Measuring damages involving individuals: a CPA's litigation service guide with case studies

Holly Sharp

American Institute of Certified Public Accountants

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Measuring Damages Involving Individuals

A CPA’S LITIGATION SERVICE GUIDE WITH CASE STUDIES

Holly Sharp, CPA, CFP, CFE

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We express our gratitude to the following forensic and litigation services practitioners and others who provided direction for and reviews of this book.

William G. Cheese, CPA
Dutton & Associates, P.C.
Omaha, Nebraska

Regan Rockhill, JD, CFE, CPA
Washington DC

Daniel L. Jackson, CPA, CMC, CFE
AlixPartners, LLC
Dallas, Texas

Ronald L. Seigneur, CVA, CPA/ABV
Seigneur Gustafson Knight LLP
Lakewood, Colorado

Elliot A. Lesser, CPA, CFE
RSM McGladrey, Inc.
New York, New York

AICPA Acknowledgments

Committee Liaison
James Feldman, CPA/ABV
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Book Design
Graphic Design Services
Production
Steven Geske
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ACCESSING INTERACTIVE LINKS

Throughout the text you will find references to two types of links—Exhibit Links and CD Internet Links. Both types of links appear in boldface and are active on the CD-ROM.

- **Exhibit Links.** These are worksheets and sample forms collected at the end of each chapter, with boldface references in numerical order within the text of each chapter. To see an exhibit while reading the text on screen, click on its reference. To access the MS Word or Excel file for each exhibit, click on the icon beside the title of the exhibit.

  *Important.* We recommend that you initially save all documents on your hard drive before making any modifications. If you do modify any of these documents, you should save them under different file names. This will allow you to always have the unaltered files available on your hard drive and to continue to customize new documents as needed. Otherwise, you will need to pick up files from the CD-ROM each time you wish to make new documents.

- **CD Internet Links.** CD Internet Links enhance and extend the information in the text by linking you to the Web sites cited in the book. With an open Internet browser connection, you can access the Internet Links through two buttons on the CD-ROM title page—the TEXT button or the CD INTERNET LINKS button. In the text, click on the boldface references, where you will be linked directly to the Web site. In the list of CD Internet Links, click on any chapter title to access a Web page containing the list of activated links for that chapter.

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INTRODUCTION

This publication provides a guide to measuring damages to individuals in litigation from personal injury, wrongful death, and employment discrimination cases. Personal injury and wrongful death matters involve physical injuries to an individual, whereas employment discrimination cases relate to nonphysical damages to an individual arising out of an employment relationship. In each of these three matters, an event, accident, or incident may have caused future lost earnings, lost income, lost benefits, and increased costs. These elements are measured throughout the entire period of loss and presented as of the trial date or other reference date. Losses from trial date or other reference date to future dates are discounted to present value, as discussed in Chapter 11. *Black's Law Dictionary, 6th Edition* is a resource for more specific definitions.

An overview of the accountant’s role in measuring damages involving individuals is provided in Chapter 2. Specific issues in damage measurement are detailed in Chapters 3 through 11 and case studies are provided in Chapter 12.

Similar methodology is employed in the measurement of damages involving individuals in litigation matters; however there are important distinctions. Personal injury involves harm or damage to a living individual, whereas wrongful death involves harm or damage resulting in the death of an individual. Jurisdictional issues provide distinctions in the wrongful death damage calculations, as discussed in Chapter 7. Employment discrimination is specifically addressed in Chapter 9, which details the distinctions in this measurement of damages. The publication concludes with four case studies, one for each of the three litigation areas involving individuals, and an additional personal consumption illustration for wrongful death.
Chapter 1

Overview of the Law of Damages

Contributed by
Geoffrey P. Snodgrass, Esquire
New Orleans, Louisiana

The modern law of damages has evolved over the millennia from custom and usage. It was first codified as early as 4,000 years ago in the Sumerian Code of Lipit-Ishtar, which recognized the right to reparations for injury or damage to person or property. For example, the Code established a scale of damages for injuries to an ox:

If a man rented an ox and damaged its eye, he shall pay one-half [its] price . . .

If a man rented an ox and injured the flesh at the nose ring, he shall pay one-third [its] price . . .

If a man rented an ox and broke its horn, he shall pay one-fourth [its] price.

Some years later, the Babylonian King Hammurabi promulgated his eponymous code:

If a man destroy the eye of another man, they shall destroy his eye . . .

If he break a man's bone, they shall break his bone . . .

If a man knock out a tooth of a man of his own rank, they shall knock out his tooth . . .

If he knock out a tooth of a common man, he shall pay one-third mana of silver.

These ancient legal codes reveal a primal societal interest in the protection of persons and property and chronicle the evolution of the law of damages from self-help and tribal remedies to a state-sponsored means of resolving conflicts. Revenge was replaced by the taking of an eye for an eye and ultimately by monetary restitution. Accepted practice or custom
and usage provided the source of law for these early legal codes. As civili-
zations grew and populations soared, the resulting social conflicts gave
rise to increasingly sophisticated laws governing behavior.

Modern sources of law defining the scope of damages include rules of
administrative agencies, legislative promulgations, and judicial decisions.

“Damages” are broadly defined by 
Black's Law Dictionary as:

- a pecuniary compensation or indemnity, which may be recovered in the
courts by any person who has suffered loss, detriment or injury, whether to
his person, property or rights, through the unlawful act or omission or negli-
gence of another.

This chapter will cover types of damages, appeals of damages awards,
expert opinion, and relevant court cases.

**TYPES OF DAMAGES**

Although damages can arise from any loss or injury, the law does not
permit recovery in every case. Rules have been developed to insure a
sufficient connection between the tortious event and the resulting dam-
ages. Damages must flow naturally from the event in a direct and
continuous sequence, which is a foreseeable consequence of the event. 
Damages that are too remote to have been reasonably expected cannot
be recovered. Because damages are generally recognized to be remedial
rather than retributive, the goal is to restore the person to the pre-injury
status by calculating a monetary sum sufficient to compensate for the
injury. The exception to this rule is punitive or exemplary damages,
which are awarded to punish the wrongdoer and deter others from sim-
ilar behavior. Thus, recoverable damages can be grouped into three
broad categories:

1. General damages
2. Special damages
3. Punitive or exemplary damages

General and special damages are compensatory in nature and are
intended to reimburse the injured person for the actual damages sus-
tained. Examples of general damages include physical or mental
impairment and past, present, and future physical pain and suffering. In
some cases, damages for mental pain and suffering can be recovered with-
out physical injury where there is sufficient proof of mental distress
caus ed by a tortious event, which the average person would find emotion-
ally painful, such as witnessing the death or injury of a family member.
This is an evolving area of law, however, and many jurisdictions continue
to require evidence of physical harm before damages can be awarded for
emotional pain and suffering.

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1Henry Campbell Black, Black's Law Dictionary, 6th Edition (St. Paul, Minn.: West
General Damages

General damages cannot be fixed with mathematical certainty because they cannot be precisely calculated but they are presumed to have resulted from the nature of the injury. In the assessment of general damages, the judge or jury is granted broad discretion to award reasonable compensation for the natural and probable consequences of the wrongful act. Thus, general damages awards may vary from case to case depending upon the nature and extent of the injuries, the degree of disability, the ability of the injured person to engender sympathy, and the skill of the advocate.

Special Damages

Special damages can be measured with some certainty and include economic losses such as medical expenses, property damage, and loss of earnings. Expert witnesses are particularly helpful in assisting the courts with the complex calculations involved in fixing the measure of special damages.

Past losses from the date of the wrongful act, injury, or death to the date of trial can generally be fixed with certainty by calculating the amount of lost wages, medical expenses, and other pecuniary loss. Future losses cannot always be measured with certainty because such losses can be speculative or contingent and are not always subject to rigid proof. For instance, when measuring losses resulting from permanent disability or death, certain assumptions must be built into the analysis, including the victim's life expectancy, work life expectancy, and personal consumption habits. Reference is often made to authoritative studies and governmental tables to obtain these data. But, in the appropriate case, the expert witness may perform specific calculations tailored to the actual facts and circumstances of the case. Future losses must be discounted to present value using an appropriate discount rate often based upon the returns of safe investment vehicles like U.S. Treasury securities.

The law of damages recognizes that the measure of loss of future earnings is not always based on extrapolating and discounting actual wages. An individual's loss of earnings capacity may also be considered where there is adequate proof to demonstrate that earnings capacity exceeded actual earnings. Thus, an injured person who is underemployed at the time of the injury or who possesses more marketable skills may be entitled to an award that reflects those higher skills.

Losses of profits also constitute compensatory damages if they can be proven with reasonable certainty. Careful scrutiny of available records is essential to insure accurate projections. As with loss of future earnings, loss of future profits must be discounted to present value.

Punitive or Exemplary Damages

Punitive or exemplary damages may be awarded to punish the wrongdoer and to deter others from similar conduct. They are awarded in addition to other provable damages and can be significantly greater. Before an award of punitive damages can be made, there must be a
determination that the wrongful conduct was wanton or willful. The wrongful conduct must rise beyond mere negligence and constitute an outrage to society. Because punitive damages can be subject to abuse, some jurisdictions severely limit their applicability to cases such as drunk driving. Punitive damages have been the subject of constitutional attack but their use has generally been upheld subject to the protections afforded by due process.

**Hedonic Damages**

Yet another specie of damages has found its way into the legal maelstrom. Hedonic damages result from the loss of enjoyment of life. Hedonics have faced ferocious resistance by traditionalists who insist that they are duplicative of awards for emotional and physical pain and suffering. A recent Mississippi Supreme Court case, however, held that the loss of enjoyment of life should be fully compensated and should be considered on its own merits as a separate element of damages, not as a part of one’s pain and suffering (Kansas City Southern Railway Company, Inc. v. J.C. Johnson and Kerry Lynn Johnson). This case, however, preceded the passage of the Mississippi Tort Reform Act, effective January 1, 2003. The Tennessee Court of Appeals held that loss of enjoyment of life differs from pain and suffering because pain and suffering encompasses the physical and mental discomfort caused by an injury, whereas damages for loss of enjoyment of life compensate the injured person for the limitations placed on his or her ability to enjoy the pleasures and amenities of life (Sarah Overstreet v. Shoney’s, Inc.).

The majority of jurisdictions do not recognize the loss of enjoyment of life; however, some recognize the loss of enjoyment of life as a separate element in addition to pain and suffering (Id.; Florida Patient’s Compensation Fund v. Von Stetina, 474 So.2d 783, 792 [Fla. 1985]), and some recognize the loss of enjoyment of life only as integrated into pain and suffering (Brookshire Bros., Inc. v. Wagnon, 979 S.W. 2d 343,353 [Tex.Ct.App. 1998]; Kirk v. Washington State Univ., 746 P.2d 285 [Wash.1987]). An abstract authored by Thomas R. Ireland, Walter D. Johnson and Paul C. Taylor provides an analysis of hedonic damages in light of Daubert v. Merrell Dow. (To access this abstract see [CD Internet Link 1.1 “Economic Science and Hedonic Damage Analysis in Light of Daubert v. Merrell Dow.”])

**APPEALS OF DAMAGES AWARD**

An aggrieved party may request review of a damages award by the trial judge or appellate court. Many jurisdictions empower trial courts to alter awards or grant new trials. On appeal, the standard of review is abuse of discretion. If abuse is found, the appellate court raises or lowers the award to the highest or lowest amount over which reasonable minds could not differ.
EXPERT OPINION

An expert is “one who is knowledgeable in a specialized field, that knowledge being obtained from either education or personal experience.” Federal court cases are generally subject to the Federal Rules of Evidence. The expert may provide testimony and guidelines as provided in the Federal Rules of Evidence, rules 702 and 703. The rules are stated below.

Rule 702. Testimony by Experts: 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, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Rule 703. Bases of Opinion Testimony by Experts: The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to the expert at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence in order for the opinion or inference to be admitted. Facts or data that are otherwise inadmissible shall not be disclosed to the jury by the proponent of the opinion or inference unless the court determines that their probative value in assisting the jury to evaluate the expert’s opinion substantially outweighs their prejudicial effect.

To read more information on Federal Rules of Evidence, see CD Internet Link 1.2 “Legal Information Institute—Federal Rules of Evidence.”

