FOUNDATIONS

— Continued —

Insert Page Ref. in Report, N/A, or ✓

5. Financial Statement/Information Analysis—Industry Comparison—*Continued*

f. Income statement review—provide a discussion and trend comparison of the turnover ratios. At a minimum, discuss the revenues and net operating profit; provide a discussion and comparison of the revenues and operating profit ratios. At a minimum, discuss the sales growth rate, the gross profit, the operating profit, the net income before tax, return on equity, the return on assets, the net sales to net worth, the operating earnings growth rate, the earnings standard deviation, and the z-score.

g. Peer comparison. Have the financial statements been put on a comparable basis between the Company and the industry data? Was the proper year of industry data used for the industry comparison? Were the selected industry ratios the most appropriate for the comparison?

Comments: _____

The above addresses: SSVS 58c

6. Financial Statement/Information Analysis—Ratios

a. Summary of Financial and Industry Comparison Analysis—discuss how the ratios listed above affect the value of the company.

Comments: _____

The above addresses: SSVS 58c

7. Financial Statement/Information Analysis—Ratios—Normalizing Adjustments

a. Have the historical earnings been adequately normalized? Normalizing entries, have all balance sheet and income statement items been properly adjusted to reflect the standard of value and the company's earnings capacity?

b. Are the normalizing entries reasonable relative to the level of value? (Control vs. lack of control interest)

c. Leasehold interest—discuss the leasehold arrangements and the net present value of any favor-able leases.

d. Officers compensation—discuss and justify adjustment to officer's compensation. Show calculations for tax affecting (payroll) the officer's compensation adjustment.

e. Depreciation—discuss how the future depreciation expense was calculated. Discussion should include section 179, economic useful life of existing assets and projected capital expenditures.

f. Were non-operating or excess assets identified and adjustments made when appropriate?

Comments: _____

The above addresses: SSVS 63, 64

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SECTION IV—VALUATION APPROACHES AND METHODS USED

Insert Page Ref. in Report, N/A, or ✓

METHODS OF VALUATION—ASSET

_____ **8. Asset Approach**

_____ a. Are all of the tangible assets and liabilities adjusted that should be adjusted?

_____ b. Are intangible assets properly adjusted?

_____ c. Are there any off balance sheet items not recorded on the balance sheets?

_____ d. Is there adequate support for any built-in capital gains tax?

_____ e. If approach is not used, did valuation report address why?

_____ f. Rationale and support for valuation methods used

Comments: _____

_____

_____

The above addresses: SSVS 61b

_____ **9. Excess Earnings Method**

_____ a. Is the earnings capacity supportable? Discuss and provide calculations for ongoing earnings capacity. Specifically discuss the use of the un-weighted average method, the weighted average method, the trend line–static method, the trend line–projected method and the projected growth rate in earnings. Explain each method and discuss how the ongoing earnings capacity was selected.

_____ b. Have the net tangible assets been properly determined?

_____ c. Have non-operating assets and/or liabilities been excluded? Was the income/expense from the non-operating assets removed from the company's adjusted earnings?

_____ d. Is the rate of return on net tangible assets adequately discussed and supported?

_____ e. Is the rate of return on intangible assets adequately discussed and supported?

_____ f. Is there some type of sanity check performed for reasonableness of the method used?

_____ g. Have any non-operating assets been added back and/or non-operating liabilities reduced from total value?

Comments: _____

_____

_____

The above addresses: SSVS 59

METHODS OF VALUATION—MARKET APPROACH

_____ **10. Market Data Analysis—Public Companies**

_____ a. Does the analyst document a reasonable attempt to search for public companies—describing search criteria, number of companies identified, and specific reasons these companies were not considered?

_____ b. Is the population from which the comparable companies selected adequately disclosed?

_____ c. Is it clear that all qualified companies from the population have been considered?

_____ d. Are the public company transactions close enough to the valuation date to be relevant? If the public companies data is somewhat removed from the valuation date: discuss the reason for its use.

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SECTION IV—VALUATION APPROACHES AND METHODS USED

— Continued —

Insert Page Ref. in Report, N/A, or ✓

METHODS OF VALUATION—MARKET APPROACH—*Continued*

10. Market Data Analysis—Public Companies—*Continued*

e. Specify the sources of the earnings growth rates for the public companies.

f. Are the criteria for selection of public companies adequately discussed? Indicate how the public company transactions were selected for comparability. Specifically address the size, sales, employees, management and business form, geographic location, growth, one year sales growth percentage, three year sales growth percentage, current ratio, quick ratio, average collection period, profitability, return on total assets, return on equity, gross profit, operating profit, net profit, EBITDA percentage, accounts receivable turnover, inventory turnover, fixed asset turn-over, total asset turnover, working capital turnover, total debt to total assets, long-term debt to equity. Provide all sources of information used.

g. Does the report clearly discuss which market multiples were used and why they are or are not appropriate? Are the market prices for the public companies appropriate as of the valuation date?

h. If adjustments were made to the public companies, were they adequately disclosed and discussed?

Comments: _____

The above addresses: SSVS 60, 61c

11. Direct Market Data Method—Mid Market

a. Is the population from which the comparable companies selected adequately disclosed?

b. Is it clear that all qualified companies from the population have been considered?

c. Are the criteria for selection of mid-market companies adequately discussed? Indicate how the mid-market company transactions were selected for comparability. Specifically address the size, sale, employees, management and business form, geographic location, growth, one-year sales growth percentage, three-year sales growth percentage, current ratio, quick ratio, average collection period, profitability, return on total assets, return on equity, gross profit, operating profit, net profit, EBITDA percentage, accounts receivable turnover, inventory turnover, fixed asset turnover, total asset turnover, working capital turnover, total debt to total assets, long-term debt to equity. Provide all sources of information used.

d. Does the report clearly discuss which market multiples were used and why they are or are not appropriate?

e. Are the market prices for the public companies appropriate as of the valuation date?

f. Are the public company transactions close enough to the valuation date to be relevant?

g. If the public companies data is somewhat removed from the valuation date: discuss the reason for its use.

Comments: _____

The above addresses: SSVS 61c

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SECTION IV—VALUATION APPROACHES AND METHODS USED

— Continued —

Insert Page Ref. in Report, N/A, or ✓

METHODS OF VALUATION—MARKET APPROACH—*Continued*

12. Direct Market Data Method—Transaction Databases (BIZCOMPS®, IBA, Pratt's Stats™, etc.)

a. Are the criteria for selection of transactions adequately discussed?

b. Is the population from which the transactions selected adequately disclosed?

c. Is it clear that all qualified companies from the population have been considered?

d. Does the report clearly discuss which market multiples were used and why they are or are not appropriate?

e. Are the transactions appropriate as of the valuation date?

f. Are the transactions close enough to the valuation date to be relevant?

g. If the transaction data is somewhat removed from the valuation date: discuss the reason for its use.

h. Is there an adequate discussion of what type of assets are included in a typical sale, what a typical sale is, how to rank the transactions, and dealing with outliers? (Provide appropriate footnotes)

i. Is there an adequate discussion of when and how to use the mean multiple?

j. Is there adequate analysis of the sales price to earnings and the sales price to gross sales ratios?

k. Is there an adequate explanation as to why a multiple was or was not selected?

l. Is there a discussion of when to use or not use premium or discounts when using the direct market data method?

Comments: _____

The above addresses: SSVS 61c

13. Industry-Specific Multiples

a. Does the report clearly discuss the criteria for selection, which industry-specific multiples were used, and why they are or are not appropriate?

b. Are the transactions appropriate as of the valuation date? If the transaction data is somewhat removed from the valuation date: discuss the reason for its use.

c. Is there an adequate discussion of which multiple was used and why it was used?

d. Is there a discussion of when to use or not use premium or discounts when using the industry-specific multiples

Comments: _____

The above addresses: SSVS 61c

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SECTION IV—VALUATION APPROACHES AND METHODS USED

— Continued —

Insert Page Ref. in Report, N/A, or ✓

METHODS OF VALUATION—INCOME APPROACH

14. Income Approach

a. Is the type of income clearly defined? (Net income, operating income, net cash flow to equity, net cash flow to invested capital, etc.)

b. Is there adequate support for determining the earnings capacity of the company?

c. Is the discount rate adequately supported?

d. Discuss and provide calculations for ongoing earnings capacity. Specifically, discuss the use of the un-weighted average method, the weighted average method, the trend line—static method, the trend line—projected method and the projected growth rate in earnings. Explain each method and discuss how the ongoing earnings capacity was selected.

e. Is there an adequate discussion of the principles of cost of capital components?

f. Is the selection of a safe rate explained and justified?

g. Is there an adequate discussion of the relationship of discount rate to capitalization rate?

h. If approach was not used, does the report address reasons why?

Comments: _____

_____

The above addresses: SSVS 60, 61a

15. Capitalization of Earnings Method

a. Is the capitalization rate reasonable for the company?

b. Is the earnings capacity reasonable for the company?

c. Is the final value reasonable for the company?

d. Were the non-operating assets included in the final value?

e. Was the income/expense from the non-operating assets removed from the company's adjusted earnings?

Comments: _____

_____

The above addresses: SSVS 61a

16. Discounted Cash Flow Method

a. Does the report adequately address the "type" of cash flow used and why?

b. Is there adequate disclosure of who made the cash flow projections? (Who made them, when, what for, what adjustments were made to the projections, etc.)

c. Is there adequate analysis and discussion of the projected depreciation expense?

d. Depreciation—discuss how the future depreciation expense was calculated. Discussion should include section 179, economic useful life of existing assets and estimated capital expenditures.

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SECTION IV—VALUATION APPROACHES AND METHODS USED

— Continued —

Insert Page Ref. in Report, N/A, or ✓

METHODS OF VALUATION—INCOME APPROACH—*Continued*

16. Discounted Cash Flow Method—*Continued*

e. Is there adequate analysis and discussion of the projected capital expenditures, changes in working capital, projected minimum cash balances, and projected changes in long-term debt?

f. Has the report properly addressed the impact of non-operating assets and liabilities in the cash flow projections and the impact on the final value?

g. Was the income/expense from the non-operating assets removed from the company's adjusted earnings?

Comments: _____

The above addresses: SSVS 61a

17. Weighted Average Cost of Capital (WACC)

a. Is there adequate discussion of the WACC and when it is used?

b. Is there adequate disclosure of the sources of equity and debt? (Cite publications, online, etc.)

c. Is there adequate support for weighting the debt and equity? Is the basis for the weighting discussed?

d. Is there an adequate discussion of the iterative process?

Comments: _____

The above addresses: SSVS 61a

18. Build-Up Methods

a. Is the risk free rate of return effective as of the valuation date?

b. Is the common stock equity risk premium as of the year of the valuation?

c. Is the small capitalization equity risk premium as of the year of the valuation?

d. If the industry risk premium was used, did the report adequately identify the source?

e. Was the proper size premium used?

f. Describe in detail how the company specific risk was determined.

g. Is there an adequate discussion of the expected long-term earnings growth rate and the justification for the long-term growth rate selected?

Comments: _____

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SECTION IV—VALUATION APPROACHES AND METHODS USED

— Continued —

Insert Page Ref. in Report, N/A, or ✓

METHODS OF VALUATION—INCOME APPROACH—*Continued*

19. Capital Asset Pricing Model—CAPM

a. Is the risk free rate of return effective as of the valuation date? Are the other components of the rate effective either as of the valuation date or the year of the valuation date?

b. Is the equity risk premium adequate?

c. Is the size premium adequate?

d. Is there adequate support for the beta?

e. Is there a discussion as to the assumptions of the Capital Asset Pricing Model?

f. Is the discount/capitalization rate appropriate for the valuation?

Comments: _____

The above addresses: SSVS 61a

20. Risk Rate Component Model—RRCM

a. Does the report demonstrate an understanding of how to use the Risk Rate Component Model?

Comments: _____

The above addresses: SSVS 61a

21. Use of Projections

a. Income Statements

i. Are the projected income statements presented with adequate detail? (Nominal, common sized, trends)

ii. Are the projected income statements presented in a form comparable to the historical financial statements?

iii. Are the assumptions for the projected income statements adequately disclosed and are they reasonable?

b. Balance Sheet

i. Are the projected balance sheets presented with adequate detail? (Nominal, common sized, trends)

ii. Are the projected balance sheets presented in a form comparable to the historical financial statements?

iii. Are the assumptions for the projected balance sheets adequately disclosed and are they reasonable?

c. Statement of Cash Flows

i. Are the projected statement of cash flows presented with adequate detail? (Nominal, common sized, trends)

ii. Are the projected statement of cash flows presented in a form comparable to the historical financial statements?

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SECTION IV—VALUATION APPROACHES AND METHODS USED

— Continued —

Insert Page Ref. in Report, N/A, or ✓

METHODS OF VALUATION—INCOME APPROACH—*Continued*

21. Use of Projections—*Continued*

iii. Are the assumptions for the projected statement of cash flows adequately disclosed and are they reasonable?

d. Ratios

i. Are the projected ratios presented with adequate detail? (Nominal, common sized, trends)

ii. Are the projected ratios presented in a form comparable to the historical financial statements?

iii. Are the assumptions for the projected ratios adequately disclosed and are they reasonable?

Comments: _____

The above addresses: SSVS 61a

22. Intangible Asset Valuation

Were the following considered and explained in the valuation?

a. Remaining useful life
b. Current and anticipated future use of the intangible asset
c. Rights attributable to the intangible asset
d. Position of intangible asset in its life cycle
e. Appropriate discount rate for the intangible asset
f. Appropriate capital or contributory asset charge, if any
g. Research and development or marketing expense needed to support the intangible asset in its existing state
h. Allocation of income (for example, incremental income, residual income, or profit split income) to intangible asset
i. Whether any tax amortization benefit would be included in the analysis
j. Discounted multi-year excess earnings
k. Market royalties
l. Relief from royalty

Comments: _____

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SECTION V—VALUATION ADJUSTMENTS

23. Discounts and Premiums

a. Discuss the adequacy of including a control premium to the final value.

b. Discuss the adequacy of including a minority interest discount to the final value.

c. Discuss the adequacy of including a marketability discount to the final value. Demonstrate an understanding and the ability to apply the following marketability studies. (Institutional Investors study, Public Offering studies, Security Exchange Commission study, the Gelman study, Trout study, the Moroney study, the Maher study, Standard Research Consultants, Pittock/Stryker) study, Silber study, FMV Opinions, Inc. (Hall/Polleck) study, IPO studies, Emory study.)

d. If a model was used to support a marketability discount, has the report demonstrated adequate understanding and use of that model?

e. Summarize the various marketability discount studies.

f. Discuss the adequacy of including other premiums and/or discounts (e.g., key man, stock restrictions, one-time loss, built-in gains, etc.) to the final value if appropriate.

g. Discuss the application of all discounts or premiums as applied to both a control and minority shareholder.

h. Is there adequate support for the premiums and or discounts applied?

i. Discuss the degree of control or lack of control characteristics.

j. Discuss and provide rationale and calculations for control premium or lack of control discounts.

k. Has the report adequately addressed the impact and applicability of court decisions in arriving at the final discount or premium?

Comments: _____

The above addresses: SSVS 58

SECTION VI—REPRESENTATIONS OF THE VALUATION ANALYST

24. Are the Following Attributes Present? (Check those that apply)

a. The analyses, opinions, and conclusion of value included in the valuation report are subject to the specified assumptions and limiting conditions, and they are the personal analyses, opinions, and conclusion of value of the valuation analyst.

b. The economic and industry data included in the valuation report have been obtained from various printed or electronic reference sources that the valuation analyst believes to be reliable (any exceptions should be noted). The valuation analyst has not performed any corroborating procedures to substantiate that data.

c. The valuation engagement was performed in accordance with NACVA's Professional Standards and if applicable, the American Institute of Certified Public Accountants Statement on Standards for Valuation Services No. 1 (SSVS).

d. The parties for which the information and use of the valuation report is restricted are identified; the valuation report is not intended to be and should not be used by anyone other than such parties.

e. The analyst's compensation is fee-based or is contingent on the outcome of the valuation.