RELEVANT COURT CASES

The United States Supreme Court in the seminal case of *Daubert v. Merrell Dow Pharmaceutical, Inc.* (509 U.S. 579 [1993]) identified four factors to consider in determining the admissibility of scientific evidence:

1. Whether the theory or technique can be or has been tested;
2. Whether the theory or technique has been subjected to peer review and publication;
3. Whether there is a high known or potential rate of error with respect to the theory or technique, and whether there are standards controlling the technique’s operation; and
4. Whether the theory or technique enjoys general acceptance within the relevant scientific community.

(To read a summary of *Daubert v. Merrell Dow Pharmaceutical, Inc.* see CD Internet Link 1.3 “Legal Information Institute—Daubert v. Merrell Dow Pharmaceutical, Inc.”)

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Subsequent court cases raised the issue of applicability of the *Daubert* rules to all expert testimony and this was resolved in *Kumho Tire Co. v. Carmichael*. (To read a summary of *Kumho Tire Co. v. Carmichael*, see [CD Internet Link 1.4 “Legal Information Institute—Kumho Tire Co. v. Carmichael.”](#) The Supreme Court applied its holding in *Daubert* to all expert testimony and required that such testimony be relevant and reliable before it is admitted.

A *Daubert* motion may be filed by opposing counsel to disqualify an expert. Use of an inappropriate or unaccepted methodology or the unacceptably application of an otherwise acceptable methodology represents grounds for precluding an expert's testimony in a *Daubert* motion. Failure to follow the four *Daubert* factors may result in the expert's testimony being ruled inadmissible. The following courts have invoked *Daubert* to preclude a CPA's or economist's expert testimony when unusual or unacceptable methodology was used:

1. *Frymire-Brinati v. KPMG Peat Marwick*, 2 F.3d 183 (7th Cir., 1993). The CPA calculated and testified to the value of partnerships by taking only past but not future cash flows into account. Appellate decision cited *Daubert* and held that this methodology was not typically used by experts in the field and therefore was unreliable.

2. *Target Market Publishing, Inc. v. ADVO, Inc.*, 136 F. 3d 1139 (7th Cir., 1998). Appeals Court ruled that the District Court did not abuse its discretion in applying the *Daubert* factors to exclude the expert report of the CPA valuation and economic damages expert. Target relied upon an expert report prepared by an accountant and business appraiser from Deloitte & Touche accounting firm. ADVO argued the report was based on utterly implausible assumptions and unreliable methodology. District Court agreed and excluded the Deloitte & Touche report under the *Daubert* factors.


4. *JMJ Enterprises, Inc. v. Via Veneto Italian Ice. Inc.* (USDC ED Pa. No. 97-CV-0652). Court rejected the expert testimony because it was not based upon facts and a sound methodology. The expert's conclusion was based on an unrealistic sales projection and also had significant errors, including the assumption that operating costs would not increase despite a significant increase in sales and the assumption that other expenses would disappear.

5. *Joy v. Bell Helicopter Textron, Inc.*, 999 F 2d 549 (DC Cir., 1993). The court found insufficient factual basis for the expert's opinion and pointed out that the expert testimony was based solely on guesswork, speculation, and pure conjecture.

6. *Marcel v. Placid Oil*, 11 F 3d. 563 (5th Cir. 1994). Testimony on worklife expectancy was excluded because it was based on a study that failed to compare worklife with national averages or worklife in other occupations.

Daubert questions that may be asked regarding economic loss calculations include the following:

- What are the relevant professional standards to use in the calculation of economic losses?
- Did you apply these standards in this case?
- What are the authoritative textbooks in the determination of damages for economic losses?
- What are the generally accepted methods to apply in determination of damages for economic losses?
- What assumptions did you make in formulating your opinion in this case?
- Did you assess the overall acceptability of your analysis?
- Are all assumptions and projections reasonable in comparison to the actual history in this case?
- How did you verify your projection of losses?
- Did you subject your analysis to peer review?

Many states have also adopted the Daubert principles, therefore similar motions may be filed in state and local courts. Consult the hiring attorney regarding the applicable jurisdictional issues in your case.
The measurement of damages suffuses personal injury, wrongful death, and employment discrimination cases. While these broad categories of cases share many common elements of damages, there are important differences in calculation and methodology among these cases. Measurement of damages involving individuals is often referred to as “economic damages.”

This chapter discusses types of issues that arise in economic damage engagements, the qualifications needed to perform the calculation, things to consider before accepting an engagement, reference materials for getting started, software programs that are useful, and things to consider after accepting the engagement.

ECONOMIC DAMAGE ENGAGEMENTS

Economic damage engagements involving individuals may include the issues listed below.

1. What would the individual have earned “but for” the injury, death, or incident?
   - Lost earnings, past and present
2. What other sums have been lost?
   - Fringe benefits
   - Household services
   - Other income
3. What additional expenses have been or will be incurred?
   - Medical
   - Rehabilitation
4. How long is the period of loss?
   - Worklife expectancy (Earnings and fringe benefits)
   - Life expectancy (Medical and household services)
5. At what rate would these amounts grow over the loss period?
   ■ Growth rate
6. At what rate should amounts be discounted to present value?
   ■ Discount rate
7. Should legal interest be applied to past losses?
8. Are growth and discount rates to be determined on a real or nominal basis?
9. Are taxes considered?
10. What are the key dates?
    ■ Date of injury, incident, or death
    ■ Date of birth
    ■ Date of birth of spouse and dependents
    ■ Date of trial
11. What is the jurisdiction?
    ■ Federal
    ■ State
12. What is the applicable law?
    ■ Federal Employers’ Liability Act (FELA)
    ■ Death on the High Seas Act (DOHSA)
    ■ Jones Act
    ■ Alaskan method
13. What other information may be relevant?
    ■ Sex
    ■ Race
    ■ Marital status
    ■ Number of dependents
    ■ Educational background
    ■ Retraining

**CPA’S QUALIFICATIONS**

Accountants and economists predominate this practice area. The certified public accountant (CPA) is qualified by training and experience to perform the calculation of economic damages. The CPA’s knowledge of compensation issues from preparing tax returns and providing accounting assistance to individuals and businesses provides the framework from which to establish the amount of losses. The CPA’s knowledge of varied industries provides the experience to determine applicable fringe benefits and rate of growth of wages and benefits. CPAs analyze historical financial and economic data, including surveys and studies, and are familiar with the use of statistics and sampling to evaluate the reliability of such data. The CPA’s knowledge of income tax rules and regulations is beneficial in the calculation of the economic loss on an after-tax basis. The CPA understands the concepts required to extrapolate amounts over the loss period and then discount them to present value at the date of trial, date of report, or other specified date. The CPA is familiar with risk issues inherent in the selection of the discount rate. The CPA is also experienced with computers and spreadsheet software that facilitate making the calculation. Finally, the CPA has the presentation skills to effectively explain the elements of the calculation and the conclusions to the trier of fact.
Qualification as an expert in calculation of economic damages is not limited to education and training. Experience with litigation matters is also recommended. If you do not have litigation experience, you may wish to consult with someone who does. You may want to limit your initial engagements to the defense side of a case to review and critique the findings and conclusions of the plaintiff's expert. You may also wish to first get training in other types of litigation, such as matrimonial disputes involving calculations of property divisions and support issues. This is generally not as complex as calculation of economic damages, when dealing with parties who do not have substantial accumulations of assets. Matrimonial disputes may get to trial more often than other types of litigation, thus building your trial experience.

**THINGS TO CONSIDER BEFORE ACCEPTING AN ENGAGEMENT**

There are numerous issues to consider before accepting an economic loss calculation engagement. Before accepting the engagement, you should feel competent to handle the engagement and any reservations should be discussed with the hiring attorney. This section will cover conflicts of interest, general considerations, and engagement letters.

**Conflicts of Interest**

All conflicts should be resolved before an engagement is accepted. You may wish to have a conflict checklist for documentation in your file. One method is to circulate a conflict clearance sheet among members of your firm before accepting an engagement. A sample sheet that may be used for this purpose is provided in Exhibit 2-1, “Sample Conflict Clearance Sheet.”

The CPA's communication responsibilities are set forth in Statement on Standards for Consulting Services (SSCS) No. 1, *Consulting Services: Definitions and Standards*, and are subject to the SSCS as well as the professional standards embodied in the AICPA Code of Professional Conduct. Conflicts of interest in litigation services engagements are discussed in AICPA's Consulting Services Special Report 93-2, *Conflicts of Interest in Litigation Services Engagements*. (To order a copy of *Conflicts of Interest in Litigation Services Engagements* see CD Internet Link 2.1 “CPA2Biz Store—Conflicts of Interest in Litigation Services Engagements.”) A conflict of interest may occur if a significant relationship could be viewed as impairing the practitioner's objectivity in the performance of a professional service. Before accepting an economic damages engagement, the practitioner generally discloses to the client any situations that may be viewed as conflicts of interest. SSCS No. 1 also requires practitioners, before accepting or during the engagement, to communicate to the client any serious reservations concerning the engagement. This communication may be oral or in writing. SSCS No. 1 does not require communication of significant reservations and significant engagement findings or events to be written.
General Considerations

The following considerations may be relevant in determining whether or not to accept an engagement:

1. Who are all plaintiffs and defendants in the dispute?
2. Who is representing each of these parties?
3. What is the jurisdiction of the dispute?
4. Who is the judge in the jurisdiction?
5. What party will pay the fees?
6. Will this party be unable to pay the fees if litigation is unsuccessful?
7. Should you get a retainer or prepayment of your fees?
8. Do you or other members of your firm have any conflicts of interest with any parties to the dispute?
9. What factors, if any, may give the appearance of a lack of independence?
10. What are applicable dates (such as due date of report and date of trial)?
11. What staffing will be needed for the engagement?
12. Are you competent to perform the engagement?
13. Will the engagement cause you to take a position that contradicts or conflicts with a position you or a member of your firm has taken previously?

Engagement Letter

Once you decide to accept an engagement, you may wish to document the terms of the engagement in an engagement letter. A written engagement letter, however, is not required, because the understanding with clients may be either oral or written as provided in SSCS No. 1. While a written engagement letter is not required, you may want to discuss with your firm’s own counsel whether an oral agreement provides you and your firm with adequate protection if a dispute arises between you and the client at a future time. Nonauthoritative guidance regarding engagement letters is provided in AICPA Business Valuation and Forensic and Litigation Services Section Practice Aid 04-1, Engagement Letters for Litigation Services. A sample checklist for developing a litigation services engagement letter and a sample engagement letter are included as Exhibit 2-2, “Sample Reminder List for Developing a Litigation Services Engagement Letter” and Exhibit 2-3, “Sample Litigation Services Engagement Letter.” (To order a copy of Engagement Letters for Litigation Services see CD Internet Link 2.2 “CPA2Biz Store—Engagement Letters for Litigation Services.”)

AICPA standards that apply to consulting services may be accessed at the AICPA Web site. (To access these standards see CD Internet Link 2.3 “AICPA Web site—AICPA Standards That Apply to Consulting Services.”)

REFERENCE MATERIALS

An economic damages engagement can require a variety of resource materials. Below is a list of general reference sources available. These resources are organized by general information, publications, journals and newsletters, and Web sites.
General Information

A checklist to obtain general case information is not provided because you may be criticized if you send a checklist and do not attempt to obtain all information requested on the checklist. A preferable approach may be to request information, based on your understanding of the facts of the case. Exhibit 2-4, “General Information,” contains information generally obtained in economic damages cases.

Publications

The following publications provide basic general information on economic loss calculation.

1. *Determining Economic Damages*, by Gerald D. Martin and Ted Vavoulis provides a thorough analysis of economic loss calculation and is updated annually. (To order, see CD Internet Link 2.4 “James Publishing—Determining Economic Damages.”)

2. *Litigation Services Handbook: The Role of the Financial Expert, 3rd Edition*, by Roman L. Weil, Michael J. Wagner, and Peter B. Frank, includes a chapter entitled “Calculation of Lost Earnings,” by Keith Ugone, Ph.D., Carlyn R. Taylor, MA, CPA, and George Miller, MBA. This publication also contains other chapters that may be useful in this practice area. (To order, see CD Internet Link 2.5 “CPA2Biz—Litigation Services Handbook: The Role of the Financial Expert.”)