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SECTION VI—REPRESENTATIONS OF THE VALUATION ANALYST

Insert Page Ref. in Report, N/A, or ✓

— Continued —

24. Are the Following Attributes Present? (Check those that apply)*—Continued*

f. The valuation analyst used the work of one or more outside specialists to assist during the valuation engagement. (An outside specialist is a specialist other than those employed in the valuation analyst's firm.) If the work of such a specialist was used, the specialist should be identified. The valuation report should include a statement identifying the level of responsibility, if any, the valuation analyst is assuming for the specialist's work.

g. The valuation analyst has no obligation to update the report or the conclusion of value for information that comes to his or her attention after the date of the report.

h. The valuation analyst and the person(s) assuming responsibility for the valuation should sign the representation in their own name(s). The names of those providing significant professional assistance should be identified.

i. Disclose any conflicts of interest.

j. Disclose any hypothetical conditions.

k. Disclose if did the audit, review or compilation, or prepare the tax returns, or that we assume no responsibility.

Comments: _____

_____

_____

The above addresses: SSVS 54, 55, 56, 64, 65, 66

SECTION VII—CONCLUSION OF VALUE

25. Conclusion of Value

a. Is there an adequate synthesis and reconciliation of the values?

b. If necessary, does the report address mathematical versus subjective weighting?

c. Is there replicability of all calculations in the report?

d. Is there an adequate justification of the methods of valuation selected?

e. Is the final determination of value consistent with the analysis performed?

The following information should be included:

a. A valuation engagement was performed, including the subject interest and the valuation date.

b. The analysis was performed solely for the purpose described in this report, and the resulting conclusion of value should not be used for any other purpose.

c. The valuation engagement was conducted in accordance with NACVA's Professional Standards, and if applicable, the American Institute of Certified Public Accountants Statement on Standards for Valuation Services No. 1 (SSVS).

d. A statement that the determination of value resulting from a valuation engagement is expressed as a conclusion of value.

e. The scope of work or data available for analysis is explained, including any restrictions or limitations (paragraph 19).

f. A statement describing the conclusion of value, either a single amount or a range.

g. The conclusion of value is subject to the assumptions and limiting conditions (paragraph 18) and to the valuation analysts' representation (paragraph 65).

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SECTION VII—CONCLUSION OF VALUE

Insert Page Ref. in Report, N/A, or ✓

— Continued —

26. Conclusion of Value—*Continued*

h. The report is signed in the name of the valuation analyst or the valuation analyst's firm.

i. The date of the valuation report is included.

j. The valuation analyst has no obligation to update the report or the conclusion of value for information that comes to his or her attention after the date of the report.

Comments: _____

The above addresses: SSVS 62, 68

Final Comments that refer to any additional details in your valuation report: _____

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PARTICIPANT NOTES

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APPENDIX X

Duff & Phelps, LLC
Risk Premium Report 2005

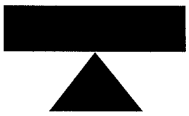
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IbbotsonAssociates

Duff & Phelps, LLC Risk Premium Report 2005

(Formerly the Standard & Poor's Corporate Value Consulting Risk Premium Report 2005)



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Risk Premium Report 2005

Roger Grabowski and David King

Biography

Mr. Grabowski, ASA, is a Managing Director in the Duff & Phelps valuation practice and formerly with Standard & Poor's Corporate Value Consulting. Mr. King, CFA, is National Technical Director of Valuation Services at Mesirow Financial Consulting. We want to thank Sean Connor for his assistance in assembling the exhibits presented herein and Chad Johnson with editing and quality control.

Exhibits

This report discusses market data presented in several accompanying tables. These tables (along with this report) are available for purchase at www.ibbotson.com. The following is a complete list of these tables.

Two sets of tables with data updated through December 31, 2004 accompany the discussion in Part I of this report. These are:

Exhibits A-1 through A-8 Equity risk premiums vs. company size (eight measures of size)

Exhibits A-1 and A-2 are included in this excerpt; the entire *Risk Premium Report 2005* is available at www.ibbotson.com

Exhibits B-1 through B-8 Premiums over CAPM vs. company size (eight measures of size)

Exhibits B-1 and B-2 are included in this excerpt; the entire *Risk Premium Report 2005* is available at www.ibbotson.com

Two sets of tables with data updated through December 31, 2004 accompany the discussion in Part II of this report. These are:

Exhibits C-1 through C-8 Relation between size and company risk (eight measures of size)

Exhibits C-1 and C-2 are included in this excerpt; the entire *Risk Premium Report 2005* is available at www.ibbotson.com

Exhibits D-1 through D-3 Equity risk premiums vs. company risk (three measures of risk)

Exhibit D-1 is included in this excerpt; the entire *Risk Premium Report 2005* is available at www.ibbotson.com

Also, we have prepared two sets of tables that summarize the data presented in the above exhibits. These summary tables are not otherwise referenced in this report:

"Premiums over Long-Term Riskless Rate" (3-page summary of exhibits A-1 through A-8 and D-1 through D-3)

"Premiums over CAPM" (2-page summary of exhibits B-1 through B-8)

These Exhibits are available in the *Risk Premium Report 2005* at www.ibbotson.com

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Introduction

We have previously presented historical equity risk premiums for 25 size-ranked portfolios using eight alternate measures of company "size".[1] Part I of this report describes the latest revision of our study (most recently known as the Standard & Poor's Corporate Value Consulting *Risk Premium Report*) that now includes historical data updated through the end of 2004. As with our earlier research, this study made use of the database of the Center for Research in Security Prices ("CRSP") at the Graduate School of Business at the University of Chicago together with Standard & Poor's Compustat database.

Part II of this report presents an update of data that appeared in another article.[2] Part II presents data quantifying the relationship between rates of return, company size, and fundamental measures of company risk.

Part I: Historical Equity Risk Premiums and Company Size

We sort companies by size, breaking the New York Stock Exchange ("NYSE") universe into 25 size-ranked portfolios and adding American Stock Exchange ("AMEX") and National Association of Securities Dealers Automated Quotations ("NASDAQ") listed companies. These portfolios are limited to companies with a track record of profitable performance (we create a separate "high financial risk" portfolio composed of companies that are losing money, have high leverage, or are in bankruptcy). We use eight alternate measures of company "size", including fundamental financial characteristics such as sales and book value. The data shows a clear inverse relationship between size and historical rates of return.

A number of considerations have motivated us to pursue lines of research into historical equity returns using a) alternative measures of company size; b) methods of filtering the data to remove the effects of high financial risk; and c) elimination of companies without a proven record of performance.

What is Size?

Traditionally, researchers have used market value of equity as a measure of "size" in conducting historical rate of return research. For instance, this is the basis of the "small stock" return series published by Ibbotson Associates. But there are various reasons for seeking alternative measures of size.

First, it has been pointed out in the financial literature that researchers may unwittingly introduce a bias when ranking companies by "market value."[3] Market value is not just a function of "size"; it is also a function of the discount rate. Therefore, some companies will not be risky (high discount rate) because they are small, but instead will be "small" (low market value) because they are risky. Choosing a measure of size other than market value will help isolate the effects that are purely due to small size in the historical record.

---

[1] "New Evidence on Size Effects and Equity Returns", *Business Valuation Review*, September 1996 (covering the period 1963-1994); "Size Effects and Equity Returns: An Update", *Business Valuation Review*, March 1997. Both articles are available at www.appraisers.org, go to "Business Valuation".
[2] "New Evidence on Equity Returns and Company Risk", *Business Valuation Review*, September 1999 (revised March 2000). Both articles are available at www.appraisers.org.
[3] "A Critique of Size Related Anomalies," Jonathan Berk, *Review of Financial Studies*, vol. 8, no. 2 (1995).

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Also, the market value of equity is an imperfect measure of the size of a company's operations. Companies with large sales or operating income may have a small market value of equity if they are highly leveraged.

The use of fundamental accounting measures (such as assets or net income) may have the practical applied benefit of removing the need to make a "guesstimate" of size for comparative purposes. For example, such data might eliminate certain circularities that may arise in applying size-based adjustments to a discount rate for determining the market value of a privately held business.

Description of the Data

This study made use of the database of the Center for Research in Security Prices ("CRSP") at the University of Chicago, together with Standard & Poor's Compustat database. The population of companies considered in our study was taken from the intersection of the CRSP universe and the Compustat universe (that is to say, our study is limited to firms that are covered by both databases). We excluded American Depository Receipts (ADRs) and non-operating holding companies from the data set. We also exclude financial service companies (SIC code = 6). Some of the financial data used in our study are difficult to apply to many companies in the financial sector (e.g. "sales" at a commercial bank), and financial institutions support a much higher ratio of debt to equity than is normal in other industries. Also, companies in the financial services sector were poorly represented during the early years of the Compustat database.

The Compustat database was established in 1963 and in this study we calculated historical returns for the period 1963 through 2004. Compustat data is available for some companies going back into the 1950s, but this earlier data only consists of back histories for companies that were added to Compustat in 1963 or later. We exclude the pre-1963 data in order to avoid the obvious "selection bias" that would otherwise result.

For each year covered in our study, we considered only financial data for the fiscal year ending no later than September of the previous year. For example, in allocating a company to a portfolio to calculate returns for calendar year 1995, we consider financial data through the latest fiscal year ending September 1994 or earlier (depending on when the company's fiscal year ended).

For each year since 1963, we filtered the universe of companies to exclude the following:

- Companies lacking 5 years of publicly traded price history;
- Companies with sales below $1 million in any of the previous five fiscal years;
- Companies with a negative 5-year-average EBITDA (earnings before interest, taxes, depreciation and amortization).

Companies that pass this test have been traded for several years, have been selling at least a minimal quantity of product, and have been able to achieve some degree of positive cash flow from operations. This screening was a response to the argument that the "small cap" universe may consist of a disproportionate number of high-tech companies, start-up companies, and recent Initial Public Offerings, and that these unseasoned companies may be inherently riskier than companies with a track record of viable performance. The number of companies eliminated by these criteria varies from year to year over the sample period.

Once we eliminated the companies described above, we created a separate portfolio for companies with any one of the following characteristics:

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- Companies identified by Compustat as in bankruptcy or in liquidation;
- Companies with 5-year-average net income available to common less than zero (either in absolute terms or as a percentage of the book value of common equity);
- Companies with 5-year-average operating income (defined as sales minus (cost of goods sold plus selling, general and administrative expenses plus depreciation)) less than zero (either in absolute terms or as a percentage of net sales);
- Companies with negative book value of equity at any of the previous five fiscal year-ends;
- Companies with debt-to-total capital of more than 80% (with debt measured in book value terms and total capital measured as book value of debt plus market value of equity).

These companies were excluded from our base set and placed in a separate portfolio which we refer to as the "high financial risk" portfolio. We sought in this manner to isolate the effects of high financial risk. Otherwise, the results might be biased for smaller companies to the extent that highly leveraged and financially distressed companies tend to have both high returns and low market values. It is possible to imagine financially distressed (or highly risky) companies that lack any of the above characteristics. It is also easy to imagine companies which have one of these characteristics but which would not be considered financially distressed. Nevertheless, we are confident that the resulting "high financial risk" portfolio is composed largely of companies whose financial condition is significantly inferior to the average public company.

The number of companies classified as "high financial risk" varied over the sample period. These companies represented approximately 25% of the data set in recent years, but less than 5% in 1963. Certain technical changes in methodology have resulted in a greater number of companies falling into the "high financial risk" portfolio than in versions of this study published prior to 2000.

The exclusion of companies based on historical financial performance does not imply any unusual foresight on the part of hypothetical investors in these portfolios. In forming portfolios to calculate returns for a given year, we exclude companies on the basis of performance during previous years (e.g., average net income for the five prior fiscal years), rather than current or future years. For instance, to form portfolios for 1963, we take into account the average net income for the five fiscal years preceding September 1962. We repeat this procedure for each year from 1963 through the latest available year.

Altogether, we have either excluded or segregated certain types of companies on the basis of past financial performance or trading history. We adopted this approach in response to arguments that the inclusion of such companies might introduce a bias in favor of the size effect to the extent that such companies tend to have low market values. A critic unfamiliar with this history might question whether we are introducing a bias by excluding such companies. We have run alternate analyses in which no company is excluded or segregated on the basis of past history (that is, using all available non-financial companies) and the results are similar to those reported herein.

Ranking Companies by Size

For the companies remaining in our base set, we formed portfolios of securities based upon relative size. Results for eight alternate measures of "size" are reported in the accompanying exhibits.

For each year, we formed portfolios by sorting all of the companies in the base set that traded on the NYSE. The size cutoffs (or "breakpoints") were chosen so as to divide the NYSE companies evenly into 25 groups. Once the breakpoints were chosen companies from the AMEX (available after 1962) and companies quoted on the

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NASDAQ National Market System (available after 1972) were added to these portfolios. Since NASDAQ and AMEX companies are generally small relative to NYSE companies, their addition to the data set produces portfolios that are more heavily populated at the "small cap" end of the spectrum.[4]

The portfolios were rebalanced annually: that is, the companies were re-ranked and sorted at the beginning of each year. Portfolio rates of return were calculated using an equal-weighted average of the companies in the portfolio.

Correcting for "Delisting Bias"

An article by Tyler Shumway provided evidence that the CRSP database omits delisting returns for a large number of companies.[5] These returns are missing for the month in which a company is delisted from an exchange. Shumway collected data for a large number of companies that had been delisted for performance reasons (such as bankruptcy or insufficient capital). He found that investors incurred an average loss of about 30% after delisting. He further showed that delisting for non-performance reasons (such as mergers or changes of exchange) tended to have a neutral impact in the month that the delisting occurred.

We have incorporated the Shumway evidence into our rate of return calculations. In calculating rates of return, we have imputed a 30% loss in the month of delisting in all cases in which CRSP identified the reason for delisting as performance related, and also in all cases in which the reason for delisting was unknown.[6]

Measurement of the Historical Equity Risk Premium

The accompanying exhibits report average historical equity risk premiums for the period 1963 (the year that the Compustat database was inaugurated) through 2004. A longer-run average historical equity risk premium is often used as an indicator of the expected equity risk premium of a typical investor. Our measure of returns is based on dividend income and capital appreciation and represents returns after corporate taxes.

To estimate historical equity risk premiums, we first calculated an average rate of return for each portfolio over our sample period. Then, we subtracted the average income return earned on long-term Treasury bonds over the same period (using Ibbotson Associates' Stocks, Bonds, Bills and Inflation, or "SBBI," data) to arrive at an average historical equity risk premium.

---

[4] Some readers may wonder why we use NYSE breakpoints rather than ranking the entire NYSE/AMEX/NASDAQ universe. The consistent use of NYSE breakpoints avoids an apples-to-oranges mixing of pre-1972 (pre-NASDAQ) ranking criteria with post-1972 ranking criteria. Otherwise, for example, one would end up lumping "average" NASDAQ companies (in recent years) into the portfolios that contain much larger "average" NYSE companies (in earlier years) when calculating average returns for the mid-sized portfolios over the full sample period. The only logical alternatives are either to adopt our approach or to exclude NASDAQ companies altogether.

[5] "The Delisting Bias in CRSP data", Tyler Shumway, *Journal of Finance*, March 1997.

[6] This approach is consistent with updates that we have published since 1998. More recent evidence suggests that the average "delisting" loss is less than Shumway's original estimate. See "CRSP Delisting Returns", April 2001, white paper prepared by the Center for Research in Security Prices at http://gsbwww.uchicago.edu/research/crsp/news/downloads.