5. *Litigation Services and Applicable Professional Standards*, by AICPA’s Forensic and Litigation Services Subcommittee. (To order, see CD Internet Link 2.8 “CPA2Biz—Litigation Services and Applicable Professional Standards.”)

Journals and Newsletters

The following journals and newsletters provide articles focusing on economic loss calculation.

1. *Journal of Forensic Economics*, published by the National Association of Forensic Economics (NAFE). (For an index of past articles see CD Internet Link 2.9 “National Association of Forensic Economics—Journal of Forensic Economics Index.”)

2. *Journal of Legal Economics*, published by the American Academy of Economic and Financial Experts. (For an index of past articles see CD
Web Sites

The following Web sites provide basic general information on economic loss calculation.

1. “Useful Definitions for Forensic Economists” is provided by Thomas R. Ireland, Ph.D., at the University of Missouri—St. Louis Web site. (To access this Web site see CD Internet Link 2.12 “University of Missouri—St. Louis, Forensic Economics—Useful Definitions for Forensic Economists.”)

2. Will Yancey, Ph.D., CPA has a Web site with numerous Internet links to sites relevant to litigation services and economic loss calculation. (To access this Web site see CD Internet Link 2.13 “Will Yancey Web site—Home Page.”)

3. The September 11th Victim Compensation Fund of 2001 gives the methodology used to provide compensation to individuals or relatives of individuals who were killed or physically injured as a result of the terrorist-related aircraft crashes of September 11, 2001. (To access this methodology see CD Internet Link 2.14 “The September 11th Victim Compensation Fund of 2001 Web site—Home Page.”)

COMPUTER SOFTWARE PROGRAMS

The damage calculations discussed in this book are facilitated by the use of computer software programs. Spreadsheet software such as Excel may be used to custom-design worksheets and sample calculations are illustrated in case studies in Chapter 12. Damages software packages are also available. Two popular packages are PC-Economist™ and Practitioners Publishing Company’s (PPC’s) Personal Damages Specialist™.

The PC-Economist software is produced by Advocate Software and includes programs on personal injury, wrongful death, wrongful termination, and structured settlement. (To order PC-Economist software, see CD Internet Link 2.15 “Advocate Software—Home Page.”)

THINGS TO CONSIDER AFTER ACCEPTING THE ENGAGEMENT

There are issues particular to litigation support services that may arise during the course of an economic loss calculation engagement that you need to consider. Discussed below are the relationship with the hiring attorney, issuing written reports, information subject to discovery, and deposition and trial testimony.
Relationship With Hiring Attorney

Once you have accepted an engagement, you should consult with the hiring attorney on any special issues. Jurisdictional issues present distinctions in methodology and the hiring attorney may be a resource in resolving uncertainties you have regarding the calculation. You should remember that the attorney is an advocate for the client, whereas you are an advocate for your independent opinion and your opinion should be the same, regardless of whether you are hired by the plaintiff or the defense. In some situations you may need your own counsel. In your deposition, for example, the opposing counsel may ask questions that would disclose confidential client or practice information, if answered. The hiring attorney may advise you of your rights, but he or she is not your attorney. You are always free to suspend the deposition to consult with your own attorney.

Issuing Written Reports

You should not automatically issue a written report unless authorized by the hiring attorney. Use extreme caution when issuing preliminary reports. You are not providing a draft for the attorney to edit. It may be preferable not to issue a preliminary report, but instead have any report contain language such as: “I reserve the right to amend, modify, or supplement this report based upon the receipt of new or additional information.” An oral discussion may be preferable to providing a preliminary or draft report. Any changes to your report suggested by the hiring attorney should be limited to clarification of facts or legal issues, not changes to your opinions or conclusions. Your opinions and conclusions should be consistent with the client’s legal theories of recovery.

Information Subject to Discovery

All information you have received and compiled in formulating your opinion may be subject to discovery. In each engagement, you may wish to discuss with the hiring attorney what notes and writings you should or should not make. Always comply with subpoena requests and disclose all information requested, after consulting the hiring attorney and/or your own firm’s attorney. You may wish to forward the information to the hiring attorney and have the hiring attorney submit the information. Any objections to discovery should be advanced by the hiring attorney. If the hiring attorney asks you to destroy or withhold documents, inform him or her that you cannot do so without a court order, consider whether you should withdraw from the engagement, and consult with your firm’s counsel.

Deposition and Trial Testimony

In deposition and trial testimony, be prepared to discuss and disclose all cases in which you have been hired over the past four years under Rule 26 of the Federal Rules of Civil Procedure or similar state rules. (To view Rule
You should keep a record of cases in which you provided testimony by deposition or trial. You may be asked the name of the case, the court, and the names of the attorneys in the case. You should note areas in which you were accepted as an expert by each court. Finally, expect challenges and be prepared with answers. The opposing attorney may attempt to discredit you and your opinion, as illustrated in the following sample questions:

- Have you ever been sued for malpractice?
  - If so, you may want to obtain statistics to illustrate the frequency of such suits against all accountants.
- Has any court not accepted you as an expert?
  - If so, you should be prepared to defend why this does not reflect negatively in the instant case.
- How many times did it take you to pass the CPA exam?
- Are you an economist?
  - A sample answer may be “I cannot answer yes or no to that question. I define an economist as an expert in economics. Accounting is a broad field that encompasses many aspects of economics. The subjects that relate to this case are earnings base, fringe benefits, growth factors, discount rates, and statistical studies. I consider myself an expert in all the economic issues that relate to this case.”

The opposing attorney may use testimony you have given in other cases to illustrate inconsistent positions you may have taken. Any testimony you provide in deposition or trial may be discovered by the opposing counsel. The opposing attorney may also use publications or course materials you have authored to illustrate inconsistent positions you have taken. The opposing attorney may use publications authored by other members of your firm to illustrate that you have not followed a methodology endorsed by someone in your firm. The opposing attorney may use AICPA publications and suggest that you have not complied with applicable AICPA standards by not reviewing and following the publication. The opposing attorney may ask, “Have you complied with the provisions of all AICPA publications?” An appropriate response may be, “I cannot answer that question unless I am referred to a specific publication. You also imply an obligation to follow these publications and there is not.”

Do not take offense to the questions asked by the opposing attorney, but answer in a professional and courteous manner. Do not let your integrity be compromised and always tell the truth.
EXHIBIT 2-1

LITIGATION SERVICES CLIENT ACCEPTANCE SHEET

<table>
<thead>
<tr>
<th>Date contacted</th>
<th>Case name</th>
<th>Director's name</th>
<th>Attorney's name</th>
<th>Attorney's firm</th>
<th>Client's name</th>
<th>Nature of business</th>
<th>Opposing party</th>
<th>Opposing attorney</th>
<th>Attorney's firm</th>
<th>Basis for case</th>
<th>Judge's name</th>
<th>Estimated hours</th>
<th>Party to pay fee</th>
<th>Trial date</th>
</tr>
</thead>
</table>

**Description of firm's role:**

Are we ❑ consulting experts or ❑ testifying experts?

Conflict? Yes ❑ No ❑ Date ______________

Partner or shareholder name or initials _____________________________________________

**OTHER INFORMATION YOU SHOULD OBTAIN WHEN HIRED:**

Is case in federal court or state court? ____________________________________________

What is deadline for submitting exhibits to be used in trial? _______________________

What is deadline for submission of report (If a report is to be submitted)? ___________
## CONTENT OF ENGAGEMENT LETTERS

This checklist may be a useful tool for practitioners when they tailor engagement letters for each specific litigation services engagement.

<table>
<thead>
<tr>
<th>Considerations</th>
<th>Considered</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attorney-client privilege and determination of practitioners’ role in the litigation</td>
<td>□ yes □ no</td>
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<tr>
<td><strong>Dating</strong></td>
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<td></td>
</tr>
<tr>
<td>Date the letter is prepared for sending to client</td>
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</tr>
<tr>
<td>Identify the “effective date” of the engagement</td>
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</tr>
<tr>
<td><strong>Identification of Parties</strong></td>
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<td></td>
</tr>
<tr>
<td>Practitioner</td>
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<td></td>
</tr>
<tr>
<td>Attorney</td>
<td>□ yes □ no</td>
<td></td>
</tr>
<tr>
<td>Client (litigant)</td>
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<td></td>
</tr>
<tr>
<td>Identification of case name, number, court/ADR (arbitration and dispute resolution) venue</td>
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<td></td>
</tr>
<tr>
<td>Statement that practitioner has been “engaged,” “hired,” or “retained”</td>
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<td></td>
</tr>
<tr>
<td>Representations concerning conflicts of interest</td>
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<td></td>
</tr>
<tr>
<td>Documentation of any conflict waivers</td>
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<td></td>
</tr>
<tr>
<td>Proscription against challenges to practitioners’ credibility</td>
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<td></td>
</tr>
<tr>
<td>Description of practitioner’s services</td>
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<td></td>
</tr>
<tr>
<td>General description of services</td>
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<td></td>
</tr>
<tr>
<td>More specific description of certain engagement parameters</td>
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<td></td>
</tr>
<tr>
<td>Limitations</td>
<td>□ yes □ no</td>
<td></td>
</tr>
<tr>
<td>Language pertaining to “direction by the attorney”</td>
<td>□ yes □ no</td>
<td></td>
</tr>
<tr>
<td>Documentation concerning contingencies and changes in performance obligations if they occur</td>
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<td></td>
</tr>
<tr>
<td>Documents the person(s) responsible for payment of fees</td>
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<tr>
<td>Documents retainer, if any</td>
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<tr>
<td>Amount</td>
<td>□ yes □ no</td>
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<tr>
<td>Charges against</td>
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<tr>
<td>Return of unused portion</td>
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<tr>
<td>Topic</td>
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<td>No</td>
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<tr>
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<tr>
<td>Identification of personnel or general staffing for engagement</td>
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<tr>
<td>Description of time and expense record-keeping</td>
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</tr>
<tr>
<td>Frequency of invoicing</td>
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</tr>
<tr>
<td>Requirement of payment before delivery of reports, and pre-trial and trial testimony</td>
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</tr>
<tr>
<td>Prospective changes in billing rates</td>
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</tr>
<tr>
<td>Procedure for billing and other disagreements (i.e., arbitration)</td>
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</tr>
<tr>
<td>Provision for collection costs</td>
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</tr>
<tr>
<td>Expenses for which client will be billed</td>
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</tr>
<tr>
<td>Reimbursement for travel time</td>
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<td>☐</td>
</tr>
<tr>
<td>Additional compensation if contingencies occur</td>
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<td>☐</td>
</tr>
<tr>
<td>Client's obligations for cooperation</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Indemnification</td>
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</tr>
<tr>
<td>Circumstances for which engagement may terminate</td>
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</tr>
<tr>
<td>Practitioner may use his or her judgment regarding termination</td>
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<td>☐</td>
</tr>
<tr>
<td>Identification of document status</td>
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<td>☐</td>
</tr>
<tr>
<td>Privacy statutes and prohibitions on use of covered information</td>
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<td>☐</td>
</tr>
<tr>
<td>Restriction on use of practitioner's work product</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Ownership rights for materials created for litigation engagement</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Document retention or destruction policy</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Engagement communication obligations to:</td>
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<td>☐</td>
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<tr>
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<td>☐</td>
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</tr>
<tr>
<td>Client (litigant)</td>
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<td>☐</td>
</tr>
<tr>
<td>Signed</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Dear Mr. Smith:

The purpose of this letter is to summarize our understanding of the assistance that CPA & Company will provide to you and your client, XYZ, Inc., in the matter of XYZ, Inc. v. ABC Corporation, et al. before the Superior Court of the State of California, County of Los Angeles, which matter is Case No. XXXXXX.

You have requested that we assist you with analysis and consultation with regard to the XYZ litigation matter as you may direct. I would also be prepared to provide testimony at deposition and trial should you decide that to be appropriate.

I will be responsible for the performance of our engagement with you and your client. My hourly billing rate is $XXX. From time to time, if necessary, other professionals may also assist when needed. The hourly rates for our professionals are in the following ranges: Senior managers and managers—$XXX to $XXX; senior accountants and senior consultants—$XXX to $XXX; and consultants—$XXX to $XXX. Our hourly rates are subject to change from time to time. We will advise you immediately if the rates are being adjusted by our firm.

Fees for our services are based on the actual time expended on the engagement at the standard hourly rates for the individuals assigned. In addition to our professional fees, we are reimbursed at cost for any travel and out-of-pocket expenses. Bills are rendered and are payable monthly as work progresses. We reserve the right to defer rendering further services until payment is received on past due invoices.

Our normal practice is to obtain a retainer, and we herewith request such a retainer in the amount of $XXX. This retainer is not intended to represent an estimate of the total cost of the work to be performed. The retainer will be held against the final invoice for the engagement; any unused retainer will be refunded.

We are certain that you recognize it is difficult to estimate the amount of time this engagement may require. The time involved depends on the extent and nature of available information as well as the developments that may occur as work progresses. It is our intention to work closely with you to structure our work so the appropriate personnel from our staff are assigned to the various tasks in order to keep fees at a minimum. Our fees are not contingent on the results obtained by you or your client in this litigation. We do not warrant or predict results or the final outcome of this matter.

The value of our firm’s services to you and your client is founded on our reputation for professionalism and integrity. Our firm has been engaged from time to time by a significant number of law firms, both locally and nationally, and it is likely that we are or have been engaged by firms representing clients adverse to

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*Adapted from Consulting Services Practice Aid 93-4, Providing Litigation Services (New York, N.Y.: AICPA, 1993).
your client in this matter. Your engagement of our firm is expressly conditioned on your agreement not to use the fact of our current or previous engagement by opposing counsel in other matters as a means of enhancing or diminishing our credibility in conjunction with any appearance before a trier of fact.

You, your client, and I all agree that any dispute over fees charged by our firm in this engagement will be submitted for resolution by arbitration in accordance with the rules of the American Arbitration Association. Such arbitration is limited only to the issue of fees charged and shall be binding and final. In agreeing to arbitration, we each acknowledge that in the event of a dispute over fees, each of us is giving up the right to have the dispute decided in a court of law before a judge or jury and, instead, is accepting the use of arbitration for resolution.

You or the law firm or the court itself will advise us, with sufficient notice, of the work to be performed by us and the requirement for appearance in court. Should information become known that would make our continued involvement in the engagement inappropriate or should the attorneys or parties involved in this litigation change, we reserve the right to withdraw from this engagement.

You and your client agree to hold our firm, its partners, and employees harmless from all liabilities, costs, and expenses relating to this engagement, as well as expenses (and those of our legal counsel) incurred by reason of any action taken or committed to be taken by us in good faith. In no event will our firm be liable for incidental or consequential damages even if we have been advised of the possibility of such damages.

All workpapers and other documents used by us during the course of this engagement will be maintained in segregated files. At the completion of the engagement, the originals and all copies thereof will be returned to you.

If the arrangements described in this letter are acceptable to you and the services outlined are in accordance with your requirements, please sign and return a copy of this letter. We request that your client also sign the acknowledgment copy of this letter. We look forward to working with you in this matter. If I can provide you with any additional information, please do not hesitate to call me at (555) 123-4567.

The proposed terms of this letter are subject to change if not accepted within 60 days of the date of this letter.

Very truly yours,

[Name and Title]
CPA & Company

The services described in this letter are in accordance with our requirements and are acceptable to me and my client.

Accepted:

_______________________________________ _______________________________
John A. Smith, Esq. Date
Smith, Smith & Jones

_______________________________________ _______________________________
XYZ, Inc. Date
Outlined below is information that might be helpful in all economic damages cases, then information that might be helpful specific to personal injury cases, wrongful death cases, and employment discrimination cases.

I. Obtaining information to calculate damages from personal injury, wrongful death, and employment discrimination

- Name of injured party
- Date of birth, race, and sex
- Date of injury, death, or incident
- Educational level of injured party
- Professional licenses or certifications held by injured party
- Marital status of injured party
- Name and date of birth of spouse
- Names and dates of birth of children
- Income tax returns
- Forms W-2 and Forms 1099
- Personal employment or educational records
- Medical records
- Vocational report
- Report of independent medical examiner
- Depositions
- Relevant interrogatories and responses
- Relevant responses to requests for production of documents
- Lawsuit complaint or petition
- Report of opposing expert

II. Personal Injury Cases: Additional information that may be obtained

Employment Information
- Job position at time of injury
- Employer’s name and address
- Employer-paid fringe benefits
- History of positions held and compensation

Medical Information
- Medical history of injured party
- Medical treatment as a result of the injury
- Continuing medical consequences of the injury
- Medical expenses incurred to date
- Medical expenses expected to be incurred in the future

Fringe Benefit Information
- Health insurance benefits prior to injury
- Retirement benefits prior to injury
- Vacation, holiday, and sick leave policy of employer
- History of positions held and compensation

Post-Injury Employment
- Actual or expected date of return to employment
Actual or expected job upon return to employment
Actual or expected wages upon return to employment

**Personal Information**
Amount of time from work missed or expected to be missed as a result of injury
Expected retirement age prior to injury
Expected retirement age after injury
Description of housework and chores performed prior to injury
Hours spent per week on housework and chores prior to injury
Description of housework and chores performed after injury
Hours spent per week on housework and chores after injury

**III. Wrongful Death Cases: Additional information that may be obtained**

**General Information**
Educational level of parents and siblings, if decedent was a minor
Work experience of parents and siblings, if decedent was a minor

**Employment Information**
Most recent employer of decedent and dates of employment
Job position held as of date of death
Job promotions anticipated with expected compensation
Employer’s name and address
Employer-paid fringe benefits

**Medical Information**
Medical history of deceased
Medical treatment as a result of the incident (This may apply if death was not immediate and medical expenses were incurred.)

**Fringe Benefit Information**
Health insurance benefits prior to injury
Retirement benefits prior to injury
Vacation, holiday, and sick leave policy of employer

**Personal Information**
Expected retirement age of decedent
Description of housework and chores performed prior to death
Hours spent per week on housework and chores prior to death

**IV. Employment Discrimination Cases: Additional information that may be obtained**

**Employment Information**
Resume of plaintiff at date of hire or incident
Current resume of plaintiff
Job description of job for which plaintiff was applying, or from which he or she was terminated or demoted
Current job description of plaintiff
Job position at time of termination or incident
History of job positions held and compensation
Employer's name and address
Company's fringe benefits plan and retirement plan summary as of the date of the incident and any subsequent editions
Memoranda from company stating standards of performance
Promotions and pay raises anticipated by plaintiff
Company's policies and procedures manual
Plaintiff's personnel file
Plaintiff's payroll file
Company's organizational chart
Company's salary schedule listing job classifications and salaries, from date of hire to present
Date of return to employment
Description of employment after incident, including name of employer, date of employment, job title, and job description
Wages of employment after incident
Identification of company peer employees at the same level as the plaintiff at the time of incident and their personnel files showing their vital statistics, qualifications, years with the company, compensation, and positions both before and after the incident

**Medical Information**
Medical history of plaintiff prior to termination or incident
Medical treatment as a result of termination or incident
Continuing medical consequences of the incident
Medical expenses incurred to date
Medical expenses expected to be incurred in the future (Generally psychiatric and psychological medical expenses apply to cases involving wrongful termination and discrimination.)
Worker's compensation claim file
Relevant medical reports

**Fringe Benefits Information**
Health insurance benefits prior to incident
Retirement benefits prior to incident
Vacation, holiday, and sick leave policy of employer

**Post-Incident Employment**
Actual or expected date of return to employment
Actual or expected job upon return to employment
Actual or expected wages upon return to employment

**Personal Information**
Amount of time from work missed or expected to be missed as a result of incident
Expected retirement age prior to incident
Expected retirement age after incident
When an injury, accident, wrongful termination, or other event occurs that affects an individual's ability to earn income, a lost earnings calculation may be needed. Quantification of the loss requires evaluation of what the individual was earning or could have earned, as well as evaluation of what the individual earns, or could earn, over the time period the individual would have worked. But-for earnings are earnings that would have been realized absent the event and may be referred to as unimpaired earnings. Actual earnings, expected future earnings, or both may be referred to as impaired earnings. Lost earnings are divided into past lost earnings and future lost earnings.

This chapter contains two examples of cases and discussions on calculation of earnings capacity, establishing the earnings base, reference materials, coordination with other experts, age-earnings profile, lost income from other sources, and earnings and income growth.

TWO SAMPLE CASES

Below are two sample cases. One is simple and the other is more complex.

A Simple Case

Bill Walker was 40 years old when he was injured in an accident. He is no longer able to perform any type of work and is not expected to recover. Bill testifies in his deposition that he planned to work until age 62 with no breaks other than annual vacations and holidays. He also testifies that he had no plans to change jobs or change employers for the rest of his worklife. The worklife tables you consult reflect a remaining worklife of 22 years for a male with Bill's level of education. Bill provides income tax returns for the past five years along with W-2 forms from his employer.
Bill’s salary had increased 3 percent above the rate of inflation each year and he had worked for the same employer, Jones Corporation, since graduation from college. Jones Corporation has a detailed employee benefit booklet outlining all fringe benefits available to employees.

- You use Bill’s annual wage in the year before the accident.
- You select a growth rate of inflation plus 3 percent.
- You select a worklife of 22 years.

A Complex Case

Alex Ford was 40 years old when he was injured in an accident. Reports from other experts conflict. Report One states that Alex may return to work in three years with several different employment scenarios. Report Two states Alex is totally disabled and cannot return to work. Alex worked for numerous employers during the previous five years but was not employed at the time of the accident. Alex has several wage forms (Forms W-2) for the past two years but he also earned income from his lawn-care business that he failed to report because he was paid in cash. He did not retain copies of his tax returns and has no other employment records. Alex testifies in his deposition that he was taking night courses at the local trade school so that he could become an electrician and “earn a lot more money.” He also testifies that he expected to double or triple the amount of money he was making in the lawn-care business.

- Which employment do you use for the wage base?
- What growth rate do you use?
- How do you account for the lawn-care business?
- What consideration do you give to the new career Alex was preparing for?

Calculation of Earnings Capacity

Earnings capacity attempts to measure potential earnings. These are earnings an individual could earn based on education, training, and experience whether or not the individual is ever engaged in such employment. Age, health, intelligence, and record of employment may also be considered. Earnings capacity should be based on a reasonably certain estimate of the ability to earn wages, compensation, or other form of remuneration.

*Black’s Law Dictionary* defines earnings capacity as follows:

> Term refers to capability of worker to sell his [or her] labor or services in any market reasonably accessible to him [or her], taking into consideration his [or her] general physical functional impairment resulting from his [or her] accident, any previous disability, his [or her] occupation, age at time of injury, nature of injury and his [or her] wages prior to and after the injury. *Sims v. Industrial Commission*, 10 Ariz.App. 574, 460 P.2d 1003, 1006. Term does not necessarily mean the actual earnings that one who suffers an injury was making at the time the injuries were sustained, but refers to that which, by virtue of the training, the experience, and the business acumen possessed, an individual is capable of earning.¹

Example

Deborah is a 38-year-old high school science teacher with a Ph.D. in biology. She earns $36,000 per year teaching school, but could earn twice that amount working as a research biologist for a pharmaceutical company, earning $72,000 per year. Rather than use her actual earnings of $36,000 per year, many jurisdictions would allow her to recover losses based on her earnings capacity of $72,000 per year. Without sufficient evidence that the research biologist job was attainable by Deborah, use of $72,000 instead of $36,000 as the base to calculate lost earnings may be considered speculative and not a reasonably certain estimate of her loss.

...the trier of fact must distinguish between persons with only vague hopes of entering a new profession and those with the demonstrated ability and intent to do so. Often, making this distinction depends on the steps the person has actually taken to accomplish his or her educational or career goals.  

Earnings capacity also encompasses work skills that may be acquired.

Example

Burt was killed in an automobile accident and his heirs file a wrongful death action. Burt was in his final year of medical school, but his employment history only reflects jobs paying slightly above minimum wage. Most jurisdictions would allow lost earnings to be based on the amount Burt could have earned as a doctor.

Example

Mary was employed as a waitress when she was injured and totally disabled in an automobile accident. She had considered going to nursing school, but at the time of the accident had not applied to any nursing schools and lacked the education to qualify for admission to nursing school. Most jurisdictions would consider this to be a speculative claim and not evidence of her earnings capacity.