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Presentation of the Results

In the accompanying exhibits we present summary data for companies ranked by various measures of size. The exhibits are as follows:

Measures of Equity Size
Exhibit A-1: *Market value of common equity* (common stock price times number of common shares outstanding).

Exhibit A-2: *Book value of common equity* (does not add back the deferred tax balance).

Exhibit A-3: *5-year average net income* (net income before extraordinary items).

Measures of Company Size
Exhibit A-4: *Market value of invested capital* (market value of common equity plus carrying value of preferred stock, long-term debt (including current portion) and notes payable)("MVIC").

Exhibit A-5: *Total Assets* (as reported on the balance sheet).

Exhibit A-6: *5-year average EBITDA* (operating income before depreciation plus non-operating income).

Exhibit A-7: *Sales* (net).

Exhibit A-8: *Number of employees* (number of employees, either at year-end or yearly average, including part-time and seasonal workers and employees of consolidated subsidiaries; excludes contract workers and unconsolidated subsidiaries).

The exhibits include the following statistics:

- Average of the sorting criteria (e.g., average number of employees) for the latest year
- The number of companies in each portfolio in the latest year
- Beta calculated using the "sum beta" method applied to monthly returns for 1963 through the latest year (see Ibbotson Associates' SBBI Valuation Edition 2005 Yearbook pp. 115-121 for a description of the "sum beta" method)
- Standard deviation of annual historical equity returns
- Geometric average historical equity return since 1963
- Arithmetic average historical equity return since 1963
- Arithmetic average historical equity risk premium over long-term Treasuries since 1963
- "Smoothed" average historical equity risk premium: the fitted premium from a regression with the average historical equity risk premium as dependent variable and the logarithm of the average sorting criteria as independent variable. (We present the coefficients and other statistics from this regression analysis in the top right hand corner of the exhibits.)
- Average carry value of preferred stock plus long-term debt (including current portion) plus notes payable ("Debt") as a percent of MVIC since 1963

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Each of exhibits A-1 through A-8 shows one line of data for each of the 25 size-ranked portfolios, plus a separate line for the "high financial risk" portfolio. In each case, the "high financial risk" statistics are drawn only from companies for which the ranking criterion (e.g., sales, number of employees, etc.) is available. This gives rise to slight variations among the exhibits for the statistics for this portfolio (not all Compustat data items are available for all companies in all years). Exhibit A-1 presents the most complete set of data for this category of companies.

For comparative purposes, we also report average returns from Ibbotson Associates' SBBI series for Large Companies, Small Companies, and Long-Term Government Bond Income Returns for the period 1963 through the latest year.

Some Observations on the Data

By whatever measure of size we use, the result is a clear inverse relationship between size and historical equity returns. However, when one sorts by a size measure other than market value, the relationship is slightly flattened (compare exhibits A-1 and A-4, which use market value, with the other exhibits). The average historical equity risk premiums for the smallest companies are generally lower when one sorts by criteria other than market value.

The historical average Debt to MVIC ratio is approximately 30% for most size categories, regardless of the sorting criteria. This suggests that differences in leverage do not explain the small company effect in our sample. The leverage in the "high financial risk" portfolio is significantly higher than that of any of the other portfolios.

Premiums over CAPM

In the context of the Capital Asset Pricing Model ("CAPM"), the greater betas of the smaller companies explain some but not all of the higher average returns in these size-ranked portfolios. This can be verified by calculating a "Return in Excess of CAPM" using a methodology similar to that used in Ibbotson Associates' SBBI 2005 Yearbook (pp. 139-140 in the Classic Edition, pp. 134-143 in the Valuation Edition). An example of this calculation will illustrate the method. The following example uses data for Portfolio 19 of companies ranked by Book Value of Equity from exhibit A-2:

A. Portfolio beta = 1.19
B. Average historical market risk premium = 4.90%
   (historical large stock equity risk premium)
C. Indicated CAPM premium (A X B) =5.83%
D. Arithmetic average long-term Treasury
   income return = 7.28%
E. Indicated CAPM return (C + D) = 13.11%
F. Arithmetic average historical equity return = 17.01%
G. Return in excess of CAPM (F - E) = 3.9%

This compares to a premium over the overall market of 4.83% (F minus D minus B). In our exhibits we report betas calculated using the "sum beta" method applied to monthly portfolio return data. This method yields higher betas for smaller companies than would be obtained using ordinary least squares.

Exhibits B-1 through B-8 report calculations of premiums over CAPM for each portfolio for each of our eight measures of size. The exhibits report the following statistics:

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- Average of the sorting criteria (e.g., average number of employees) for the latest year
- Beta calculated using the "sum beta" method applied to monthly returns for 1963 through the latest year (see Ibbotson Associates' SBBI Valuation Edition 2005 Yearbook, pp. 115-121, for a description of the "sum beta" method)
- Arithmetic average historical equity return since 1963
- Arithmetic average historical equity risk premium over long-term Treasuries since 1963
- Indicated CAPM premium, calculated as the beta of the portfolio multiplied by the average historical market risk premium since 1963 (measured as the difference between Ibbotson Associates' Large Stock total returns and Ibbotson Associates' income returns on long-term Treasury bonds)
- Premium over CAPM, calculated by subtracting the "Indicated CAPM Premium" from the "Arithmetic Equity Risk Premium"
- "Smoothed" Premium over CAPM: the fitted premium from a regression with the historical "Premium over CAPM" as dependent variable and the logarithm of the average sorting criteria as independent variable

Practical Application of the Data

This data can be used as an aid in formulating estimated required rates of return using objective measures of the "size" of a subject company. The historical equity risk premiums reported in exhibits A-1 through A-8 have not been adjusted to remove beta risk and, therefore, they should not be multiplied by a CAPM beta or otherwise included in a CAPM analysis. The data reported in exhibits B-1 through B-8 can be used in the context of a CAPM analysis.

A straightforward method of arriving at a discount rate would be a simple "build-up" approach using the historical equity risk premiums over the long-term riskless rate presented in exhibits A-1 through A-8. These premiums incorporate the "small company" effect. One could match the sales or total assets of the subject company with the portfolios composed of companies of similar size. The smoothed premiums of these portfolios can then be added to the yield on long-term Treasury bonds as of the valuation date to obtain benchmarks for the required rate of return.

The "smoothed" average premium is the most appropriate indicator for most of the portfolio groups. At the largest-size and smallest-size ends of the range, the average historical equity risk premiums tend to jump off of the smoothed line, particularly for the portfolios ranked by size as measured by market value (exhibits A-1 and A-4). For the largest companies (the first portfolio), the observed historical relationship flattens out and the smoothed premium may be an inappropriate indicator. For the smallest companies in our range (portfolio 25), the smoothed average premium is likely the more appropriate indicator.

Sometimes one must estimate the required rate of return for a company that is significantly smaller than the average size of even the smallest of our 25 portfolios. In such cases, it may be appropriate to extrapolate the equity risk premium to smaller sizes using the slope and constant terms from the regression relationships that we use in deriving the "smoothed" premiums. In so doing, one must be careful to remember that the logarithmic relationship is base-10, and that the financial size data is in millions of dollars, such that the log of $10 million is log(10), not log(10,000,000). Also, as a general rule one should be cautious about extrapolating a statistical relationship far beyond the range of the data used in the statistical analysis.

A brief example will illustrate the use of the regression equations in estimating an equity risk premium. Assume a company has book value of $50 million. If we insert this figure into the regression relationship reported in exhibit A-2 ("Companies Ranked by Book Value of Equity"), we obtain the following estimate of the risk premium:

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Smoothed Premium = 17.826% - 3.233% log (50) = 17.826% - 3.233% (1.699) = 12.33%

Use of a portfolio's average historical rate of return to calculate a discount rate is based (in part) upon the implicit assumption that the risks of the subject company are quantitatively similar to the risks of the average company in the subject portfolio. If the risks of the subject company differ materially from the average company in the subject portfolio, then an appropriate discount rate may be lower (or higher) than a return derived from the average equity risk premium for a given portfolio. Material differences between the expected returns for a subject company and a given portfolio of stocks may arise due to differences in leverage (the average Debt/MVIC of the portfolios are displayed in exhibits A-1 through A-8 and exhibits C-1 through C-8), operating risks (the average unlevered portfolio sum beta for the portfolios are displayed in exhibits C-1 through C-8) or other fundamental risk factors.

The premium over CAPM data presented in exhibits B-1 through B-8 can be used to make size adjustments to a discount rate derived using the CAPM. When used in this manner, the premium over CAPM would be added to the CAPM calculation. That is, the premium should not be multiplied by beta, but instead should be added to the sum of the riskless rate and the product of beta times the aggregate market risk premium. This is similar to the methodology recommended in Ibbotson Associates' *SBBI Valuation Edition 2005 Yearbook*, p. 58.

The equity risk premiums reported here are historical averages since 1963. We report the average historical equity risk premium over the same period for Ibbotson Associates' Large Company stocks (essentially the S&P 500). This average was 4.90% over the period 1963-2004. If one's estimate of the equity risk premium for the S&P 500 on a forward-looking basis were materially different from the average historical equity risk premium since 1963, it may be reasonable to assume that the other historical portfolio returns reported here would differ on a forward-looking basis by approximately a similar differential.[7] For example, assume that your current estimate of the expected equity risk premium for Large Company stocks were 6.14%.8 The difference between the average historical risk premium since 1963 of 4.90% for Large Company stocks and the 6.14% forward-looking risk premium for Large Company stocks can be added to the average equity risk premium for the portfolio (observed or "smoothed") that matches to the size of the subject company to arrive at an adjusted forward-looking risk premium for the subject company. This forward-looking risk premium can then be added to the riskless rate as of the valuation date to estimate an appropriate rate of return for the subject company. This reasoning does not apply to the premiums over CAPM since these are based on relative performance over the reported period.

Estimating Required Rates of Returns: An Example

In this section we will show how the data reported here can be used to estimate the required return on equity or discount rate for a hypothetical company. Assume the subject company has the following characteristics:

Market Value of Equity	$120 million
Book Value of Equity	$100 million
5-year Average Net Income	$10 million
Market Value of Invested Capital	$180 million

[7] This average historical equity risk premium is consistent with the estimated equity risk premium on a forward-looking basis at the beginning of 2005. See: "Equity Risk Premium – What Valuation Consultants Need to Know About Recent Research-2005 Update", Roger J. Grabowski and David W. King, *Valuation Strategies*, September/October 2005. For a more complete discussion of the differences between historical realized risk premiums and forward-looking estimates see:"Equity Risk Premium", chapter one in *The Handbook of Business Valuation and Intellectual Property Analysis*, McGraw-Hill (2004).
[8] Supply side equity risk premium (arithmetic average) 1926-2004, Table 5-6, Ibbotson Associates' *SBBI Valuation Edition 2005 Yearbook*, p 96.

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Total Assets	$300 million
5-year Average EBITDA	$30 million
Sales	$250 million
Number of Employees	200

If we are using a "build-up" method, we want to determine a premium over the riskless rate. The simplest approach is to turn to exhibits A-1 through A-8, and, for each of the eight size characteristics, locate the portfolio whose size is most similar to the subject company. For each guideline portfolio, the column labeled "Smoothed Average Equity Risk Premium" gives an indicated historical risk premium over the riskless rate. Example 1 shows the premiums indicated for our hypothetical company.

Example 1

Equity Risk Premiums over Riskless Rate: Using Guideline Portfolios

	Company Size	Relevant Exhibit	Guideline Portfolio	Premium over Riskless
Market Value of Equity	$120 mil.	A-1	24	12.3%
Book Value of Equity	$100 mil.	A-2	24	11.3%
5-year Average Net Income	$10 mil.	A-3*	23	11.4%
Market Value of Invested Capital	$180 mil.	A-4*	24	12.0%
Total Assets	$300 mil.	A-5*	23	11.2%
5-year Average EBITDA	$30 mil.	A-6*	24	11.8%
Sales	$250 mil.	A-7*	23	11.1%
Number of Employees	200	A-8*	25	12.6%
Mean premium over riskless rate				11.7%
Median premium over riskless rate				11.6%

*Available in full *Risk Premium Report 2005* at www.ibbotson.com

These premiums can be added to the riskless rate to derive an indicated required return on equity. In deriving the average historical equity risk premiums reported in exhibits A-1 through A-8, we have used Ibbotson Associates' income return on long-term Treasury bonds as our measure of the historical riskless rate. Therefore, a 20-year Treasury bond yield is the most appropriate measure of the riskless rate for use with our reported premiums.

With a riskless rate as of the valuation date of 5.5% (say), the above premiums would indicate a required rate of return on equity ranging from 16.6% to 18.1%, with an average of 17.2%.

As an alternative, one can estimate premiums using the regression equations that underlie the smoothed premium calculations. These equations are reported on exhibits A-1 through A-8. To estimate a premium, we multiply the logarithm of "size" by the slope coefficient, and add the constant term, as described above. In practice this approach generally produces results that are very similar to those of the guideline portfolio approach presented above (unless one is extrapolating to a company that is much smaller than the average size for the 25th portfolio). Example 2 illustrates this approach for our hypothetical company.

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Example 2

Equity Risk Premiums over Riskless Rate: Using Regression Equations

	Company Size	Relevant Exhibit	Constant term	Slope term	log(Size)	Premium over Riskless
Market Value of Equity	$120 mil.	A-1	19.828%	-3.566%	2.079	12.4%
Book Value of Equity	$100 mil.	A-2	17.826%	-3.233%	2.000	11.4%
5-year Average Net Income	$10 mil.	A-3	*	*	1.000	11.5%
Market Value of Invested Capital	$180 mil.	A-4	*	*	2.255	12.1%
Total Assets	$300 mil.	A-5	*	*	2.477	11.2%
5-year Average EBITDA	$30 mil.	A-6	*	*	1.477	11.7%
Sales	$250 mil.	A-7	*	*	2.398	11.2%
Number of Employees	200	A-8	*	*	2.301	12.6%
Mean premium over riskless rate						11.8%
Median premium over riskless rate						11.6%

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One can adjust the observed premiums over the riskless rate for differences in financial leverage between the average companies comprising the portfolio and the subject company. The company in the example has a Debt/MVIC = $60 /$180 = 33% which is slightly more leverage than the average of the companies comprising portfolio 24 of Exhibits A-1 (29.13%) and A-4 (27.95%).[9]

But assume that the subject company had no debt in its capital structure. For example, we "unlever" the average levered risk premium in Exhibit A-1, portfolio 24, as follows:

Unlevered realized risk premium = Levered realized risk premium / [1 + D/E (1-t)]

where the average Debt to Equity ("D/E") ratio of the portfolio is based on the average Debt to MVIC for the portfolio since 1963 and the income tax rate, t, is the estimated federal plus effective state income tax rate for the companies comprising the portfolio companies. The income tax rate, t, we use is based on the average marginal federal corporate income tax rate for the tax bracket with the largest taxable income each year since 1963 plus an estimated weighted average state income tax rate.

We report unlevered average realized risk premiums for each of the eight size measures in exhibits C-1 through C-8. The unlevered average realized risk premium for portfolio 24 equals 10.2%. This compares to the average levered realized risk premium of 12.5% (not smoothed) reported in exhibit A-1.

These unlevered realized risk premiums represent the rates of return on a debt-free basis; the unlevered realized risk premiums can be used for estimating required rates of return for companies with no debt.

The unlevered realized risk premium can also be used as the first step in a relevering calculation where the subject company's debt level differs from the average debt level of the portfolio companies. To relever the realized risk premium, one can use the following formula:

[9] Debt equals MVIC ($180 million) minus Market Value of Equity ($120 million).

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Levered realized risk premium = Unlevered realized risk premium x [1 + D/E (1-t)]

where the Debt to Equity ratio for the subject company is measured in terms of the carrying amount of Debt and the market value of equity for the subject company and the income tax rate, t, equals the marginal income tax rate for the subject company.[10]

An alternative to the "build up" approach is the CAPM. Appraisers commonly adjust the indicated required return by adding a size premium. With this adjustment, the formula for required return becomes:

Required Return = Riskless Rate + (Beta x Market Risk Premium) + Size Premium

The size premium can be measured using the "Premiums over CAPM" presented in exhibits B-1 through B-8. To estimate this size premium, we can turn to the exhibits and follow a procedure similar to what we used above when we determined premiums over the riskless rate. Again, the simplest approach is to find the "Smoothed Premium over CAPM" of the guideline portfolios in a manner similar to example 1. Example 3 illustrates this approach for our hypothetical company.

Example 3

Premiums over CAPM: Using Guideline Portfolios

	Company Size	Relevant Exhibit	Guideline Portfolio	Premium over CAPM
Market Value of Equity	$120 mil.	B-1	24	6.0%
Book Value of Equity	$100 mil.	B-2	24	5.0%
5-year Average Net Income	$10 mil.	B-3*	23	5.2%
Market Value of Invested Capital	$180 mil.	B-4*	24	5.6%
Total Assets	$300 mil.	B-5*	23	5.0%
5-year Average EBITDA	$30 mil.	B-6*	24	5.5%
Sales	$250 mil.	B-7*	23	5.1%
Number of Employees	200	B-8*	25	6.4%
Mean premium over CAPM				5.5%
Median premium over CAPM				5.4%

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If the indicated CAPM estimate before the size adjustment (Riskless Rate + Beta x Market Risk Premium) is 11.0% (say), then the above size premiums indicate a required rate of return on equity ranging from 16.0% to 17.4%, with an average of 16.5%.

As an alternative, we can use the regression equation reported in exhibits B-1 through B-8 to estimate premiums over CAPM. Again, this is similar to the method presented in example 2 for determining premiums over the riskless rate. Example 4 illustrates the results for our hypothetical company.

[10] See Ibbotson Associates' *SBBI Valuation Edition 2005 Yearbook*, pp 123 – 124. The unlevering and relevering of the realized risk premium may result in a different result than if one unlevers and relevers guideline company betas and adds the size premiums from exhibits B-1 through B-8, "Premium over CAPM".

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Example 4

Premiums over CAPM: Using Regression Equations

	Company Size	Relevant Exhibit	Constant term	Slope term	log(Size)	Premium over CAPM
Market Value of Equity	$120 mil.	B-1	11.921%	-2.799%	2.079	6.1%
Book Value of Equity	$100 mil.	B-2	9.371%	-2.152%	2.000	5.1%
5-year Average Net Income	$10 mil.	B-3	*	*	1.000	5.3%
Market Value of Invested Capital	$180 mil.	B-4	*	*	2.255	5.7%
Total Assets	$300 mil.	B-5	*	*	2.477	5.0%
5-year Average EBITDA	$30 mil.	B-6	*	*	1.477	5.4%
Sales	$250 mil.	B-7	*	*	2.398	5.1%
Number of Employees	200	B-8	*	*	2.301	6.4%
Mean premium over CAPM						5.5%
Median premium over CAPM						5.4%

*Available in full *Risk Premium Report 2005* at www.ibbotson.com

One can unlever the portfolio betas. For example, we "unlever" the portfolio beta in Exhibit A-1, portfolio 24, as follows:

Unlevered portfolio beta = Levered portfolio beta / [1 + D/E (1-t)]

where the average Debt to Equity ("D/E") ratio of the portfolio is based on the average Debt to MVIC for the portfolio since 1963 and the income tax rate, t, is the estimated federal plus effective state income tax rate for the companies comprising the portfolio companies. The income tax rate, t, we use is based on the average marginal federal corporate income tax rate for the tax bracket with the largest taxable income each year since 1963 plus an estimated weighted average state income tax rate.

We report unlevered portfolio betas for each of the eight size measures in exhibits C-1 through C-8. The unlevered portfolio beta for portfolio 24 equals 1.04. This compares to the levered portfolio beta of 1.27 reported in exhibit A-1.

Unlevered betas are often called "asset betas" in the literature as they represent the risk of the operations of the business with the risk of financial leverage removed.

One can relever the beta based on the Debt of the subject company. To relever the beta, one can use the following formula:

Levered beta = Unlevered beta x [1 + D/E (1-t)]

where the Debt to Equity ratio for the subject company is measured in terms of the carrying amount of Debt and the Market Value of Equity for the subject company and the income tax rate, t, equals the marginal income tax rate for the subject company.

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The unlevering formulae discussed above and used in exhibits C-1 through C-8 for unlevering the average realized risk premiums and portfolio betas for portfolios 1 through 25 and the relevering formulae discussed above assume that the business risk is fully borne by the equity capital; that is the variability of operating cash flows have a negligible effect on the risk of the debt capital. As a first approximation, this assumption appears reasonable for most of the companies comprising portfolios 1 through 25.

Application of the unlevering formulae to the high financial risk portfolio may be problematic for various reasons: the book value of debt may be a bad proxy for the market value of debt for many of these companies; debtholders have a greater share of the operating risk of the company for highly levered companies; and the ability to utilize tax shields for interest expense may be impaired for companies that are losing money.

Changes from Previously Published Versions of this Study

Readers may be interested in the difference between the data presented herein and analogous data published in articles that appeared in 1996 and 1997 (cited above), a 1995 article ("The Size Effect and Equity Returns" *Business Valuation Review*, June 1995), as well as annual updates published on the Ibbotson website since 1998 (most recently known as the Standard & Poor's Corporate Value Consulting *Risk Premium Report*):

- The 1995 article reported 30-year historical averages. We currently report averages since 1963.
- The 1995 article looked only at the market value of equity as a measure of size. We currently look at eight alternate measures of size.
- The current report includes Total Assets as one of the measures of size. This replaces a Book Value of Invested Capital measure that appeared in the 1996 and 1997 articles.
- The current report excludes newly listed companies, places many companies into a separate "high financial risk" portfolio, includes AMEX and NASDAQ companies, and includes only companies covered by Compustat. The 1995 article used all operating NYSE companies found in the CRSP database.
- The 1995 article used market-weighted averaging to calculate the portfolio rates of return. The current report uses equal-weighted averaging.
- The 1995 article used natural logarithms, while the current report uses base-10 logarithms. This makes no difference in the calculation of the "smoothed" premiums, but we have found that base-10 logs are easier to explain than natural logs.
- The 1995 and 1996 articles included financial companies. The current report excludes financial companies.
- The current report corrects for possible "delisting bias" in the CRSP database. The 1995, 1996, and 1997 articles did not make this adjustment.
- The current report includes tables showing "Premiums over CAPM". Versions of this study before 2000 did not include these tables.
- Certain revisions in methodology (made for technical reasons) expanded the number of companies in the "high financial risk portfolio" relative to versions published before 2000.
- The current report changes the method of using financial data such that no data is considered for fiscal years ending less than three months before the formation of portfolios. Versions of this study prior to 2001 allowed use of financial data through the previous month end.
- The current report uses the "sum beta" method applied to monthly returns to estimate portfolio betas. Versions before 2003 estimated betas using ordinary least squares with annual data.
- The current report includes unlevered average risk premiums and sum betas for each portfolio. Prior versions did not include this data.
- The current report incorporates various corrections and other changes that have affected the CRSP and Compustat databases since the data in the earlier articles was generated.

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Part II: Historical Equity Risk Premiums and Company Risk

Background

We previously published the results of research correlating historical equity returns (and historical equity risk premiums) directly with measures of company risk derived from accounting information.[11] These may also be called "fundamental" measures of company risk to distinguish these risk measures from a stock market-based measure of equity risk such as beta. Part II of this report presents an update of this research. This study made use of the database of the Center for Research in Security Prices ("CRSP") at the Graduate School of Business at the University of Chicago together with Standard & Poor's Compustat database.

A variety of academic studies have examined the relationship between financial statement data and various aspects of business risk.[12] Research has shown that measures of earnings volatility can be useful in explaining credit ratings, predicting bankruptcy, and explaining the CAPM beta.

Part II of this report examines three separate measures of risk:

- Operating margin (the lower the operating margin, the greater the risk);
- Coefficient of variation in operating margin (the greater the coefficient of variation, the greater the risk);
- Coefficient of variation in return on equity (the greater the coefficient of variation, the greater the risk).

Coefficient of variation is the standard deviation divided by the mean. It measures volatility relative to the average value of the variable under consideration. This normalizes for differences in the magnitude of the subject variables.

In Part II we present two varieties of data. First, we display the relationship between measures of company size and the above-mentioned measures of company risk. We do so by presenting average risk measures for each of the size-ranked portfolios of companies that were used in exhibits A-1 through A-8 (as described in Part I of this report). Next, we document the relationship between these risk measures and historical rates of return. The results reported herein suggest a positive relationship; that is, the greater the risk as measured by historical accounting information, the greater the rate of return earned by equity investors.

We sort companies by the measure of risk, breaking the NYSE universe into 25 risk-ranked portfolios and adding AMEX and NASDAQ companies. These portfolios are limited to companies with a track record of profitable performance (we create a separate "high financial risk" portfolio composed of companies that are losing money, have high leverage, or are in bankruptcy). We use three alternate measures of company "risk", all based on fundamental financial characteristics. The data shows a clear relationship between risk and historical rates of return.

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[11] "New Evidence on Equity Returns and Company Risk", *Business Valuation Review*, September 1999 (revised March 2000). These articles are available at www.appraisers.org.

[12] A survey of the academic research can be found in *The Analysis and Use of Financial Statements*, 3rd edition, White et al., Wiley (2003), chapter 18.

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Size and Risk

Traditionally, appraisers have used company "size" as a factor in determining discount rates for smaller companies. Small companies are believed to have higher required rates of return than large companies because small companies inherently are more risky. The historical data (as published by Ibbotson Associates and our previous articles and reports) verifies that small companies have, in fact, earned higher rates of return over long-run periods. Does the evidence support the claim that smaller companies inherently have greater risk? Our previous articles and reports have demonstrated that small companies exhibit greater risk as measured by two stock market-based indicators: beta and price volatility. The present study goes further by demonstrating that as company size decreases measures of risk calculated from financial statement data increase.[13]

It has been pointed out in the financial literature that researchers may be mixing a "size" effect with a "risk" effect when measuring company size by "market value".[14] Market value is not just a function of "size"; it is also a function of the discount rate. Therefore, some companies will not be risky (high discount rate) because they are small, but instead will be "small" (low market value) because they are risky. This motivated us to consider alternative measures of "size" in our previous articles and reports, where we looked at measures unrelated to market values such as Total Assets and Number of Employees. Part II of this report goes further in documenting indicators of risk in portfolios of stocks of small companies. It also goes beyond size and investigates the relation between equity returns and fundamental risk measures.

Is "size" correlated with financial risk measures?

Exhibits C-1 through C-8 display fundamental risk measures for portfolios formed by ranking public companies by "size". These exhibits report statistics for the same size-ranked portfolios as we described in Part I of this report.

Exhibit C-1 displays 25 portfolios with size measured by Market Value of Equity. The exhibit shows, for each portfolio, the average historical equity risk premium since 1963 (this repeats information reported in exhibit A-1). Also shown are five measures of risk corresponding to each portfolio:

- Beta (calculated using the "sum beta" method applied to monthly returns for 1963 through the latest year);
- Unlevered sum beta;
- Average operating margin (since 1963);
- Average coefficient of variation of operating margin (since 1963); and
- Average coefficient of variation of return on book equity (since 1963).

We see that beta of the portfolios decrease (as expected) as market value of equity increases.[15] We see that average operating margin increases as market value of equity increases. We see that average coefficient of variation of operating margin and average coefficient of variation of return on book equity decrease as market

[13] A similar point was made by Barry Goodman in a presentation at the October 1997 ASA Advanced Business Valuation Conference in San Francisco.
[14] "A Critique of Size Related Anomalies," Jonathan Berk, *Review of Financial Studies*, vol. 8, no. 2 (1995)
[15] In our work on "size" as reported in Part I of this report, we have determined that, in the context of the CAPM, the higher betas of the small companies explain some but not all of the higher average historical equity returns in these portfolios.

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value of equity increases. Also, we see that the three fundamental measures of risk display increasing risk as size decreases and the historical equity risk premium increases.[16]

Exhibits C-2 through C-6 display similar results for five other measures of size:

- Exhibit C-2: Size as measured by Book Value of Equity;
- Exhibit C-3*: Size as measured by Net Income;
- Exhibit C-4*: Size as measured by Market Value of Invested Capital;
- Exhibit C-5*: Size as measured by Total Assets;
- Exhibit C-6*: Size as measured by EBITDA.

Exhibit C-7* indicates that there is little differentiation in operating margin as size as measured by sales changes. The coefficient of variation of operating margin and return on book equity both indicate increasing risk as size decreases, as in the other exhibits.

Exhibit C-8* indicates that there is little differentiation in operating margin as size as measured by number of employees changes. The coefficient of variation of operating margin and return on book equity both indicate increasing risk as size decreases, as in the other exhibits.

*Available in full *Risk Premium Report 2005* at www.ibbotson.com

Why not just use measures of "size" as the measure of risk?

First, certain measures of size (such as market value of equity) may be imperfect measures of the risk of a company's *operations*. For example, a company with a large and stable operating margin may have a small and unstable market value of equity if it is highly leveraged. In this case the risk of the underlying operations is low while the risk to equity is high.

Second, while small size may indicate greater risk, some small companies have been able to maintain near economic monopolies by holding a geographic or market niche such that their riskiness is less than indicated by size. Alternatively, while larger "size" (as measured by sales, for example) may indicate less risk, some companies may be more risky than the average of companies with similar sales. For example, assume the subject company were expecting to emerge from reorganization following bankruptcy. The risk premium appropriate for this company may be more accurately imputed from the pro-forma operating profit (after removing non-recurring expenses incurred during the bankruptcy) than from its size as measured by sales. Use of fundamental accounting measures of risk allows one to directly assess the riskiness of the subject company.

Description of the Data

In the empirical work presented in Part II, we use the same underlying data set as was used in forming the size-based portfolios that we describe in Part I. The reader can refer to Part I for a description of our methodology for excluding certain classes of companies based on corporate status, industry, trading history, and financial performance. Also, Part I includes a description of the criteria used in separating certain companies into a "high financial risk" portfolio based on indicators of poor earnings, bankruptcy, or high leverage. As in Part I, this study

[16] Were one to calculate the respective correlations, those statistics would relate average portfolio statistics (e.g. average size vs. average risk) rather than correlation statistics across individual companies. At the individual company level, the correlations are much lower.

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made use of the database of the Center for Research in Security Prices ("CRSP") at the University of Chicago, together with Standard & Poor's Compustat database.

As described in Part I, our data set excludes or segregates certain companies based on past financial performance or trading history. We have run alternate analyses in which no company is excluded or segregated on the basis of past history (that is, using all available non-financial companies), and the results are similar to those reported here.

Ranking Companies by Risk

For the companies remaining in our base set, we formed portfolios of securities based upon relative risk. Results for the three alternate measures of "risk" are reported in the accompanying exhibits.

For each year, we formed portfolios by sorting all of the companies in the base set that traded on the NYSE. The risk cutoffs (or "breakpoints") were chosen so as to divide the NYSE companies evenly into 25 groups. Once the breakpoints were chosen, companies from the AMEX (available after 1962) and companies quoted on the NASDAQ National Market System (available after 1972) were added to these portfolios.

The portfolios were rebalanced annually: that is, the companies were re-ranked and sorted at the beginning of each year. Portfolio rates of return were calculated using an equal-weighted average return of the companies in the portfolio. As described in Part I, our calculation of rates of return includes a correction for the "delisting bias" in the CRSP database.