Earnings capacity represents what a person would have been capable of earning but for the injury or incident. The mere desire of attaining particular employment with no other evidence will probably be considered speculative.

ESTABLISHING THE EARNINGS BASE

Establishing the earnings base is generally the starting point of the lost earnings calculation. This figure may then be used to project future values. The base represents the earnings as of the date of injury, accident, or other incident. The earnings base is generally stated as an annual amount that purports to represent the earnings a person is capable of making. Past employment history may be sufficient to establish a base, as illustrated at the beginning of this chapter in “An Ideal Case.” “A Realistic Case” illustrates a scenario where additional work may be required.

Sarah Overstreet v. Shoney’s, Inc. http://www.tsc.state.tn.us/opinions/tea/PDF/992/overstre.pdf. (Note: if you are unable to access this pdf file, go to www.google.com and type “Sarah Overstreet v. Shoney’s.” This will take you to the case.)
The calculation becomes more arduous when projecting earnings for individuals who have not entered the workforce or have not begun their vocation. Examples include minor children and students, for whom the determination of future earnings will be based partly on educational considerations, including the education of the individual, siblings, and the parents.

Once established, this amount provides the basis for growth of amounts that are segregated into past losses and future losses. Future losses are discounted to present value to provide loss as of trial date or other applicable reference date.

REFERENCE MATERIALS—LOST EARNINGS AND LOST INCOME

The following information may be helpful in establishing lost earnings:

- Historical actual annual earnings before the tortious event
- Historical information regarding job positions, performance ratings, salary, and benefits information, including information on previous employment
- Employment status before the injury
- Actual or expected occupation or position
- The likelihood of future advancement
- Efforts to find alternative employment
- Actual or expected education level
- Actual earnings of individuals working in comparable positions
- Actual earnings of individuals working in similar industries

Sources for this information are outlined below.

Earnings History

Calculation of lost earnings usually begins with a request for earnings history of the past three to five years. Income tax returns, W-2 forms and Forms 1099-MISC, and deposition testimony may provide historical earnings information. The taxpayer or the taxpayer's representative may request prior tax returns from the Internal Revenue Service on Form 4506. (To access prior tax returns see CD Internet Link 3.1 “IRS—Prior Tax Returns.”) The taxpayer or the taxpayer’s representative may also request earning history from the Social Security Administration. (To access a Social Security Administration earning history see CD Internet Link 3.2 “Social Security Administration—Earning History.”)

Company data may be useful in establishing lost earnings, particularly companies that provide detailed compensation information for the various levels of employment. Trade associations and unions may also be sources of useful data.

A vocational rehabilitation report may provide information on alternative employment opportunities and the retraining required for new job positions. Historical earnings are not always indicative of the future, particularly when someone worked for several employers, was unemployed, or had not completed schooling.
Government Sources

Government surveys and statistics provide volumes of valuable earnings information and the Internet makes much of this data easily accessible. The U.S. Department of Labor, Bureau of Labor Statistics publishes the *Occupational Outlook Handbook*, which includes earnings and expected job prospects for a wide range of occupations. The handbook is revised every two years. (To access the *Occupational Outlook Handbook* online see **CD Internet Link 3.3** “Bureau of Labor Statistics—*Occupational Outlook Handbook*.”) This publication may be a good starting point for researching occupational information because it provides an overview of occupations and their future outlook and compensation information. It also provides sources of additional information including Internet addresses.

The U.S. Department of Commerce, Bureau of the Census publishes “Money Income of Households, Families and Persons in the United States—Money Earnings by Sex, Age and Education.” Specific industry information may be available from the U.S. Department of Commerce publication *U.S. Industry & Trade Outlook*. (To order either publication see **CD Internet Link 3.4** “U.S. Department of Commerce—National Technical Information Service.”)

The U.S. Department of Labor publishes *Employment and Earnings* monthly and the Bureau of Labor Statistics publishes “Compensation and Working Conditions” each quarter. (To access *Compensation and Working Conditions Online* see **CD Internet Link 3.5** “Bureau of Labor Statistics—*Compensation and Working Conditions Online*.”) The U.S. Department of Labor also conducts occupational surveys of local and regional areas. The “Occupational Compensation Survey” was published from 1992 to 1997 and has been replaced by the “National Compensation Survey.” The National Compensation Survey includes hourly earnings and weekly hours by occupation by several levels within an occupation. Occupations are evaluated using factors such as knowledge, complexity, and scope of responsibility. (To access these surveys see **CD Internet Link 3.6** “Bureau of Labor Statistics—*National Compensation Survey*.”)

Minimum wage data is available from the Department of Labor. (To access minimum wage data see **CD Internet Link 3.7** “Department of Labor—Minimum Wage Data.”) The federal minimum wage law was enacted in 1938 and set a minimum hourly wage rate of $0.25. The following schedule details recent increases in the federal minimum wage.

<table>
<thead>
<tr>
<th>Date</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
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<tr>
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<tr>
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<td>$4.75</td>
</tr>
<tr>
<td>September 1, 1997</td>
<td>$5.15</td>
</tr>
</tbody>
</table>
State law may provide for a minimum wage rate that is different from the federal rate. Where federal and state law have different minimum wage rates, the higher standard applies. (For information on minimum wage laws in the states see CD Internet Link 3.8 “Employment Standards Administration—Minimum Wage Laws in the States.”)

Other General Sources of Earnings Information

1. National Association of Colleges and Employers. Address: 62 Highland Avenue, Bethlehem, PA. Telephone number: (800) 544-5272.
2. Economic Research Institute (ERI)—Benefit and Cost of Living Research. (To access the ERI Web site see CD Internet Link 3.9 “Economic Research Institute.”)
3. Ohio State University Department of Economics. (To access the Ohio State University Department of Economics Web site see CD Internet Link 3.10 “Ohio State University Department of Economics.”)
4. Sometimes job search Web sites can provide insights into current salary ranges. A few of the largest sites are listed below.
   — careerbuilder.com. (To access careerbuilder.com see CD Internet Link 3.11 “careerbuilder Web Site.”)
   — MSNcareers.com. (To access MSNcareers.com see CD Internet Link 3.12 “MSNcareers Web Site.”)
   — jobweb.com. (To access jobweb.com see CD Internet Link 3.13 “jobweb Web Site.”)

Industry-Specific Sources of Earnings Information

■ Accounting and Financial
   — American Institute of Certified Public Accountants. (To access the AICPA see CD Internet Link 3.14 “American Institute of Certified Public Accountants—Accounting Salaries.”)
   — Robert Half and Associates. (To access see CD Internet Link 3.15 “Robert Half—Salary Guide.”)

■ Legal
   — American Bar Association. (To access the ABA see CD Internet Link 3.16 “American Bar Association Web Site.”)
   — Altman Weil, Inc. provides economic data about the legal profession. Its publications include “Survey of Law Firm Economics,” “Law Department Compensation Benchmarking Survey,” and “Small Law Firm Economics.” (Telephone number: (888) 782-7297) (To order these Altman Weil publications see CD Internet Link 3.17 “Altman Weil Web Site.”)

■ Medical
   — Medical Group Management Association (MGMA), Englewood, CO, (Telephone number: (303) 397-7895). MGMA compiles data on physician compensation and productivity. Its annual publication Physician Compensation and Production Survey provides compensation statistics for various medical specialties as well as information on retirement benefits and the impact of managed care on medical practices. Data is obtained from surveys of physicians. (To visit the
MGMA Web Site see **CD Internet Link 3.18** “Medical Group Management Association Web Site.”
— American Medical Association, Chicago, IL. (To access, see **CD Internet Link 3.19** “American Medical Association Web Site.”)
— MD-Network Web Site. This national healthcare staffing and consulting firm posts its **Physician Compensation Survey** on its Web Site. (To access the MD-Network Physician Compensation Survey see **CD Internet Link 3.20** “MD-Network—Physician Compensation Survey.”)
— Physician’s Weekly. (To access see **CD Internet Link 3.21** “Physician’s Weekly.”)

**Military**
— Defense Finance and Accounting Service gives information on military pay and allowances. (To access see **CD Internet Link 3.22** “Defense Finance and Accounting Service—Money Matters.”)

**ESTABLISHING THE EARNINGS BASE FOR INDIVIDUALS**

**WITHOUT WORK HISTORY**

The earnings capacity of a child or someone who has no work history may be projected by reference to U.S. Census surveys. Data is provided on earnings by sex, by education, and by age. The U.S. Census P-60 package provides detailed family income data in the Annual Demographic Survey. Educational attainment in the United States is also provided by the U.S. Census Bureau in P-20 Detailed Tables for Current Population Report. You may wish to consider the peer group and socioeconomic background to attain the proper earnings base. The education level of other family members may be a factor utilized in projecting earnings capacity.

(To access the census information see **CD Internet Link 3.23** “Census Publications.”)

**COORDINATION WITH OTHER EXPERTS**

Vocational rehabilitation experts may be utilized to provide data regarding employment alternatives. The hiring attorney generally coordinates this. A vocational rehabilitation expert may provide information regarding the vocation potential of the injured worker with details of what jobs the injured worker could perform and a labor market survey regarding what jobs are available with applicable salary ranges in the local labor market. The vocational rehabilitation expert may also provide a review of the current status of medical and vocational issues with suggested applicable return-to-work dates. The economic expert may rely on this information in establishing the earnings an injured worker will earn over the remain-
ing worklife. The testimony of the economic expert will then be coordinated with the testimony of the vocational rehabilitation expert.

AGE-EARNINGS PROFILE

The age-earnings profile considers the effect of age on earnings. Studies show that earnings generally increase at greater rates for younger individuals and that earnings growth reaches a peak and may decline for older individuals. This concept is illustrated in Chart 3-1, “Men’s Earnings Peak at Age 45-54.” (This chart is also available at CD Internet Link 3.24 “Department of Labor—Monthly Labor Review.”) This concept is also evident in the earnings growth rate provided by the Current Population Survey, a monthly survey of households conducted by the Bureau of the Census for the Bureau of Labor Statistics. (To access the Current Population Survey see CD Internet Link 3.25 “Bureau of Labor Statistics—Current Population Survey.”)

![Chart 3-1 Men’s Earnings Peak at Age 45-54](chart)

The use of historical growth in earnings may require consideration of the age-earnings profile to determine a reasonable future earnings growth rate.

Example

Christina began working for a public accounting firm at age 23. Her starting salary was $24,000 and increased at rates of 10.4 percent, 13.2 percent, and 13.3 percent over a four-year period. At the end of four years, her salary was $34,000. You select $34,000 as the earnings base and 13.3 percent as the earnings growth rate, based on analysis of earnings history.

This analysis fails to consider that earnings are not expected to rise 13.3 percent each year of her worklife expectancy. The substantial increases in salary reflect on-the-job training and educational achievements Christina has attained, but such increases level out over time.
The average of prior income supported by the age-earnings analysis has been criticized by the United States Court of Appeals for the Sixth Circuit. (Phillip R. and Edna Cappello, individually and Phillip R. Cappello as Administrator of the Estate of Kirk P. Cappello v. Duncan Aircraft Sales of Florida, Inc., No. 94-5543, United States Court of Appeals for the Sixth Circuit. (To read the file see CD Internet Link 3.26 “FindLaw—Phillip R. and Edna Cappello, individually and Phillip R. Cappello as Administrator of the Estate of Kirk P. Cappello v. Duncan Aircraft Sales of Florida, Inc.”) This is a case involving the wrongful death of a musician who was 28 years old when he was killed in an airplane crash. The musician had earned an average of $98,171 for the last two years and earned over $100,000 in income in the last year before his death as the bandleader for country music singer, Reba McEntire.

The defendant’s expert averaged the decedent’s earnings for the preceding five years, which included very low earnings when he was in music school and just getting started in his profession, to obtain an earnings base of $59,920. The expert supported this approach with the age-earnings profile of male full-time workers with four years of college whose income increases until age 54. The expert showed the average worker had 40 percent higher earnings at age 28 than at age 23, but only 30 percent higher at age 36 than age 28. The court found “The worst mistake by (the expert), and hence by the jury, was in relying upon an assumption that the economic value of a decedent’s life should be based on an average income for the last five years before his death...The unreasonableness of this assumption is demonstrated by the fact that decedent was only 28 years old when he died and had earned as a musician an average of $98,171 for the last two years.” The court further concluded that if the expert had relied on the earnings curve on the profile, he could not have concluded that the decedent’s income in 1990 and 1991 would have reached the amounts actually earned.