Measurement of the Historical Equity Risk Premium

The accompanying exhibits report average statistics for the period 1963 (the year that the Compustat database was inaugurated) through 2004. A long-run average historical equity risk premium is often used as an indicator of the expected return of a typical investor. Our measure of returns is based on dividend income and capital appreciation, and so represents returns after corporate taxes.

To estimate historical equity risk premiums, we first calculated an average rate of return for each portfolio over our sample period. Then, we subtracted the average income return earned on long-term Treasury bonds over the same period (using Ibbotson Associates' SBBI data) to arrive at an average historical equity premium.

Presentation of the Results

In the accompanying exhibits we present summary data for companies ranked by various measures of risk. The exhibits are as follows:

Exhibit D-1: Companies ranked by Operating Margin (operating income divided by sales; operating income is defined as sales minus (cost of goods sold plus selling, general, and administrative expenses plus depreciation)). This is calculated as the mean operating income for the five prior years divided by the mean sales for the five prior years. (Note that this composite ratio is usually very close to a simple average of the annual ratios of operating income to sales, except in extreme cases generally involving companies with high growth rates.) Companies were re-ranked annually: for example, for the year 2001 we sorted companies into portfolios according to their mean operating margins for years 1996-2000, and then calculated the market return for 2001. (More precisely, in this example

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the statistics would be calculated for the most recent five fiscal years ending on or before September 2000.)

Exhibit D-2*: Companies ranked by Coefficient of Variation of Operating Margin. This is calculated as the standard deviation of operating margin over the prior five years divided by the mean operating margin for the same years, where operating margin is operating income as defined above divided by sales. Note that for calculating this coefficient, average operating margin is a simple average of the annual ratios of operating income to sales, rather than the composite ratio used in exhibit D-1. Companies were re-ranked annually: for example, for the year 2001 we sorted companies into portfolios according to their coefficient of variation for the years 1996-2000, and then calculated the market return for 2001. (More precisely, in this example the statistics would be calculated for the most recent five fiscal years ending on or before September 2000.)

Exhibit D-3*: Companies ranked by Coefficient of Variation of Return on Book Value of Equity. This is calculated as the standard deviation of return on book equity for the prior five years divided by the mean return on book equity for the same years (where return on book equity is net income before extraordinary items minus preferred dividends divided by book value of common equity). Companies were re-ranked annually: for example, for the year 2001 we sorted companies into portfolios according to their coefficient of variation for the years 1996-2000, and then calculated the market return for 2001. (More precisely, in this example the statistics would be calculated for the most recent five fiscal years ending on or before September 2000.)

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These exhibits include the following statistics:

- The median of the sorting criteria for the latest year (e.g., the median average operating margin for the latest five years before 2003). Note: The reported average risk statistics in exhibits D-1, D-2, and D-3 are not the same numbers as reported in exhibits C-1 through C-8. In exhibits C-1 through C-8, the reported statistics are calculated for portfolios of companies grouped according to size and are averages since 1963. In exhibits D-1, D-2, and D-3, the reported statistics are calculated for portfolios grouped according to risk, independent of the "size" of the companies, and are not averages since 1963.
- Log (base-10) of the median of the sorting criteria
- The number of companies in each portfolio in 2003
- Beta relative to the S&P 500 calculated using the "sum beta" method applied to monthly returns for 1963 through the latest year (see Ibbotson Associates' SBBI Valuation Edition 2005 Yearbook, pp. 115-121 for a description of the "sum beta" method)
- Standard deviation of historical annual equity returns
- Geometric average historical equity return since 1963
- Arithmetic average historical return since 1963
- Arithmetic average historical equity premium over long-term Treasuries since 1963
- "Smoothed" average historical equity risk premium: the fitted premium from a regression with the historical equity risk premium as dependent variable and the logarithm of the average sorting criteria as independent variable
- Average Debt as a percent of the MVIC since 1963

Each exhibit shows one line of data for each of the 25 risk-ranked portfolios, plus a separate line for the "high financial risk" portfolio. In each case, the "high financial risk" statistics are drawn only from companies for which the ranking criterion (e.g., five-year average operating margin, etc.) is available. This gives rise to slight variations

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among the exhibits for the "high financial risk" statistics, because not all Compustat data items are available for all companies in all years.

For comparative purposes, we also report average returns from Ibbotson Associates' SBBI series for Large Companies, Small Companies, and Long-Term Government Bond Income Returns for the period 1963 through 2004.

By each measure of risk that we use, the result is a clear relationship between risk and historical equity returns. The portfolios of companies with higher risk have yielded higher rates of return.

The historical average Debt/MVIC ratio does not appear to be strongly correlated with either the level or the volatility of the operating margin (exhibits D-1 and D-2). This suggests that leverage does not explain the greater returns of the riskier portfolios. As expected, the leverage in the "high financial risk" portfolio is significantly greater than that of any of the other portfolios. The Debt/MVIC ratio may have moderate correlation with the volatility of return on book equity (exhibit D-3). Higher leverage may accordingly explain some of the higher returns exhibited by the riskier portfolios (by this measure of risk).

In our sample, the companies that are riskier according to accounting information (operating margins and coefficients of variation) have also exhibited greater risk according to stock market-based risk statistics (betas and standard deviations of annual returns).

Practical Application of the Data

The data presented here can be used as an aid in formulating estimated required rates of return using objective measures of the "risk" of a subject company.

A straightforward method of arriving at a benchmark discount rate would be a simple "build-up" approach, using the data to estimate a total equity risk premium. One could match, say, the operating margin of the subject company with the portfolio composed of stocks with a similar average operating margin. The smoothed premium for this portfolio can then be added to the yield on long-term Treasury bonds as of the valuation date, resulting in a benchmark required rate of return. The "smoothed" average premium is a more appropriate indicator than the actual historical observation for most of the portfolio groups. Examples 6 and 7 illustrate the application of this method for a hypothetical company.

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Example 5

Coefficient of Variation of Operating Margin:
(Standard Deviation of Operating Margin)/(Average Operating Margin)

		2004	2003	2002	2001	2000
Net Sales		$900	$800	$850	$750	$900
Operating Income		$150	$120	$130	$ 80	$140
Operating Margin		16.7%	15.0%	15.3%	10.7%	15.6%
Standard Deviation of Op. Margin	2.3%					
Average Operating Margin	14.6%					
Coefficient of Variation	15.8%					

Coefficient of Variation of Return on Book Value of Equity:
(Standard Deviation of ROE)/(Average of ROE)

		2004	2003	2002	2001	2000
Book Value		$820	$710	$630	$540	$500
Net Income b4 extraordinary items		$110	$ 80	$ 90	$ 40	$100
Return on Book Equity (ROE)		13.4%	11.3%	14.3%	7.4%	20.0%
Standard Deviation of ROE	4.6%					
Average ROE	13.3%					
Coefficient of Variation	34.7%					

Example 5 shows, for a hypothetical company, the calculation of the mean (average) and standard deviation over the last five fiscal years of operating margin and return on book value of equity ("ROE"). The ratio of the standard deviation to the mean is the coefficient of variation. These risk metrics can be used in conjunction with exhibits D-1 through D-3 to estimate a premium over the riskless rate. Example 6 illustrates the procedure.[17]

[17] For simplicity, in example 6 we use the average of the operating margins over five years (14.6%), rather than a composite ratio of average operating income divided by average sales (the actual ranking criteria in exhibit D-1). Readers may verify that the composite ratio is similar (14.8%), indicating an identical guideline equity risk premium over the riskless rate.

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Example 6

Equity Risk Premiums over Riskless Rate: Using Guideline Portfolios

	Company Indicator	Relevant Exhibit	Guideline Portfolio	Premium over Riskless
Operating Margin	14.7%	D-1	8	8.8%
CV(Operating Margin)	15.7%	D-2*	16	9.3%
CV(ROE)	34.7%	D-3*	15	8.8%
Mean premium over riskless rate				9.0%
Median premium over riskless rate				8.8%

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The indicated equity risk premium can be added to the riskless rate to get an estimate of the required rate of return on equity. Assuming a riskless rate of 5.5% (say) and in isolation from other considerations, the results suggest a required return on equity in a range of 14.3% to 14.8%, with an average of 14.5%.

Practical application of this data should not be conducted in isolation from other considerations about the subject company, its industry, or the general economic environment. For instance, a wholesale distributor might have thin operating margins compared to the average company on the NYSE, yet those margins might exhibit unusually low variation due to a particularly strong position in a stable market niche. Alternatively, a company's variation of operating income (calculated in the manner used in our study) might be uncharacteristically high due to an unusual event several years in the past. Appropriate knowledge of the company and its industry would give useful guidance in reconciling the historical equity risk premiums reported here and the historical equity risk premiums reported in Part I for portfolios of companies ranked by size. Size can be an important consideration in determining an appropriate discount rate.

The use of a portfolio's average historical rate of return to calculate a discount rate is based (in part) upon the implicit assumption that the risks of the subject company are quantitatively similar to the risks of the average company in the subject portfolio. If the risks of the subject company differ materially from the average company in the subject portfolio, then an appropriate discount rate may be lower (or higher) than a return derived from the average premium for a given portfolio. The data reported in exhibits C-1 through C-8 (where risk statistics are reported for each size category) may be helpful in making such a determination.

Changes from Previously Published Versions of this Study (Part II)

- The current report includes average unlevered risk premiums and sum betas for each portfolio in exhibits C-1 through C-8. Prior versions did not include this data.
- Versions of our study published after 1999 have included the three separate measures of risk described in Part II of this report and presented in exhibits C-1 through C-8 and exhibits D-1 through D-3.
- Various changes in methodology over the last several years have affected the underlying database, and these are summarized at the end of Part I.
- In the current version of exhibits D-1 through D-3, we report medians of the sorting criteria for the most recent year, while versions before 2003 reported the average of the medians for all years since 1963.

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Risk Premium Report
2005

Exhibit A-1

Companies Ranked by Market Value of Equity

Historical Equity Risk Premium: Average Since 1963
Data for Year Ending December 31, 2004

Equity Risk Premium Study: Data through December 31, 2004
Data Smoothing with Regression Analysis
Dependent Variable: Average Premium
Independent Variable: Log of Average Market Value of Equity

Regression Output:

Constant	19.828%
Std Err of Y Est	1.051%
R Squared	86%
No. of Observations	25
Degrees of Freedom	23
X Coefficient(s)	-3.566%
Std Err of Coef.	0.297%
t-Statistic	-11.99

*Smoothed Premium = 19.828% - 3.566% * Log(Market Value)*

Portfolio Rank by Size	Average Mkt Value ($mils.)	Log of Average Mkt Value	Number as of 2004	Beta (SumBeta) Since '63	Standard Deviation of Returns	Geometric Average Return	Arithmetic Average Return	Arithmetic Equity Risk Premium	*Smoothed Average Equity Risk Premium*	Average Debt/ MVIC
1	84,208	4.93	44	0.91	17.03%	10.78%	12.11%	4.83%	*2.26%*	16.44%
2	20,847	4.32	36	0.92	16.73%	10.88%	12.15%	4.87%	*4.43%*	22.87%
3	11,172	4.05	42	0.98	16.64%	9.83%	11.08%	3.80%	*5.39%*	25.14%
4	8,187	3.91	41	0.97	16.46%	11.88%	13.09%	5.81%	*5.87%*	25.94%
5	6,025	3.78	44	0.97	16.11%	11.84%	13.00%	5.72%	*6.35%*	27.05%
6	4,339	3.64	42	1.03	17.14%	13.25%	14.55%	7.27%	*6.86%*	27.02%
7	3,335	3.52	47	1.03	18.12%	13.35%	14.76%	7.48%	*7.26%*	27.38%
8	2,872	3.46	42	1.08	19.77%	12.56%	14.28%	7.00%	*7.50%*	26.42%
9	2,278	3.36	44	1.08	18.78%	14.13%	15.65%	8.37%	*7.86%*	25.36%
10	1,889	3.28	46	1.10	18.76%	12.92%	14.47%	7.19%	*8.15%*	25.16%
11	1,717	3.23	44	1.09	18.79%	13.77%	15.34%	8.06%	*8.29%*	25.16%
12	1,460	3.16	47	1.11	19.38%	13.55%	15.14%	7.86%	*8.54%*	25.72%
13	1,312	3.12	43	1.09	21.15%	12.00%	13.97%	6.69%	*8.71%*	26.66%
14	1,131	3.05	50	1.14	19.81%	14.63%	16.35%	9.07%	*8.94%*	27.33%
15	915	2.96	56	1.14	20.34%	13.89%	15.78%	8.50%	*9.27%*	26.70%
16	766	2.88	55	1.14	22.13%	15.69%	17.79%	10.51%	*9.54%*	25.99%
17	704	2.85	54	1.21	23.94%	15.23%	17.59%	10.31%	*9.67%*	26.79%
18	582	2.76	63	1.20	22.77%	14.73%	16.99%	9.71%	*9.97%*	27.03%
19	502	2.70	62	1.24	24.53%	14.39%	16.90%	9.62%	*10.20%*	26.54%
20	406	2.61	79	1.26	24.11%	15.71%	18.21%	10.93%	*10.53%*	27.40%
21	354	2.55	65	1.27	23.96%	15.85%	18.22%	10.94%	*10.74%*	27.61%
22	274	2.44	100	1.27	24.82%	15.89%	18.47%	11.19%	*11.14%*	27.89%
23	197	2.29	87	1.24	24.86%	15.35%	17.98%	10.70%	*11.65%*	28.33%
24	132	2.12	148	1.27	25.18%	17.21%	19.79%	12.51%	*12.27%*	29.13%
25	49	1.69	337	1.30	31.67%	19.64%	23.52%	16.24%	*13.79%*	31.27%
High financial risk			665	1.62	38.48%	16.82%	22.15%	14.87%		47.95%
Large Stocks (Ibbotson SBBI data)						10.89%	12.18%	4.90%		
Small Stocks (Ibbotson SBBI data)						15.24%	17.96%	10.68%		
Long-Term Treasury Income (Ibbotson SBBI data)						7.26%	7.28%			

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Risk Premium Report
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Exhibit A-2

Companies Ranked by Book Value of Equity

Historical Equity Risk Premium: Average Since 1963
Data for Year Ending December 31, 2004

Portfolio Rank by Size	Average Book Val. ($mils.)	Log of Average Book Val.	Number as of 2004	Beta (SumBeta) Since '63	Standard Deviation of Returns	Geometric Average Return	Arithmetic Average Return	Arithmetic Equity Risk Premium	*Smoothed Average Equity Risk Premium*	Average Debt/ MVIC
1	22,708	4.36	41	0.84	16.38%	11.32%	12.55%	5.27%	*3.74%*	27.45%
2	7,264	3.86	37	0.85	16.65%	10.99%	12.21%	4.93%	*5.34%*	31.94%
3	4,806	3.68	37	0.90	16.60%	13.17%	14.37%	7.09%	*5.92%*	33.60%
4	3,158	3.50	39	0.90	16.81%	12.21%	13.45%	6.17%	*6.51%*	31.58%
5	2,233	3.35	40	0.99	16.98%	12.73%	13.96%	6.68%	*7.00%*	30.26%
6	1,819	3.26	48	1.00	19.01%	12.38%	13.93%	6.65%	*7.29%*	30.71%
7	1,482	3.17	38	0.98	16.70%	12.66%	13.89%	6.61%	*7.57%*	29.36%
8	1,183	3.07	40	1.05	16.69%	13.61%	14.80%	7.52%	*7.89%*	27.61%
9	1,063	3.03	39	1.09	19.62%	13.87%	15.50%	8.22%	*8.04%*	28.19%
10	940	2.97	42	1.02	18.88%	13.61%	15.14%	7.86%	*8.21%*	29.42%
11	830	2.92	43	1.09	19.06%	13.03%	14.61%	7.33%	*8.39%*	28.47%
12	724	2.86	45	1.05	19.31%	15.27%	16.88%	9.60%	*8.58%*	30.37%
13	603	2.78	51	1.12	18.92%	13.60%	15.17%	7.89%	*8.84%*	27.83%
14	546	2.74	50	1.12	20.06%	13.95%	15.68%	8.40%	*8.96%*	27.96%
15	490	2.69	43	1.11	19.95%	15.00%	16.77%	9.49%	*9.13%*	27.93%
16	430	2.63	55	1.17	21.02%	14.75%	16.71%	9.43%	*9.31%*	27.89%
17	380	2.58	66	1.19	22.01%	14.98%	17.08%	9.80%	*9.49%*	26.27%
18	333	2.52	57	1.23	21.43%	14.25%	16.24%	8.96%	*9.67%*	27.86%
19	286	2.46	58	1.19	21.64%	15.07%	17.01%	9.73%	*9.88%*	28.52%
20	251	2.40	72	1.22	22.62%	15.50%	17.65%	10.37%	*10.07%*	26.92%
21	213	2.33	76	1.22	22.43%	14.95%	17.11%	9.83%	*10.30%*	27.89%
22	182	2.26	80	1.24	24.36%	16.77%	19.30%	12.02%	*10.52%*	27.12%
23	146	2.16	95	1.25	24.56%	15.28%	17.85%	10.57%	*10.83%*	27.99%
24	104	2.02	139	1.29	25.59%	15.60%	18.39%	11.11%	*11.30%*	27.55%
25	43	1.63	387	1.33	31.95%	17.25%	21.12%	13.84%	*12.56%*	26.91%
High financial risk			665	1.61	38.06%	17.09%	22.29%	15.01%		48.78%
Large Stocks (Ibbotson SBBI data)						10.89%	12.18%	4.90%		
Small Stocks (Ibbotson SBBI data)						15.24%	17.96%	10.68%		
Long-Term Treasury Income (Ibbotson SBBI data)						7.26%	7.28%			

Equity Risk Premium Study: Data through December 31, 2004
Data Smoothing with Regression Analysis
Dependent Variable: Average Premium
Independent Variable: Log of Average Book Value of Equity

Regression Output:

Constant	17.826%
Std Err of Y Est	0.787%
R Squared	87%
No. of Observations	25
Degrees of Freedom	23
X Coefficient(s)	-3.233%
Std Err of Coef.	0.263%
t-Statistic	-12.28

*Smoothed Premium = 17.826% - 3.233% * Log(Book Value)*

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Risk Premium Report
2005

Companies Ranked by Market Value of Equity **Premium over CAPM** **Exhibit B-1**

Historical Equity Risk Premium: Average Since 1963
Data for Year Ending December 31, 2004

Equity Risk Premium Study: Data through December 31, 2004
Data Smoothing with Regression Analysis
Dependent Variable: Premium over CAPM
Independent Variable: Log of Average Market Value of Equity

Portfolio Rank by Size	Average Mkt Value ($mils.)	Log of Size	Beta (SumBeta) Since '63	Arithmetic Average Return	Arithmetic Equity Risk Premium	Indicated CAPM Premium	Premium over CAPM	Smoothed Premium over CAPM
1	84,208	4.93	0.91	12.11%	4.83%	4.44%	0.38%	-1.86%
2	20,847	4.32	0.92	12.15%	4.87%	4.53%	0.34%	-0.17%
3	11,172	4.05	0.98	11.08%	3.80%	4.78%	-0.97%	0.59%
4	8,187	3.91	0.97	13.09%	5.81%	4.77%	1.04%	0.97%
5	6,025	3.78	0.97	13.00%	5.72%	4.75%	0.97%	1.34%
6	4,339	3.64	1.03	14.55%	7.27%	5.06%	2.21%	1.74%
7	3,335	3.52	1.03	14.76%	7.48%	5.02%	2.45%	2.06%
8	2,872	3.46	1.08	14.28%	7.00%	5.31%	1.69%	2.24%
9	2,278	3.36	1.08	15.65%	8.37%	5.28%	3.09%	2.52%
10	1,889	3.28	1.10	14.47%	7.19%	5.38%	1.81%	2.75%
11	1,717	3.23	1.09	15.34%	8.06%	5.36%	2.70%	2.87%
12	1,460	3.16	1.11	15.14%	7.86%	5.42%	2.44%	3.06%
13	1,312	3.12	1.09	13.97%	6.69%	5.33%	1.36%	3.19%
14	1,131	3.05	1.14	16.35%	9.07%	5.60%	3.47%	3.38%
15	915	2.96	1.14	15.78%	8.50%	5.59%	2.91%	3.63%
16	766	2.88	1.14	17.79%	10.51%	5.57%	4.94%	3.85%
17	704	2.85	1.21	17.59%	10.31%	5.92%	4.39%	3.95%
18	582	2.76	1.20	16.99%	9.71%	5.88%	3.83%	4.18%
19	502	2.70	1.24	16.90%	9.62%	6.07%	3.56%	4.36%
20	406	2.61	1.26	18.21%	10.93%	6.19%	4.74%	4.62%
21	354	2.55	1.27	18.22%	10.94%	6.20%	4.74%	4.79%
22	274	2.44	1.27	18.47%	11.19%	6.21%	4.98%	5.10%
23	197	2.29	1.24	17.98%	10.70%	6.07%	4.63%	5.50%
24	132	2.12	1.27	19.79%	12.51%	6.23%	6.28%	5.99%
25	49	1.69	1.30	23.52%	16.24%	6.36%	9.88%	7.19%
High financial risk			1.62	22.15%	14.87%	7.93%	6.94%	
Large Stocks (Ibbotson SBBI data)				12.18%	4.90%			
Small Stocks (Ibbotson SBBI data)				17.96%	10.68%			
Long-Term Treasury Income (Ibbotson SBBI data)				7.28%				

Regression Output:

Constant	11.921%
Std Err of Y Est	1.029%
R Squared	80%
No. of Observations	25
Degrees of Freedom	23
X Coefficient(s)	-2.799%
Std Err of Coef.	0.291%
t-Statistic	-9.61

*Smoothed Premium = 11.921% - 2.799% * Log(Market Value)*

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Risk Premium Report
2005

Companies Ranked by Book Value of Equity **Premium over CAPM** **Exhibit B-2**

Historical Equity Risk Premium: Average Since 1963
Data for Year Ending December 31, 2004

Portfolio Rank by Size	Average Book Val. ($mils.)	Log of Size	Beta (SumBeta) Since '63	Arithmetic Average Return	Arithmetic Equity Risk Premium	Indicated CAPM Premium	Premium over CAPM	Smoothed Premium over CAPM
1	22,708	4.36	0.84	12.55%	5.27%	4.10%	1.18%	-0.01%
2	7,264	3.86	0.85	12.21%	4.83%	4.14%	0.78%	1.06%
3	4,806	3.68	0.90	14.37%	7.09%	4.39%	2.70%	1.45%
4	3,158	3.50	0.90	13.45%	6.17%	4.43%	1.74%	1.84%
5	2,233	3.35	0.99	13.96%	6.68%	4.87%	1.81%	2.16%
6	1,819	3.26	1.00	13.93%	6.65%	4.91%	1.74%	2.35%
7	1,482	3.17	0.98	13.89%	6.61%	4.82%	1.79%	2.55%
8	1,183	3.07	1.05	14.80%	7.52%	5.14%	2.38%	2.76%
9	1,063	3.03	1.09	15.50%	8.22%	5.33%	2.89%	2.86%
10	940	2.97	1.02	15.14%	7.86%	5.01%	2.85%	2.97%
11	830	2.92	1.09	14.61%	7.33%	5.32%	2.01%	3.09%
12	724	2.86	1.05	16.88%	9.60%	5.14%	4.47%	3.21%
13	603	2.78	1.12	15.17%	7.89%	5.49%	2.39%	3.39%
14	546	2.74	1.12	15.68%	8.40%	5.47%	2.93%	3.48%
15	490	2.69	1.11	16.77%	9.49%	5.45%	4.03%	3.58%
16	430	2.63	1.17	16.71%	9.43%	5.73%	3.70%	3.70%
17	380	2.58	1.19	17.08%	9.80%	5.83%	3.97%	3.82%
18	333	2.52	1.23	16.24%	8.96%	6.01%	2.94%	3.94%
19	286	2.46	1.19	17.01%	9.73%	5.82%	3.92%	4.08%
20	251	2.40	1.22	17.65%	10.37%	6.00%	4.37%	4.21%
21	213	2.33	1.22	17.11%	9.83%	5.95%	3.87%	4.36%
22	182	2.26	1.24	19.30%	12.02%	6.09%	5.93%	4.51%
23	146	2.16	1.25	17.85%	10.57%	6.14%	4.42%	4.71%
24	104	2.02	1.29	18.39%	11.11%	6.31%	4.80%	5.03%
25	43	1.63	1.33	21.12%	13.84%	6.51%	7.33%	5.86%
High financial risk			1.61	22.29%	15.01%	7.91%	7.10%	
Large Stocks (Ibbotson SBBI data)				12.18%	4.90%			
Small Stocks (Ibbotson SBBI data)				17.96%	10.68%			
Long-Term Treasury Income (Ibbotson SBBI data)				7.28%				

Equity Risk Premium Study: Data through December 31, 2004
Data Smoothing with Regression Analysis
Dependent Variable: Premium over CAPM
Independent Variable: Log of Average Book Value of Equity

Regression Output:

Constant	9.371%
Std Err of Y Est	0.784%
R Squared	75%
No. of Observations	25
Degrees of Freedom	23
X Coefficient(s)	-2.152%
Std Err of Coef.	0.262%
t-Statistic	-8.20

*Smoothed Premium = 9.371% - 2.152% * Log(Book Value)*

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Risk Premium Report
2005

Exhibit C-1

Companies Ranked by Market Value of Equity: Comparative Risk Characteristics
Data for Year Ending December 31, 2004

Portfolio Rank by Size	Portfolio Statistics for 2004			Portfolio Statistics for 1963-2004								
	Average Mkt Value ($mils.)	Log of Size	Number of Firms	Average Equity Risk Premium	Average Debt to MVIC	Average Debt to Market Value of Equity	Average Unlevered Risk Premium	Beta (SumBeta) Since '63	Average Unlevered Beta	Average Operating Margin	Average CV(Operating Margin)	Average CV(ROE)
1	84,208	4.93	44	4.8%	16.44%	19.7%	4.4%	0.91	0.82	15.2%	9.6%	14.0%
2	20,847	4.32	36	4.9%	22.87%	29.7%	4.2%	0.92	0.80	13.0%	10.6%	17.4%
3	11,172	4.05	42	3.8%	25.14%	33.6%	3.2%	0.98	0.83	13.3%	11.2%	17.2%
4	8,187	3.91	41	5.8%	25.94%	35.0%	4.9%	0.97	0.82	12.7%	12.0%	18.5%
5	6,025	3.78	44	5.7%	27.05%	37.1%	4.8%	0.97	0.81	12.6%	12.8%	19.4%
6	4,339	3.64	42	7.3%	27.02%	37.0%	6.1%	1.03	0.86	13.3%	12.5%	18.6%
7	3,335	3.52	47	7.5%	27.38%	37.7%	6.2%	1.03	0.85	12.6%	13.7%	20.9%
8	2,872	3.46	42	7.0%	26.42%	35.9%	5.9%	1.08	0.91	12.4%	13.6%	20.3%
9	2,278	3.36	44	8.4%	25.36%	34.0%	7.1%	1.08	0.91	12.2%	13.9%	21.0%
10	1,889	3.28	46	7.2%	25.16%	33.6%	6.1%	1.10	0.93	11.9%	13.6%	21.4%
11	1,717	3.23	44	8.1%	25.16%	33.6%	6.8%	1.09	0.93	11.8%	14.8%	20.6%
12	1,460	3.16	47	7.9%	25.72%	34.6%	6.6%	1.11	0.93	11.7%	14.6%	19.6%
13	1,312	3.12	43	6.7%	26.66%	36.3%	5.6%	1.09	0.91	11.1%	14.8%	20.5%
14	1,131	3.05	50	9.1%	27.33%	37.6%	7.5%	1.14	0.95	11.2%	15.0%	21.5%
15	915	2.96	56	8.5%	26.70%	36.4%	7.1%	1.14	0.95	10.9%	17.2%	23.0%
16	766	2.88	55	10.5%	25.99%	35.1%	8.8%	1.14	0.96	10.3%	17.5%	24.0%
17	704	2.85	54	10.3%	26.79%	36.6%	8.6%	1.21	1.01	10.0%	18.0%	24.9%
18	582	2.76	63	9.7%	27.03%	37.0%	8.1%	1.20	1.00	9.7%	20.3%	27.8%
19	502	2.70	62	9.6%	26.54%	36.1%	8.1%	1.24	1.04	9.4%	20.6%	26.9%
20	406	2.61	79	10.9%	27.40%	37.7%	9.1%	1.26	1.05	9.0%	23.7%	30.7%
21	354	2.55	65	10.9%	27.61%	38.1%	9.1%	1.27	1.05	8.5%	23.0%	30.3%
22	274	2.44	100	11.2%	27.89%	38.7%	9.3%	1.27	1.05	8.2%	25.1%	34.6%
23	197	2.29	87	10.7%	28.33%	39.5%	8.8%	1.24	1.02	7.9%	26.7%	34.2%
24	132	2.12	148	12.5%	29.13%	41.1%	10.2%	1.27	1.04	7.6%	28.6%	38.4%
25	49	1.69	337	16.2%	31.27%	45.5%	13.0%	1.30	1.04	6.1%	42.1%	55.4%

Note: CV(X) = Standard deviation of X divided by mean of X, calculated over 5 fiscal years. For Portfolios 1-25, calculation uses statutory federal tax rates plus weighted average effective state tax rates. The average blended income tax rate used is 42.4%.