The age-earnings profile approach may be criticized because it may not be representative of a particular worker. Age-earnings data may be used to determine the earnings base, but caution should be exercised if using age-earnings factors to forecast earnings over all years of worklife.

Studies of age-earnings profiles include:


**LOST INCOME FROM OTHER SOURCES**

An individual’s income from other sources, such as rental properties, interest, dividends, or royalties, may be examined to determine if it was
affected by the loss event. Similarly, the loss event may cause the individual to incur additional expenses that would not have been incurred but for the loss event.

Example

Before the loss event, the claimant performed management and repair services for rental properties he owned, but he is unable to perform these services after the event. The cost of hiring an outside maintenance or management company may represent an increased expense and may be a monetary loss to the claimant.

Example

Before the loss event, the claimant earned royalty income from a textbook that required periodic updating to be marketable. The cost to hire another person to perform this service would represent an increased expense and may be a monetary loss to the claimant.

EARNINGS AND INCOME GROWTH

The projection of earnings into the future generally requires consideration of growth factors. Earnings growth may be at the level of the Consumer Price Index (CPI), or may include merit or productivity increases. Growth rates that do not include the effects of inflation are referred to as “real” rates and growth rates that include the effects of inflation are referred to as “nominal” rates. The formula to calculate the real rate is \[\frac{(1 + \text{nominal rate})}{(1 + \text{real rate})} - 1\]. The formula to calculate the nominal rate is \[(1 + \text{real rate}) \times (1 + \text{inflation})\] – 1.3

\[
\text{Real} = \frac{(1 + \text{Nominal})}{(1 + \text{Inflation})} - 1
\]

\[
\text{Nominal} = (1+ \text{Real}) \times (1 + \text{Inflation}) - 1
\]

Example

The rate of inflation is 2.2 percent and the real rate is 3 percent. The calculation of the nominal rate is not a sum of the two rates (which would be 5.2 percent), but instead a geometric calculation (which would be 5.266 percent).

CPI information is available in the Economic Report of the President, published annually. (To access the CPI online see CD Internet Link 3.27 “Bureau of Labor Statistics—Consumer Price Index.”)

The Employment Cost Index (ECI) attempts to measure the total change in wages and compensation throughout the workforce. This index is provided quarterly by the Bureau of Labor Statistics and captures changes in both wage and benefit costs. The ECI measures changes in compensation costs, which include wages, salaries, and employer costs for employee benefits. The ECI for March 2000 reflected an increase of 4.3 percent from March 1999. (To access the ECI online see CD Internet Link 3.28 “Bureau of Labor Statistics—Employment Cost Index.”)

Lost fringe benefits may also represent an element of loss. Typical fringe benefits may include:

- Employer contributions to health, life, and disability insurance
- Employer contributions to retirement plans
- Expense account allowances
- Paid holidays
- Paid vacations
- Educational assistance
- Section 125 (Cafeteria) plans
- Child care assistance

This chapter covers the calculation of the value of lost fringe benefits, sources of information on fringe benefits, employer and employee contributions for Social Security, defined contribution retirement plans, defined benefit retirement plans, and health, life, and disability insurance.

**CALCULATION OF THE VALUE OF LOST FRINGE BENEFITS**

Working-condition fringe benefits lost as a result of personal injury, wrongful death, or employment discrimination are valued as of injury or incident date (or other reference date, such as report date). Then the period of loss is determined. The period of loss may be worklife expectancy, or may end when alternative employment is obtained. The loss period generally ends when lost fringe benefit(s) is(are) replaced. Some fringe benefits are provided during retirement, thus extending the loss period through life expectancy. Health insurance coverage is sometimes part of a retirement package, representing an example of a fringe benefit that is extended beyond worklife expectancy.
Once the value of the benefit and the period of loss are determined, the lost benefit is quantified by applying growth and discount factors. The lost benefit may be based upon the cost to the employer, the value to the employee (replacement cost), or based upon an amount obtained from national surveys. The benefit may be stated as a percentage of compensation in the base year with future growth at the same rate as the salary. The benefit may be a specific dollar amount with growth factors applied separately.

When the lost fringe benefit is stated as a percentage of lost earnings, caution should be exercised because the lost benefits may not have grown at the rate of the lost earnings. Furthermore, the fringe benefit may be replaced although earnings are reduced.

**Example**

Connie was provided medical care coverage by her employer before her personal injury. The value of this benefit was $1,500 per year, or 5 percent of her $30,000 annual compensation. She obtains new employment, but at a reduced level of compensation. The new employment also provides medical care coverage. Connie may have lost earnings, but the fringe benefit has been replaced. Expressing fringe benefit loss as a percentage of income in this instance would overstate the damages.

The value of some fringe benefits may have been included in the calculation of lost wages. Paid vacations and holidays may be a working condition fringe benefit, but the value may already be included in lost earnings.

**Example**

Jill earns $20,000 in annual compensation. Her compensation includes two weeks of paid vacation and six holidays each year. The value of the vacations and holidays has already been considered in calculating lost wages and does not represent an additional fringe benefit loss. The vacations and holidays are included in the compensation of $20,000 and the lost wage calculation uses $20,000 as the base to establish the loss.

**REFERENCE MATERIALS—FRINGE BENEFITS**

The claimant, claimant’s family, or both, may be a starting point to provide information regarding fringe benefits. Other sources of fringe benefit information are listed below.

**Employer**

The employer records, employer benefit policies, and retirement plan policies may provide information.

**Union Contracts**

If the claimant was a member of a union, the union contract may provide fringe benefit information and both past and current contracts may be useful. Contracts may be obtained from the union if not available from the employee.
The Employee Benefits Survey

The Employee Benefits Survey provides data on such fringe benefits as vacation, disability, medical and dental care, life insurance, and retirement benefits. This survey is one of the products of the National Compensation Survey compiled by the Bureau of Labor Statistics. Data is obtained from surveys of small private establishments (those with fewer than 100 employees), medical and large private establishments (those with 100 or more employees), and state and local governments. The objectives of the surveys are to obtain information on the incidence and characteristics of employer-provided benefits. Time off is the most frequent benefit for full-time employees in medium and large establishments. (To access The Employee Benefits Survey see CD Internet Link 4.1 “Bureau of Labor Statistics—The Employee Benefit Survey.”)

U.S. Chamber of Commerce Employee Benefits Study

The U.S. Chamber of Commerce Employee Benefits Study is the Chamber of Commerce’s annual survey of average employer contributions to employee fringe benefits. The study provides details of the distribution of employee benefits and average benefit payments with industry comparisons and variations by company size. The study may be obtained by calling (800) 638-6582 for a cost of $850 for members and $875 for non-members. (For additional information see CD Internet Link 4.2 “U.S. Chamber of Commerce Web Site.”)

Employee Benefit Research Institute

The Employee Benefit Research Institute is a nonprofit organization that provides employee benefits information. Its Internet site provides a link to numerous sources of fringe benefit information. (To visit the Employee Benefit Research Institute Web site see CD Internet Link 4.3 “Employee Benefit Research Institute Web Site.”)

EMPLOYER AND EMPLOYEE CONTRIBUTIONS FOR SOCIAL SECURITY

Employer and employee contributions for Social Security provide insurance for old age, survivors, disability, and health. Contributions are made by both the employer and employee, limited to a maximum earnings amount. As of year 2004, the maximum earnings amount was $87,900 with 6.2 percent contributed by each for old age, survivors, and disability (Social Security) and 1.45 percent contributed by each for health insurance (Medicare). The portion allocated to health insurance may not represent a lost fringe benefit because once a person qualifies for Social Security, he or she receives the health insurance benefit regardless of the dollar amount contributed. The 1.45 percent applies to unlimited earnings, whereas the 6.2 percent is capped at the maximum earnings amount.

The portion allocated to Social Security may also not represent a lost fringe benefit because contributions into Social Security do not necessar-
ily correlate with future payments. Social Security benefits are provided to workers with 40 quarters of credits (10 years) and the benefit amount is based on the Primary Insurance Amount (PIA). Earnings are indexed over lifetime earnings history to determine Average Indexed Monthly Earnings (AIME). This AIME amount is then used as a base to arrive at PIA. Social Security benefits are based upon an individual’s earnings over specified years. The contributions to Social Security are not designated to individual employees and are not set aside and invested on behalf of individual employees. The fringe benefit loss, if any, is generally the reduction in future Social Security benefits and not the employer and employee cost of Social Security benefits.

The Social Security Administration provides a Benefits Estimate Program. (To access the Benefits Estimate Program see CD Internet Link 4.4 “Social Security Administration—Benefits Estimate Program.”). You may also request a Social Security Statement that estimates future Social Security benefits on Form SSA-7004 and provides earnings history. (To request a statement see CD Internet Link 4.5 “Social Security Administration—Request a Social Security Statement.”)

The normal retirement age for Social Security retirement benefits is presently age 65, but will increase from 65 to 67 over the next years. The increase is phased in at a rate of two months per year for individuals reaching age 62 in years 2000 to 2005, and then two months per year for individuals reaching age 62 in years 2017 to 2022. The retirement age will be 66 for individuals reaching age 62 in years 2006 to 2016 and will be 67 for individuals reaching age 62 after 2022.

Other jurisdictional issues may be relevant to consideration of Social Security as a lost fringe benefit, particularly the collateral source issue. The collateral source rule provides that if an injured person receives compensation for injuries from a source wholly independent of the tort-feasor, the independent payment should not be deducted from the damages. Measurement of Social Security benefits as a lost fringe benefit may result in Social Security payments being disregarded as a collateral source, if the jurisdiction provides Social Security payments are a collateral source. It is advisable to consult the hiring attorney prior to calculation of lost fringe benefits attributable to contributions to Social Security.

DEFINED CONTRIBUTION RETIREMENT PLANS

The loss of contributions to defined contribution retirement accounts represents two elements of loss. The annual employer contribution is lost and the amounts these contributions would have earned are also lost.

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Example

Phil's employer contributed 5 percent of annual compensation to a retirement account. Lost compensation in the base year is $20,000, therefore $1,000 of retirement contribution has been lost. Compensation was projected to grow at an annual rate of 5 percent. Phil was not required to contribute to receive the employer contribution. Phil's past employer retirement contributions have been invested in a value-stock mutual fund with annual returns slightly below the investment returns of the Standard & Poor's 500 (S&P 500). You review the retirement plan statement detailing Phil's account balances and investment returns. The past results represent an average 11.6 percent growth. You refer to Stocks, Bonds, Bills and Inflation Yearbook published by Ibbotson & Associates and determine the S&P 500 results average 12.3 percent over this same period. You select a future growth rate of 11 percent to project lost retirement earnings.

DEFINEd BENEFIT RETIREMENT PLANS

Defined benefit retirement plans typically provide payments based on average compensation and the number of years worked. A shortened worklife will result in a lower defined benefit retirement payment. Calculation of the loss will compare the benefit to be provided with the benefit that would have been provided from retirement through life expectancy. Employee contributions that would have been made during worklife reduce this lost benefit.