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Exhibit C-2

Companies Ranked by Book Value of Equity: Comparative Risk Characteristics
Data for Year Ending December 31, 2004

Portfolio Rank by Size	Portfolio Statistics for 2004			Portfolio Statistics for 1963-2004							
	Average Book Value ($mils.)	Log of Size	Number of Firms	Average Equity Risk Premium	Average Debt to MVIC	Average Debt to Market Value of Equity	Average Unlevered Risk Premium	Beta (SumBeta) Since '63	Average Unlevered Beta	Average Operating Margin	Average CV(Operating Margin)	Average CV(ROE)
1	22,708	4.36	41	5.3%	27.45%	37.8%	4.4%	0.84	0.69	13.0%	12.8%	18.4%
2	7,264	3.86	37	4.9%	31.94%	46.9%	3.9%	0.85	0.67	14.0%	11.8%	16.7%
3	4,806	3.68	37	7.1%	33.60%	50.6%	5.6%	0.90	0.70	12.2%	11.8%	18.5%
4	3,158	3.50	39	6.2%	31.58%	46.2%	4.9%	0.90	0.72	12.5%	12.3%	21.2%
5	2,233	3.35	40	6.7%	30.26%	43.4%	5.4%	0.99	0.81	12.8%	12.7%	21.2%
6	1,819	3.26	48	6.7%	30.71%	44.3%	5.4%	1.00	0.81	12.4%	13.2%	21.4%
7	1,482	3.17	38	6.6%	29.36%	41.6%	5.4%	0.98	0.80	13.1%	13.3%	22.0%
8	1,183	3.07	40	7.5%	27.61%	38.1%	6.2%	1.05	0.87	12.7%	14.2%	21.5%
9	1,063	3.03	39	8.2%	28.19%	39.2%	6.8%	1.09	0.90	12.4%	14.2%	20.6%
10	940	2.97	42	7.9%	29.42%	41.7%	6.4%	1.02	0.83	11.8%	14.8%	20.2%
11	830	2.92	43	7.3%	28.47%	39.8%	6.0%	1.09	0.89	11.9%	14.7%	23.3%
12	724	2.86	45	9.6%	30.37%	43.6%	7.8%	1.05	0.85	12.3%	14.2%	20.4%
13	603	2.78	51	7.9%	27.83%	38.6%	6.5%	1.12	0.93	11.4%	16.3%	22.5%
14	546	2.74	50	8.4%	27.96%	38.8%	6.9%	1.12	0.92	10.9%	15.5%	21.6%
15	490	2.69	43	9.5%	27.93%	38.8%	7.8%	1.11	0.92	10.5%	15.8%	22.6%
16	430	2.63	55	9.4%	27.89%	38.7%	7.8%	1.17	0.97	10.1%	17.6%	25.0%
17	380	2.58	66	9.8%	26.27%	35.6%	8.2%	1.19	1.00	10.7%	16.8%	24.3%
18	333	2.52	57	9.0%	27.86%	38.6%	7.4%	1.23	1.02	10.1%	19.3%	25.7%
19	286	2.46	58	9.7%	28.52%	39.9%	8.0%	1.19	0.98	9.9%	19.2%	27.7%
20	251	2.40	72	10.4%	28.92%	39.9%	8.6%	1.22	1.02	9.2%	20.9%	29.8%
21	213	2.33	76	9.8%	27.89%	38.7%	8.1%	1.22	1.01	9.4%	22.3%	31.2%
22	182	2.26	80	12.0%	27.12%	37.2%	10.0%	1.24	1.04	8.5%	24.0%	30.0%
23	146	2.16	95	10.6%	27.99%	38.9%	8.7%	1.25	1.04	8.7%	23.7%	33.1%
24	104	2.02	139	11.1%	27.55%	38.0%	9.2%	1.29	1.07	8.2%	26.0%	36.0%
25	43	1.63	387	13.8%	26.91%	36.8%	11.5%	1.33	1.11	7.2%	37.5%	50.0%

Note: CV(X) = Standard deviation of X divided by mean of X, calculated over 5 fiscal years. For Portfolios 1-25, calculation uses statutory federal tax rates plus weighted average effective state tax rates. The average blended income tax rate used is 42.4%.

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Risk Premium Report
2005

Companies Ranked by Operating Margin **Exhibit D-1**

Historical Equity Risk Premium: Average Since 1963
Data for Year Ending December 31, 2004

Equity Risk Premium Study: Data through December 31, 2004
Data Smoothing with Regression Analysis
Dependent Variable: Average Premium
Independent Variable: Log of Median Operating Margin

Portfolio Rank by Size	Median Operating Margin	Log of Median Op Margin	Number as of 2004	Beta (SumBeta) Since '63	Standard Deviation of Returns	Geometric Average Return	Arithmetic Average Return	Arithmetic Equity Risk Premium	*Smoothed Average Equity Risk Premium*	Average Debt/ MVIC
1	32.4%	-0.49	80	0.81	17.08%	13.22%	14.46%	7.18%	*6.07%*	31.05%
2	25.3%	-0.60	55	0.76	16.61%	11.16%	12.38%	5.10%	*6.87%*	34.95%
3	22.3%	-0.65	55	0.80	16.09%	12.95%	14.11%	6.83%	*7.28%*	32.86%
4	20.0%	-0.70	52	0.95	17.08%	12.50%	13.80%	6.52%	*7.64%*	27.19%
5	18.1%	-0.74	50	0.99	17.56%	13.53%	14.88%	7.60%	*7.96%*	22.78%
6	17.1%	-0.77	65	1.11	18.94%	13.46%	15.01%	7.73%	*8.15%*	19.24%
7	15.3%	-0.81	67	1.15	19.92%	14.36%	16.01%	8.73%	*8.51%*	18.33%
8	14.3%	-0.85	59	1.12	19.60%	13.05%	14.76%	7.48%	*8.75%*	20.20%
9	13.3%	-0.88	49	1.19	19.98%	16.11%	17.84%	10.56%	*8.97%*	20.97%
10	12.4%	-0.91	64	1.20	21.74%	14.29%	16.31%	9.03%	*9.20%*	21.67%
11	11.7%	-0.93	64	1.21	21.31%	12.65%	14.61%	7.33%	*9.40%*	22.71%
12	11.1%	-0.95	55	1.18	21.45%	14.27%	16.19%	8.91%	*9.55%*	23.10%
13	10.6%	-0.98	63	1.21	22.37%	15.34%	17.45%	10.17%	*9.72%*	22.90%
14	10.0%	-1.00	66	1.20	23.10%	15.46%	17.79%	10.51%	*9.90%*	23.97%
15	9.5%	-1.02	58	1.22	24.62%	14.92%	17.39%	10.11%	*10.08%*	24.87%
16	9.0%	-1.05	67	1.17	22.91%	16.14%	18.41%	11.13%	*10.25%*	26.72%
17	8.4%	-1.07	59	1.26	24.45%	16.39%	18.97%	11.69%	*10.46%*	27.24%
18	7.9%	-1.10	79	1.26	24.85%	16.33%	18.98%	11.70%	*10.69%*	28.02%
19	7.2%	-1.14	73	1.29	25.12%	17.44%	20.07%	12.79%	*10.97%*	29.40%
20	6.7%	-1.17	68	1.27	26.48%	16.30%	19.20%	11.92%	*11.21%*	31.50%
21	5.8%	-1.23	82	1.25	25.88%	16.96%	19.66%	12.38%	*11.66%*	31.76%
22	5.0%	-1.30	106	1.29	28.88%	16.43%	19.84%	12.56%	*12.16%*	32.37%
23	4.2%	-1.38	94	1.29	26.14%	17.42%	20.22%	12.94%	*12.77%*	34.14%
24	3.3%	-1.48	89	1.31	28.64%	17.80%	21.10%	13.82%	*13.50%*	33.88%
25	2.0%	-1.69	99	1.29	27.87%	16.16%	19.41%	12.13%	*15.12%*	33.27%
High financial risk			665	1.62	38.48%	16.82%	22.15%	14.87%		47.95%
Large Stocks (Ibbotson SBBI data)						10.89%	12.18%	4.90%		
Small Stocks (Ibbotson SBBI data)						15.24%	17.96%	10.68%		
Long-Term Treasury Income (Ibbotson SBBI data)						7.26%	7.28%			

Regression Output:

Constant	2.381%
Std Err of Y Est	1.189%
R Squared	77%
No. of Observations	25
Degrees of Freedom	23
X Coefficient(s)	-7.526%
Std Err of Coef.	0.860%
t-Statistic	-8.75

*Smoothed Premium = 2.381% - 7.526% * Log(Operating Margin)*

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APPENDIX XI

CPE Exam for Self-Study Participants Only

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BUSINESS VALUATIONS: APPLICATIONS AND CALCULATIONS USING THE INCOME AND ASSET APPROACHES SELF-STUDY EXAM

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Circle correct answer

1. The Reporting Standards as found in the Professional Standards provide for:

    a. A minimum reporting criteria
    b. A maximum level of documentation
    c. A recommended level of documentation
    d. A set format to structure a valuation report

2. The Development and Reporting Standards as found in the Professional Standards apply to the following work product(s):

    a. Calculations of Value and Estimates of Value
    b. Estimates of Value and Appraisals of Value
    c. Expression of a Conclusion of Value
    d. Appraisal Reports and Oral Reports

3. The Professional Standards identify "Other Services" to include engagements which result in a/an:

    a. Conclusion of Value
    b. Calculated Value
    c. Opinion of Value
    d. Estimate of Value
    e. None of the above

4. The International Glossary of Business Valuation Terms has been adopted by all of the following organizations EXCEPT:

    a. AICPA
    b. NACVA
    c. IRS
    d. IBA

5. The Professional Standards incorporate by reference, standards for:

    a. Client interest, understanding, and communication
    b. Integrity and objectivity
    c. Financial interest
    d. Professional competence
    e. All of the above

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6. The General and Ethical Standards as found in the Professional Standards specifically address:

    a. Requirements for report writing
    b. Competence, due professional care, sufficient relevant data, planning, and supervision
    c. Subordination of judgment by a member to another's work
    d. Professional services as they relate to client advocacy

7. Which of the following is not required as part of the Reporting Standards?

    a. Valuation date
    b. Identification of Premise of Value
    c. Purpose and Use of the report
    d. Calculations of all methods of value

8. What are the most critical factors in a decision to accept an engagement?

    a. The valuation analyst's independence and experience
    b. The business cycle and economic benefits
    c. The type of opinion and ownership interest
    d. The standard and method of value
    e. The number of assets to be valued vs. the benefit stream

9. The Professional Standards recognize that members may perform other services, such as consulting, calculations of value and litigation support that do NOT involve expressing a Conclusion of Value. Which of the Professional Standards still apply to these types of engagements?

    a. All of the Professional Standards may apply depending on the specifics of the engagement
    b. The General and Ethical Standards
    c. None of the Professional Standards
    d. The Reporting Standards
    e. The Development Standards

10. In order to comply with the Reporting Standards, a detailed report should contain the:

    a. Supporting documentation
    b. Letter of transmittal
    c. Identification of the assumptions and limiting conditions
    d. Both a and b
    e. Both b and c
    f. None of the above

11. The Reporting Standards require a valuation report to be written in the following order:

    a. Opinion letter, company background, economics, financial review, analyses, conclusion of value
    b. Table of contents, opinion letter, identification of subject valued, purpose of valuation, analyses, financial documentation, industry research
    c. Transmittal letter, conclusion of value, economic impact of value, identification of standard of value, normalizing adjustments, comparable company analysis
    d. No order is required. The report should fully communicate thoughts, methods and reasoning, and identify supporting documentation in a simple and concise manner

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12. Which statement is true with respect to independence?

    a. Independence is not an issue with respect to business valuations
    b. A valuation analyst must state that they have no financial interest or contemplated financial interest in the property that is the subject of this report
    c. A valuation analyst must state that they have a financial interest or contemplated financial interest in the property that is the subject of this report
    d. Both b and c

13. Which of these is usually considered the first of the five major steps of a valuation engagement?

    a. Analyze information
    b. Estimate the enterprise value
    c. Define the valuation engagement
    d. Gather necessary information
    e. Prepare and issue the valuation report

14. The Reporting Standards:

    a. Do not apply in litigation cases where there will be a jury trial
    b. Must be adhered to in all litigation cases
    c. Apply if the valuation analyst will be deposed and a trial is imminent
    d. Do not apply in litigation engagements where a valuation is performed for a matter before a court, an arbitrator, a mediator or other facilitator, or a matter in a governmental or administrative proceeding

15. Under the Reporting Standards, when reporting a conclusion of value discussion of the nature and history of the business:

    a. May be omitted if the client does not want proprietary information disclosed
    b. Must always be included
    c. Is limited to two pages
    d. Can be omitted in a litigation assignment even though the report is presented in accordance with the Professional Standards

16. When defining the Valuation Engagement, which is the first and probably most critical issue a valuation analyst must address?

    a. Define the purpose of the valuation engagement
    b. Define the ownership interest to be valued
    c. Ascertain whether the necessary information is available
    d. Consider any real or presumed conflicts of interest
    e. Determine whether or not the analyst may need to hire third party appraisers to assist in valuing the underlying assets (such as real estate)

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17. When deciding whether or not to accept an engagement, which of the following would NOT be considered as a real or presumed conflict of interest material to the financial statements?

    a. Valuations performed for tax planning, tax compliance, estate planning, or gifting are not usually considered material to the financial statements of the client and should not cause a valuation bias
    b. The valuation analyst is also the CPA and audits the client's business
    c. The valuation is material to the financial statements of the analyst's client
    d. The valuation analyst has a material financial interest in the subject company

18. Which of the following statements is NOT relative to a properly written Engagement Letter?

    a. The engagement letter documents and communicates the particulars of the engagement as understood by the client and the valuation analyst
    b. The engagement letter clearly delineates the scope of the services the analyst will provide
    c. The engagement letter will determine if sufficient relevant data is readily available
    d. The engagement letter communicates the terms of payment for the services to be rendered

19. The analyst has accepted the engagement; the next step is to gather information. This information can be broken down into the following two categories:

    a. Legal and non-legal
    b. Internal and external
    c. Compiled and audited
    d. Subjective and objective
    e. Economic and industry

20. Which of the following statements are correct for a valuation engagement when considering, "What is an acceptable level of supporting documentation?"

    a. If the valuator does not receive all information requested, a valuation cannot be completed
    b. It depends on the facts and circumstances of the particular case
    c. The valuator must have five years of documentation
    d. In a litigation engagement, the valuator can draw conclusions with limited information

21. Once the analyst has obtained the requested financial information, what is the first step in the analysis phase?

    a. To analyze the historical financial information in order to determine the economic or normalizing adjustments to be made to the historical financial statements
    b. To do a site visit and interview owners and management
    c. To compare actual historical financial information to budgeted forecasts
    d. To compare industry ratios with the subject company's financial ratios

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22. The objectives to be accomplished when Adjusting or Normalizing historical financial information include all of the following EXCEPT:

    a. Verification that the historical financial statement data has been entered correctly
    b. To more closely reflect the company's true economic financial position
    c. To enable the valuation analyst to more accurately estimate the fair market value of the business
    d. To make the company's financials more comparable to the industry financial trends

23. The requirements for adjusted or normalized financial statement information include all of the following EXCEPT?

    a. Adjusted financial statements should, as nearly as possible, represent market values
    b. Adjusted financial statements should be useful for making meaningful comparisons
    c. Adjusted financial statements should be useful in making meaningful projections and forecasts
    d. Adjusted financial statements should be normalized by using average industry ratios

24. What does the term "Common-Size Analysis" refer to?

    a. It is a measurement to determine the relative health of a business
    b. It is the conversion of both balance sheet and income statement line items into a percentage of total assets and gross revenues, respectively
    c. It helps identify where the company might be in the future
    d. It is a method to convert the fixed assets to fair market value

25. What is the tool used to assist the valuation analyst in determining the company's health, what are its relative strengths, and what are its relative weaknesses?

    a. Financial review and analysis of adjusted financial statement data
    b. Common-size analysis
    c. Ratio analysis
    d. Comparative analysis

26. Which of the following criteria is used to determine the future benefit stream?

    a. Income from operations on a pretax basis
    b. Earnings before interest, taxes, depreciation, and amortization
    c. Five years of historical weighted average earnings after-tax
    d. Benefits that will be used as a measurement of economic income

27. The type of earnings to use in a valuation will generally depend upon which of the following?

    a. The historical earnings trended into the future
    b. The level of earnings the analyst believes provides the greatest level of stability and reliability
    c. Earnings before interest, taxes, depreciation, and amortization
    d. The average historical economic income

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28. Which of the following is not considered a type of earnings used to measure the benefit stream?

    a. Income from operations
    b. Income before taxes
    c. Historical cash flow
    d. Net income (after-tax)

29. When is the weighted average of historical economic earnings most appropriately used for calculating future earnings?

    a. When there appears to be a general pattern that may be extrapolated into the future
    b. When using the Capitalization of Earnings Method of valuation
    c. When earnings are flat and are projected to remain flat
    d. When preparing a valuation for estate or gift tax purposes

30. What method of estimating the future benefit stream is used when the analyst concludes all of the past earnings are representative of the expected future benefits and no existing pattern or trend would suggest that no single year results are any more indicative than the rest of the years' historical data?

    a. Net Cash Flows to Equity
    b. Net Cash Flows to Invested Capital
    c. Weighted Average
    d. Unweighted Average

31. Why do some valuators prefer net cash flows as a measurement of economic income?

    a. Net cash flows are easier to calculate using the Weighted Average Method
    b. There is no difference between net cash flows to equity and net cash flows to invested capital when there is no debt
    c. Net cash flows represent the type of earnings most investors expect to receive from their investments
    d. Net cash flows are not affected by and do not effect changes in the balance sheet

32. When are earnings used as the type of benefits to measure economic income?

    a. When the valuator expects the future earnings will approximate the future net cash flows
    b. When the capital expenditures and changes in long-term debt to support the company's projected operations are insignificant to the earnings of the subject
    c. When the net working capital requirements are projected to be consistent with historical working capital requirements
    d. All of the above
    e. Both a and c

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33. Historical data is the most often used and relied upon data in valuing closely held businesses because:

    a. It is based on fact
    b. It is easily disputed
    c. Buyers of a business prefer historical data
    d. No adjustments need to be made to historical data to reflect economic income

34. What is the main component that is different in the two formulas for Net Cash Flows to Equity versus Net Cash Flows to Invested Capital?

    a. Net cash flows to invested capital is a debt-free model
    b. Capital expenditures are deducted from net cash flows to equity but not in net cash flows to invested capital
    c. Both formulas consider additional borrowings and interest expense as part of the required cash flows
    d. Net cash flows to equity is a pretax formula and net cash flows to invested capital is an after-tax formula
    e. All of the above

35. The Ibbotson Build-up Method derives a discount rate that is to be applied to which of the following benefit streams?

    a. After-tax earnings
    b. Pretax earnings
    c. Earnings before interest, taxes, and amortization (EBITA)
    d. Net cash flows
    e. Revenue multiple

36. Capitalization/discount rates are used to convert a defined stream of earnings, income, or cash flow to an indicated present value. Incorporated in these rates are components that reflect the risk elements associated with an investment in a privately held company and the likelihood of realizing the defined stream of earnings, income, or cash flow. Which of the following is an element of risk associated with privately held companies?

    a. Competition
    b. Management depth and ability
    c. Income tax rate
    d. Both a and b
    e. All of the above

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37. There are two primary criteria for the determination of capitalization or discount rates used in the context of valuing closely held businesses. Which of the following is one of the two primary criteria?

    a. The capitalization or discount rate must be essentially the same as the rate of return (yield) based on a combination of the prime rate plus a premium
    b. The capitalization or discount rate must be essentially the same as the rate of return (yield) that is currently being offered to attract capital or investment to the type of business being valued
    c. The capitalization or discount rate must be consistent with an after-tax rate of return
    d. The capitalization or discount rate must be consistent with the rate of returns of companies listed on the publicly traded stock exchanges

38. Discount rates are usually determined by using

    a. The CAPM Method
    b. The Build-up Method
    c. Risk Rate Component Model
    d. Either the CAPM or the Build-up Method

39. Which of the following is not an assumption under Capital Asset Pricing Model (CAPM)?

    a. Investors hold diversified portfolios
    b. There are no taxes
    c. Investors are risk-adverse
    d. Investments have different holding periods

40. The two main components of the weighted average cost of capital capitalization rates are:

    a. The pretax weighted cost of debt and the weighted cost of equity
    b. The after-tax weighted cost of debt and the weighted cost of equity
    c. The pretax weighted cost of interest and the weighted cost of equity
    d. The after-tax weighted cost of interest and the unweighted cost of equity

41. Which of the following is NOT a method and/or source for determining capitalization rates?

    a. Price/Earnings Ratio (P/E)
    b. Capital Asset Pricing Model (CAPM)
    c. Weighted Average Cost of Capital (WACC)
    d. Ibbotson Build-Up Method
    e. Capitalization of Earnings Method

42. The definition of Beta includes:

    a. A measure of systematic risk
    b. The rate of return used to convert a sum to present value
    c. A divisor used to convert anticipated economic benefits of a single period into value
    d. The period of time over which property may generate economic benefits

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43. The expected rate of return that the market requires in order to attract funds to a particular investment refers to:

    a. Control premium
    b. Debt-free invested capital
    c. Cost of capital
    d. Business risk

44. A Rate of Return added to a risk-free rate to reflect the additional risk of equity instruments over risk free investments is called:

    a. Discount Rate
    b. Equity Risk Premium
    c. Capitalization Rate
    d. Cost of Capital

45. Which of the following is NOT a component of the Ibbotson Build-Up Method?

    a. Riskless Rate
    b. Equity Risk premium
    c. Cost of Capital
    d. Size Premium
    e. Specific Company Risk

46. Which of the following is NOT considered a reliable method of valuation upon which to base an opinion of value?

    a. Adjusted Net Assets Method
    b. Price/Earnings Ratio Method
    c. The Treasury and Reasonable Rate Excess Earnings Method
    d. Rule of Thumb Method

47. When using the Adjusted Net Assets Method, the analyst can adjust the book value to:

    a. Fair market value
    b. Replacement value
    c. Liquidation value
    d. All of the above
    e. Both a and c

48. The Capitalization of Earnings Method would be a good method to use when valuing:

    a. An accounting practice
    b. A large manufacturing company
    c. A wholesale auto parts distribution center
    d. All of the above

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49. The use of Value Line or Standard & Poors in valuing a closely held business would be considered an application of the:

    a. Net Adjusted Asset Method
    b. Market Approach—Price/Earnings Ratio Method
    c. Guideline Publicly Traded Company Method
    d. Income Approach
    e. None of the above

50. Which valuation method sets the "floor value" for determining total entity value?

    a. Excess Earnings Treasury Method
    b. Capitalization of Earnings Method
    c. Discounted Future Earnings Method
    d. Adjusted Net Assets Method
    e. Market Method

51. Which method is based on the theory that the total value of a business is the present value of its projected future earnings, plus the present value of the terminal value?

    a. Capitalization of Earnings Method
    b. Discounted Future Earnings Method
    c. Excess Earnings Treasury Method
    d. Excess Earnings Reasonable Rate Method

52. Which method is based on the theory that the total value of a business is the sum of the adjusted net assets and the value of the intangibles, as determined by capitalizing the "excess" earnings of the business using a reasonable rate of return on the adjusted net assets of the business?

    a. Capitalization of Earnings Method
    b. Discounted Future Earnings Method
    c. Excess Earnings Treasury Method
    d. Excess Earnings Reasonable Rate Method

53. The Excess Earnings Treasury Method acquired its name from which IRS pronouncement(s)?

    a. 59-60
    b. 68-609
    c. ARM 34
    d. Section 2031
    e. Both b and c

54. The Capitalization of Earnings Method expresses a relationship between all of the following EXCEPT:

    a. The value of the adjusted net assets
    b. The estimated future amount of earnings
    c. The rate of return or capitalization rate
    d. The estimated value of the business

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55. In the Capitalization of Earnings Method, what is the most appropriate treatment for non-operating assets and liabilities and related expenses when valuing a business?

    a. Nothing. No adjustments are necessary
    b. They should be common sized so that the financial information is comparable
    c. They should be removed prior to applying this method
    d. Both a and c

56. Which revenue ruling is usually considered the most valuable piece of IRS literature pertaining to business valuation?

    a. Revenue Ruling 59-60
    b. Arm 34, issued in 1920
    c. Revenue Ruling 68-609
    d. Revenue Ruling 98-34

57. When Revenue Ruling 59-60 discusses the use of the Weighted Average Historical Earnings Method to project future earnings, the Ruling:

    a. Discourages its usage
    b. Encourages its usage in all cases
    c. Encourages its usage where a record of progressively increasing or decreasing net income is found
    d. None of the above

58. The various business valuation formulas included in Revenue Ruling 59-60 were tied to:

    a. Asset values
    b. Earnings
    c. Excess earnings
    d. All of the above

59. Revenue Ruling 59-60 was written to provide the following guidance:

    a. How to determine the fair value of closely held stock for dissenting stockholders' appraisal right
    b. How to determine the investment value of closely held stock when merging two companies
    c. How to determine the fair market value of closely held stock for gift and estate tax valuations
    d. All of the above

60. The various formulas in Revenue Ruling 59-60 are to be considered as:

    a. Not being alternatives to one another
    b. Being alternatives to one another
    c. Absolute methods
    d. Must be averaged together

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INDEX

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BV: Case Analysis Income and Asset Approaches Index

HOW TO READ THIS INDEX: The reference "1:17" indicates topic is found in Chapter 1, on page 17.

Adjusted Book Value Method 1:10
Adjusted Net Asset Method ..... See Adjusted Book Value Method
Appraisal ..... See Valuation
Appraisal Approach ..... See Valuation Approach
Appraisal Date ..... See Valuation Date
Appraisal Method ..... See Valuation Method
Appraisal Procedure ..... See Valuation Procedure
Arbitrage Pricing Theory 1:11
Asset (Asset-Based) Approach 1:11; 4:15, 16; 5:33, 34; 6:27, 28
Beta 1:11, 5:4, 5, 9-11, 13, 22, 23
Blockage Discount 1:11
Book Value ..... See Net Book Value
Business ..... See Business Enterprise
Business Enterprise 1:11
Business Risk 1:11
Business Valuation 1:11; 2:2, 5, 7, 22; 3:1, 65; 5:5, 15, 33; 6:8, 27
Capital Asset Pricing Model (CAPM) 1:11; 5:9, 15; 6:7
Capitalization 1:11; 2:24; 4:1, 5-7, 13, 17; 5:1, 2, 6-17, 19, 23-27, 29, 30, 34, 35
Capitalization (continued) 6:4-8, 10, 11, 13-15, 17-21, 28, 29
Capitalization Factor 1:11
Capitalization of Earnings Method 1:11
Capitalization Rate. 1:11; 4:5-7, 13, 17; 5:6-14, 17, 19, 23-27, 29, 30, 35; 6:4, 5, 7, 8, 10, 11, 13-15, 17-21
Capital Structure 1:11; 2:21, 24; 3:6, 7; 5:17-22, 24
Cash Flow 1:11; 4:1, 4-13, 16, 17; 5:7, 8, 13, 18, 19, 21-25, 34; 6:4-7, 14-17, 22, 23, 29
Common Size Statements 1:12
Control 1:12; 2:5, 10, 24; 3:10, 26, 54, 56, 62, 63; 5:20, 24; 6:1, 3, 5, 7, 10, 13, 16, 18, 21-23
Control Premium 1:12; 6:3, 5, 10, 13, 16, 18, 21
Cost Approach 1:12
Cost of Capital 1:12; 2:16; 4:4, 7, 17; 5:1-5, 17, 18, 23; 6:12
Debt-Free ..... See Invested Capital
Discount for Lack of Control 1:12
Discount for Lack of Marketability 1:12; 6:22
Discount for Lack of Voting Rights 1:12
Discount Rate 1:12; 4:4, 13, 17, 5:1, 34; 6:14-16
Discounted Cash Flow Method 1:12; 6:14, 29
Discounted Future Earnings Method 1:12; 6:16, 28, 29
Economic Benefits 1:12; 4:5; 6:22
Economic Life 1:12
Effective Date ..... See Valuation Date
Enterprise ..... See Business Enterprise
Equity 1:12; 2:3, 4, 6, 30, 32, 36, 43, 67; 4:5-9, 12, 13, 16, 17; 5:17, 10, 13-23, 27, 29-31, 34
Equity (continued) 6:3-10, 13, 15, 16, 18, 21, 22
Equity Net Cash Flows 1:12
Equity Risk Premium 1:13, 5:1-7, 13, 14, 17, 22, 23, 34
Excess Earnings 1:13; 6:8-13, 28, 29

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Excess Earnings Method 1:13
Fair Market Value 1:13, 2:5, 7, 8; 3:66; 5:20, 21; 6:1, 2
Fairness Opinion 1:13
Financial Risk 1:13; 5:6, 14, 15
Forced Liquidation Value 1:13
Free Cash Flow ..... See Net Cash Flow
Going Concern 1:13; 2:24; 3:43; 6:1
Going Concern Value 1:13
Goodwill 1:13; 2:21; 6:8, 11
Goodwill Value 1:13
Guideline Public Company Method 1:13
Income (Income-Based) Approach 1:13; 4:4; 6:4, 8
Intangible Assets 1:14; 6:1, 4, 8, 10, 13, 28, 29
Internal Rate of Return 1:14
Intrinsic Value 1:14
Invested Capital 1:14; 3:43; 4:5-7, 10, 11, 16, 17; 5:14, 16-19; 21-23
Invested Capital Net Cash Flows 1:14
Investment Risk 1:14
Investment Value 1:14; 6:20, 21
Key Person Discount 1:14
Levered Beta 1:14
Limited Appraisal 1:14
Liquidity 1:4, 3:32, 67; 4:13; 5:6, 7, 9, 13; 6:11, 19, 29
Liquidation Value 1:14; 6:1
Majority Control 1:14
Majority Interest 1:14
Market (Market-Based) Approach 1:14; 4:5; 6:1, 17, 19, 28
Market Capitalization of Equity 1:14
Market Capitalization of Invest Capital 1:15
Market Multiple 1:15; 5:24, 25
Marketability 1:15; 4:16; 6:3, 5, 7, 10, 13, 16, 18, 21-24
Marketability Discount ..... See Discount for Marketability
Merger and Acquisition Method 1:15
Mid-Year Discounting 1:15
Minority Discount 1:15
Minority Interest 1:15; 5:24, 25; 6:7, 23, 24
Multiple(s) 1:15; 4:5; 5:24, 25
Net Book Value 1:15, 6:2
Net Cash Flows 1:15; 4:4-11, 16, 17; 5:22, 34; 6:4-7, 16
Net Present Value 1:15; 4:13; 6:1, 15
Net Tangible Asset Value 1:15
Non-Operating Assets 1:15; 3:53; 6:1, 2, 5, 7, 9, 16, 18, 21
Normalized Earnings 1:15
Normalized Financial Statements 1:15; 3:67
Orderly Liquidation Value 1:15
Premise of Value 1:15; 2:4, 24; 3:43
Present Value 1:16; 4:13; 6:1, 14-16
Portfolio Discount 1:16
Price/Earnings Multiple 1:16
Rate of Return 1:16; 5:1, 9, 10, 15, 16, 27, 29, 30, 34, 35; 6:4, 8, 10-14, 29
Redundant Assets ..... See Non-Operating Assets

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Report Date 1:16
Replacement Cost New 1:16
Reproduction Cost New 1:16
Required Rate of Return 1:16
Residual Value 1:16; 6:14
Return on Equity 1:16; 5:1, 10, 15, 16, 29, 31; 6:8, 9
Return on Investment 1:16; 5:10; 6:1, 4
Return on Invested Capital 1:16
Risk-Free Rate 1:16; 5:7, 9, 10, 13, 22, 35
Risk Premium 1:16; 5:1-5, 7, 13, 14, 17, 22, 23, 27-29, 34
Rule of Thumb 1:16
Special Interest Purchasers 1:16
Standard of Value 1:16; 2:3; 3:43; 5:20; 6:1
Sustaining Capital Reinvestment 1:17
Systematic Risk 1:17; 5:5, 6, 11, 13, 34
Tangible Assets 1:17; 3:30; 6:1, 2, 4, 8, 10, 11, 13, 28, 29
Terminal Value ..... See Residual Value
Transaction Method ..... See Merger and Acquisition Method
Unlevered Beta 1:17
Unsystematic Risk 1:17; 5:5, 6, 11, 13, 34
Valuation 1:17; 2:1-5, 7, 8, 10, 11, 13-16, 19, 20, 22-24; 3:1, 2, 39, 41, 43, 57; 4:5-7
Valuation (continued) 5:1,-5, 7, 10, 15-20, 24, 26-28, 33; 6:1, 8, 17, 19, 22, 23, 27-29
Valuation Approach 1:17; 2:3
Valuation Date 1:17; 2:4, 11; 3:43, 57; 5:7, 13, 16
Valuation Method(s) 1:17; 6:1, 19, 28
Valuation Procedure 1:17
Valuation Ratio 1:17
Value to the Owner ..... See Investment Value
Voting Control 1:17
Weighted Average Cost of Capital (WACC) 1:14; 5:17, 18, 23

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