Example

Sarah teaches in a public school and after 20 years of service is eligible for a monthly defined benefit retirement payment of 2.5 percent of her average compensation for her three highest years of compensation, times the number of years she has been employed. The retirement payment is not indexed over the retirement period; the retirement payment is unchanged during retirement. She must contribute 6 percent of her gross wages to the retirement plan. Sarah was injured in an accident and due to the accident, she is no longer able to work. Her life expectancy as of the accident date is 25 years. As a result of the accident, her public school employment totaled 18 years of service instead of the 23 years you project she would have worked if not for the accident. Sarah did not work the required 20 years to be eligible for any retirement payment. Her lost retirement benefit is calculated by computing the retirement benefit Sarah would have received over her life expectancy had she worked the full 23 years. This is compared to the actual retirement benefit Sarah will receive over her life expectancy, based upon 18 years of service, which in this case is zero. The calculation includes the 6 percent of expected wages Sarah would have been required to contribute from years 18 through 23 as a cash outflow during these years, and projected amounts are discounted to trial date. A sample calculation is illustrated in Exhibit 4-1, "Sample Retirement Calculation."
HEALTH, LIFE, AND DISABILITY INSURANCE

Generally this fringe benefit does not represent a loss in wrongful death cases unless family coverage was provided. The value of the benefit allocable to the family represents the loss, but the decedent’s portion represents no loss. Insurance provided by an employer in cases other than wrongful death may represent a lost fringe benefit. The value may be determined by reference to the cost to the employer or the replacement cost. The replacement cost of insurance may be based on the actual amount expended (if replacement insurance has been obtained) or obtained from sources such as Blue Cross/Blue Shield or other insurance companies. National studies may also be used to establish the value of the benefit. Any contribution required of the employee toward coverage will be a reduction in the value of this fringe benefit.
Sarah's compensation projected to year 23

Assumptions
- Compensation rate of growth: 2%
- Discount rate: 5%
- Sarah's life expectancy as of accident date: 25 years
- Present value is calculated back to accident date in year 18

Assumption: Compensation grows at annual rate of 2 percent

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<thead>
<tr>
<th>Year</th>
<th>Actual Compensation</th>
<th>Projected Compensation</th>
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</table>

Sarah's required 6 percent retirement contribution

Sarah’s average compensation for three highest years: $43,303

Sarah’s projected monthly retirement payment: $1,083

Sarah’s projected annual retirement payment: $12,991

<table>
<thead>
<tr>
<th>Years from accident</th>
<th>Retirement payment (contribution)</th>
<th>Present value to year 18</th>
</tr>
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<tr>
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<tr>
<td>Year 43</td>
<td>25</td>
<td>$12,991</td>
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Total present value of Sarah’s lost retirement $115,839
Household services that can no longer be performed due to personal injury or wrongful death may represent another component of economic damages. Examples of household services include:

■ Home maintenance and repairs
■ Managing finances
■ Child care
■ Housekeeping, cooking, and shopping
■ Gardening and lawn care

Household services are sometimes expanded beyond the traditional services noted above. Inclusion of companionship services and services of advice, counsel, and guidance may be included if applicable and measurable.\textsuperscript{1} The traditional household services may be referred to as the “domestic services concept” and the inclusion of other services may be referred to as the “full family function concept.”\textsuperscript{2} One should exercise caution when using the “full family function concept” to include services that can be quantified by reference to labor markets. Nursing services conducted by a spouse or parent may be compared to the services of an outside sitter, but general love and affection would have no comparison as a compensable service and therefore would not be a quantifiable lost service in this area of damage calculation. Love and affection may form the basis for a loss of consortium claim, which is an element of general damages discussed in Chapter 1.


The calculation of the value of lost household services is similar to the calculation of wage loss in that services are valued over the loss period. The distinction of household services is that the amounts generally represent services that were not compensated prior to the injury or incident. The loss calculation quantifies the value of household services lost to family members.

The attorney should provide guidance regarding the law in your jurisdiction because valuation methods for household services may vary.

**CALCULATION OF THE VALUE OF HOUSEHOLD SERVICES**

There are three methods for calculating the value of household services—replacement cost method, opportunity cost method, and value-added method. Each method is discussed below. But whatever method you use, be sure to consider whether taxes are applicable to the calculation. Services purchased in labor markets are generally paid for with after-tax dollars, therefore the calculation should represent the before-tax equivalent amount. (The present value amount is divided by \([1 - \text{marginal tax rate}]\).)

**Replacement Cost Method**

Replacement cost values the lost services by reference to the cost to hire in the marketplace.

*Example*

John spent two hours per week mowing the lawn before he was injured. He is no longer able to do this because of the injury. The cost to hire a gardener to perform the same service would be $20 per week. The replacement cost of $20 per week is used to value the lost service.

Replacement cost is generally used as the method to establish loss of household services. The loss is based on the cost to hire someone to perform the service the claimant can no longer perform. The hours of services that would have been provided are multiplied by the applicable labor rate for the service.

The replacement wage calculation may be on a task-by-task basis if different job descriptions apply, or on a total basis if one general job description applies. For example, task-by-task may establish the rate to hire a gardener as substitute for the gardening services, the rate to hire a handyman as substitute for the home improvement repair, and the rate to hire domestic help as substitute for the cleaning. Total basis may use the average wage of persons in domestic service as substitute for general household services. Actual time spent by the injured or deceased individual may be used or reference may be made to studies of sample households.

**Opportunity Cost Method**

Opportunity cost values the lost services by reference to what the individual may have earned in the marketplace.
Example

Susan performed 45 hours per week of household services rather than working outside of the home. Had Susan worked in the marketplace, she could have earned $20 per hour. The opportunity cost of $20 per hour is used to value the lost service.

This method involves measuring the forgone market wage or opportunity cost of performing household work. An individual may voluntarily spend time performing household services, as opposed to obtaining outside employment. The time to perform the household services may be considered a compensable opportunity cost, and an estimate is made of the dollar value associated with this opportunity cost. The hours of household work are valued at the rate the individual could have earned if employed in the labor market.

Value-Added Method


Other Issues When Calculating the Value of Household Services

The replacement cost method is more commonly used to value lost household services and the opportunity cost method is not recognized in all jurisdictions. An opportunity cost approach may be more appropriate in establishing the earning capacity of an individual in the wage loss calculation.

While the methods differ with respect to establishing the base value of the household service, the other elements of this calculation should be the same. The base amount (or amounts) is projected over the loss period with applicable growth and discount applied to establish past loss (loss to trial or other date) and future loss (loss from trial or other date).

Step One: Evaluate what household services would have been provided had the injury or death not occurred.

- Consider family size and ages of children.
- Consider the individual's personal consumption of household services.

Step Two: Establish the value of household services.

- Consider the amount of time that would have been spent performing the services.
- Refer to labor market studies of household services to quantify the value.

Personal consumption may be applicable to the household service calculation. Personal consumption of household services is generally considered in wrongful death cases but may also be considered in personal injury cases if the individual no longer benefits from the services. Refer to Chapter 7 for additional discussion of personal consumption.
Example

Timur is killed in an accident and is survived by his wife and two children. Timur spent two hours per week mowing the lawn and a lawn-care company will now perform this service. Timur also spent four hours per week ironing his family’s clothes. A portion of the ironing benefited Timur directly because he was ironing his own clothes. The loss to the family for the ironing services would not include the time spent ironing Timur’s clothes.

Testimony by the individual, family members, or both, may be the starting point to establish the nature of service lost and the time spent performing the services. Use caution in relying on these representations because the individual and family members are not unbiased and may exaggerate the services and corresponding value. The following questions asked in deposition may be helpful in obtaining information from the individual and family:

1. Describe the service performed by the plaintiff around the home.
2. How much time was spent by the plaintiff performing the service?
3. Who benefited from the service?
4. How long would the services be provided? (Consider ages of children and spouse.)

Household services sometimes are confused with leisure activities, but these are definitely distinct. Leisure activities are not treated as a compensable loss in the household service calculation.

REFERENCE MATERIALS—HOUSEHOLD SERVICES

Numerous studies have been performed that may provide assistance in this calculation. Exercise caution with the use of studies and evaluate the methodology, acceptability, and relevance to the specific case.

The Dollar Value of Household Work

The New York State College of Human Ecology at Cornell University provides a survey study of household units and shows average daily hours of household service for each family member in varying circumstances. The Cornell studies conclude that household services vary based on the number of children in the family, the ages of the children, and the employment status of the husband and wife. As one would expect, the studies find generally more household services are provided when children are present. The studies also find that household services generally have an inverse relationship with hours worked outside the home. This study was first published in 1980 and revised in 1992. The 1992 study

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provides calculations of the dollar value of household work for married men and women, ages 18 to 65, using 1982 time use and 1986 dollar value of time per hour. A series of studies published in 1996 details child rearing time by parents and analyzes the time spent in two-parent families with two children spaced three years apart, to raise children to age 18.\(^5\)

**The Dollar Value of a Day**

This study is published by Expectancy Data and provides a comprehensive analysis of time spent in household work with valuation data. (To order *The Dollar Value of a Day* see CD Internet Link 5.1 “Expectancy Data—*The Dollar Value of a Day.*”)

**Panel Study of Income Dynamics**

The Panel Study of Income Dynamics is conducted by the Institute for Social Research, University of Michigan. It was begun in 1968 and collects economic and demographic information from sample households about families and individual members. One of the core topics in the study is housework time. (To order the study see CD Internet Link 5.2 “Panel Study of Income Dynamics.”)

**Tinari Study**

Frank D. Tinari, “Household Services: Toward a More Comprehensive Measure,” *Journal of Forensic Economics* 11(3), 1998, pp. 253-265. This paper discusses the inclusion of companionship services, and advice, guidance, and counsel services as household services and provides valuation information. Companionship is valued by comparison to wages of nurses and home health aides taken from the U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics. (To access Occupational Employment Statistics see CD Internet Link 5.3 “Bureau of Labor Statistics—Occupational Employment Statistics.”) Advice-related occupations include teachers, coaches, social workers, counselors, tax preparers, and clergy; wage data is also taken from Bureau of Labor Statistics, Occupational Employment Statistics. Dr. Tinari notes that determining the quantity of hours is not yet supported by a reputable study and suggests the use of interviews and questionnaires to quantify hours.

**Martin Study**

Gerald D. Martin, “The Value of Household Services,” *Determining Economic Damages*, pp. 6-3 (First edition December 1988, Revision 16, July 2004). Dr. Martin reviews numerous studies and averages the hours

per week spent in household work. The husband averages 12.40 hours per week and the wife averages 41.52 hours per week, based on the studies he included. Dr. Martin notes, “This pair of averages does not claim to cover all situations, but it does seem to represent a reasonable approximation from which individual case adjustment may be made if warranted.”
Damages calculations may include quantification of medical expenses. In fact, medical expenses may constitute a substantial portion of damages in personal injury cases. This calculation may also be applicable to wrongful death and wrongful termination cases.

This chapter covers the calculation of medical and rehabilitation expenses, medical expenses growth rate, collateral source rule, life care plans, reduced life expectancy, and mortality adjustment.

**Calculation of Medical and Rehabilitation Expenses**

In the calculation of medical and rehabilitation expenses, the accountant quantifies amounts provided by third parties by applying growth and discount factors over a period of time. The growth rate may be different from the rate applied to lost wages and the period of time will depend on the medical care needed. The personal injury may reduce life expectancy, which could affect the calculation. A reduced life expectancy may lower medical damages when medical services are needed for remaining lifetime. Lower medical damages may benefit the defendant, but the defendant may not want to introduce this evidence. The hiring attorney should be consulted regarding the assumptions used in this calculation.

Medical expenses incurred to the date of trial, date of report, or other reference date are included with past loss amounts. Medical expenses expected to be incurred are included with future losses and discounted to present value. The discount rate is generally the same as the rate used in other elements of the damage calculation.
Example

Scott is injured in an accident and has doctor and hospital bills totaling $15,000 as of the date of trial. His doctor has also provided a report indicating Scott will need a hip replacement in 10 years as a result of the accident and that this operation would cost $25,000 if performed today. The $15,000 represents past loss. Growth factors are applied to the $25,000 to determine the future value in 10 years, and this amount is discounted to the present value as of the date of trial.

MEDICAL EXPENSES GROWTH RATE

The Department of Labor, Bureau of Labor Statistics publishes changes in consumer price indexes of all items (the Consumer Price Index [CPI]) as well as specific items such as medical care services and medical care commodities and services. This is provided annually in the Economic Report of the President, United States Government Printing Office, Washington, D.C. To access this report see CD Internet Link 6.1 “The Executive Office of the President—Economic Report of the President.” The change in price indexes of medical commodities and services is often referred to as the Medical Price Index. The index is provided for all medical care and broken down to reflect medical care services, medical care commodities, prescriptions and drugs, hospital stays, and related services.

Medical expenses may not continue to rise at the rate they have in the past, thus you should use caution if using prior increases as an indication of future increases. In 1990, the change in the medical price index was 9 percent, but in 1999 it was only 3.5 percent. The average of the annual changes in the medical price index from 1980 through 1999 is 6.81 percent; however, this average exceeds the annual change for all years after 1992, as illustrated below in Table 6-1 and Chart 6-1, “Annual Changes in Medical Price Index.”

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<td>7.5</td>
<td>6.6</td>
<td>6.5</td>
<td>7.7</td>
</tr>
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</table>
Example

The cost of a hip replacement is $25,000 in today’s dollars, but the operation will not be needed for 10 years. You determine an applicable discount rate of 6 percent. You average the medical price index from the past 10 years and determine a growth rate of 5.33 percent. The amount needed to fund this future expense would be $23,464. If instead you select a growth rate of 3.5 percent, based on analysis of the past four years, the amount needed to fund the future expense would be $19,692. The calculation is outlined below in Table 6-2, “Sample Calculation of Future Hip Replacement Expense.”
TABLE 6-2 Sample Calculation of Future Hip Replacement Expense

<table>
<thead>
<tr>
<th>Year</th>
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<td>2009</td>
<td>$35,265</td>
<td>$19,692</td>
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Data other than the CPI may be available to establish medical growth rates. Publications issued by Families USA, a Washington-based consumer health care organization, provide price data for prescription drugs. A sample publication is “Out-of-Bounds: Rising Prescription Drug Prices for Seniors,” Families USA, Washington D.C., July 2003. This publication includes an analysis of price increases of 50 prescription drugs most frequently used by the elderly. (To access this publication see GD Internet Link 6.2 “Families USA.”)

The Blue Cross and Blue Shield Association and the Health Insurance Association of America may also be sources for studies of the outlook for prescription drug prices and other medical cost components.

**COLLATERAL SOURCE RULE**

Wage loss calculations reflect reductions for substitute employment. If an individual was earning $20,000 per year before an injury and now only earns $15,000 per year, there is an offset in the wage loss calculation for the $15,000 annual wage amount. Payments from certain third parties are not offset in jurisdictions that recognize the “collateral source rule.”

*Collateral source rule* is defined as follows in Black’s Law Dictionary:

Under this rule, if an injured person receives compensation for his injuries from a source wholly independent of the tort-feasor, the payment should not be deducted from the damages which he would otherwise collect from the tort-feasor. In other words, a defendant tort-feasor may not benefit from the fact that the plaintiff has received money from other sources as a result of the defendant’s torts, e.g., sickness and health insurance.¹

An injured person may have medical costs that are covered by health insurance in part or in full. In jurisdictions that recognize the collateral source rule, no reduction is made for the medical insurance reimbursements.

**Example**

Ted has medical bills totaling $15,000 from his personal injuries in an accident. His health insurance covers $12,000 of the bills and he only pays $3,000. In jurisdictions that recognize the collateral source rule, his damages include the full $15,000 with no reduction for the insurance coverage.

The attorney may be consulted to determine the legal issues and other questions related to the collateral source rule. Payments by insurance companies generally are considered collateral source payments and not offset, but payments by other third parties may not have this same treatment.

**Example**

Laura has medical bills totaling $2,500 from an automobile accident. One of the persons who caused the accident pays Laura’s bills. Laura’s medical damages would be reduced to zero.

**LIFE CARE PLANS**

The financial expert may compute medical expenses that are supported by bills or other corroborative sources. The financial expert does not evaluate medical procedures and other related expenses that may be needed in the future. A doctor, nurse, or other rehabilitation expert generally does this. A report is sometimes prepared by the medical expert to detail what an individual will need after the date of trial. The report provides what is needed over a specified time period or the individual’s life expectancy and is often referred to as a “life care plan.” The plan should detail what is needed, when it is needed, how long it is needed, and the estimated cost in present dollars. The accountant may then quantify the funds needed by applying growth and discount factors over the appropriate time period.

**REDUCED LIFE EXPECTANCY**

Life expectancy may be reduced because of an accident and this may be a factor to consider. Discuss with the attorney the nature of the injury to determine if additional work should be done to establish a reduced life expectancy.² Medical experts generally provide the report(s) and testimony related to reduced life expectancy and this is used by the accountant in quantifying the funds needed for future medical expenses. Published data may be available for this purpose if a medical expert does not provide the information. Sample studies of reduced life expectancy include:


Caution should be exercised when using any study because not all studies may be relied upon. Studies based upon an inadequate sample or studies employing improper methodology are examples of studies that may not be considered reliable in forming an expert opinion.

MORTALITY ADJUSTMENT

Mortality tables are available that reflect deaths per 1,000 people and are constructed for the total population as well as by race (black or white) and sex. The U.S. Department of Health and Human Services, Centers for Disease Control and Prevention provides tables of life expectancies and expected deaths by race, sex, and age. (To access life expectancy tables see CD Internet Link 6.3 U.S. Department of Health and Human Services, Centers for Disease Control and Prevention—National Vital Statistics Reports.) Insurance companies may also be a source of mortality tables; however life insurance mortality tables differ from annuity mortality tables. The life insurance tables generally reflect a higher mortality than annuity tables.

A mortality adjustment may be made in the calculation of the sum needed to fund medical expenses. The present value is adjusted each year for the probability of living to age 100. Therefore instead of calculating the present value over a person’s life expectancy, the present value is adjusted for mortality to a specified age.

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Personal consumption or personal maintenance may be considered in calculations involving wrongful death. The monetary amount that would have been used by, or on behalf of the decedent, and which does not benefit other family members may provide a reduction to be taken into consideration in calculating damages. This calculation does not apply to all jurisdictions. Standard definitions for consumption and maintenance are listed below.

Consumption: the use and enjoyment of goods and services by consumers or producers.¹

Consumption. Act or process of consuming; waste; decay; destruction. Using up of anything, as food, natural resources, heat or time.²

Maintenance. Sustenance; support; assistance; aid…The supplying of the necessaries of life.³

Personal consumption encompasses expenses of an individual that benefit only that individual and would no longer be incurred after death. Personal maintenance is generally a narrower provision that includes only the amounts required to maintain an individual in healthy condition.

A reduction for personal consumption is applied because the amount a deceased would have spent only for personal benefit is not considered a loss to the survivors. Amounts the decedent would have spent on such items as food, clothing, personal hygiene, and entertainment are examples of per-

¹Webster’s Dictionary of the English Language.
³Henry Campbell Black, Black’s Law Dictionary, 6th Edition (St. Paul, Minn.: West Publishing Company, 1990). Note that the above extracts only part of the definition provided in this source.
sonal consumption expenses, to the extent these amounts are allocable only to the decedent. Families often share these items; therefore an allocation may be made to establish the amount attributable only to the decedent.

**Example**

John earned $1,000 per week, before tax. He had a wife and two children and he provided all family income. John kept $200 per week and gave his wife the remaining money to run the household and provide for the children’s needs. John’s money was used for lunch, haircuts, clothes, and drug-store items. John’s family files a wrongful death claim upon his death. John’s income is used to calculate damages, but a reduction is applied to reflect amounts that would have been personally consumed by John because this results in no loss to family members. Based on John’s financial history, a rate of 20 percent is established to represent his personal consumption of before-tax income. John’s earnings are projected over his worklife expectancy and then 20 percent is subtracted to reflect his personal consumption. This is shown below in Chart 7-1, “John’s Consumption Relative to Family.”

![Chart 7-1: John’s Consumption Relative to Family](chart7-1.png)

**JURISDICTIONAL ISSUES**

Calculation of personal consumption or personal maintenance generally reduces the economic loss because a reduction is applied for the amount that would have been “consumed by” or used to “maintain” the decedent, which is not a loss to his beneficiaries. A personal consumption reduction will generally apply in federal cases, but you should always discuss its application with counsel before making this assumption. For example, a case may be tried in Federal Court, but foreign or state law may be applicable. The foreign or state law may govern the consideration of consumption or maintenance.

Some states allow no reduction for consumption or maintenance, and other states allow reduction for only the amount that would have been necessary to maintain the deceased individual in healthy condition rather than
reduction for the amount the individual would have personally consumed. (Additional discussions of the various state provisions in this area are addressed in “Wrongful Death: Personal Consumption and Maintenance/ Household Services” by Thomas R. Ireland, University of Missouri at St. Louis, St. Louis, Missouri. These materials were presented at the AICPA Advanced Litigation Services Conference, November 2002. To access “Wrongful Death: Personal Consumption and Maintenance/Household Services” see CD Internet Link 7.1 “University of Missouri—St. Louis—Wrongful Death: Personal Consumption and Maintenance/Household Services” and go to downloadable paper number 29.)

Deductions for consumption may extend beyond worklife, however some states limit deductions to the worklife expectancy period. Some states do not have sufficient case law to clearly establish if a reduction should be applied or how the reduction is to be determined. Counsel should be consulted for guidance in these instances.

**CALCULATION OF PERSONAL CONSUMPTION OR PERSONAL MAINTENANCE**

Consumption or maintenance amounts may be based upon the actual spending of an individual. Alternatively, amounts or percentage rates of consumption may be determined by reference to surveys and studies. Consumption rates are often based on total family income; therefore, if both spouses work, the rate may be applied to the sum of both incomes. This theory however is not recognized in all jurisdictions. Furthermore, there are instances where this could suggest the deceased consumed more than his or her income.

*Example*

Jane earns $100,000 and John earns $20,000. John dies in an accident and you are calculating the wrongful death loss. You establish a consumption rate of 30 percent for John and base this on total family income. John’s annual earnings of $20,000 are reduced by $36,000 (30 percent x $120,000); therefore the example suggests no loss. Consideration may be given to earning capacity and the value of household services in this type of case.

Consumption may also be considered in certain personal injury cases. Adjustments for personal consumption are generally applicable only to wrongful death claims; however there are instances when the adjustment applies to personal injury cases. Consumption adjustments are generally not applicable to employment discrimination cases.

*Example*

John is completely disabled in an accident and requires attendant care for his lifetime. The damage calculation includes the cost of lifetime residence in a nursing home as a medical expense. A reduction may therefore apply to John’s wage loss since the medical portion of the damage calculation has already provided personal consumption items such as food.
Consumption is generally considered over the expected worklife with no further adjustment during retirement. The assumption is that retirement income is consumed, but assets are not depleted. Retirement income is offset by expenditures but there is no impact on the loss calculation. The retirement period, the end of worklife through life expectancy, is presumed to have no effect on the loss calculation. There may be instances, however, when personal consumption should be considered over life expectancy.4

Example

John dies at age 62, two months after he retired. He recently remarried and has two young children, a new home with 12 years remaining on the mortgage, and alimony payments owed to his ex-wife. His investment portfolio is valued in excess of $3 million. John had worked with a financial planner prior to retirement and determined his portfolio would be depleted over his lifetime to cover his expenditures during retirement. His retirement income was insufficient to meet his expenditures. Application of a personal consumption factor during retirement would reflect the amount of the portfolio that would have been consumed by John. Alternatively, the portfolio balance would be adjusted to reflect that a portion would not have to be consumed because of the death of John.

REFERENCE SOURCES—PERSONAL CONSUMPTION AND PERSONAL MAINTENANCE

Actual spending of an individual may be the best indication of amounts the individual would have incurred in the future. Data and records reflecting individual spending patterns, however, are not always available to establish rates of personal consumption. Various studies of consumption expenditures have been performed and may be relied upon to determine the rate of personal consumption.

Example

Opposing counsel asks at trial: Numerous publications suggest that actual spending of the decedent is the best way to determine consumption. Your calculation uses only a survey of all consumers. Isn’t your calculation flawed?

CPA response: No. I used the best information available. I was unable to obtain sufficient data on the actual spending of Mr. Doe to determine Mr. Doe’s personal consumption. I therefore calculated Mr. Doe’s consumption based on consumption of others with his characteristics.

Consumer Expenditure Survey

The U.S. Department of Labor provides information on expenditures and demographic characteristics of consumers. The Consumer Expenditure Survey is conducted by the Bureau of the Census for the Bureau of Labor Statistics and is available on the Internet. To access The Consumer Expenditure Survey see CD Internet Link 7-2 “Bureau of Labor

Statistics—The Consumer Expenditure Survey.” You may also obtain Consumer Expenditure Survey information by mail or telephone:

Division of Consumer Expenditure Surveys
Bureau of Labor Statistics
Room 3985
2 Massachusetts Avenue, NE
Washington, DC 20212-0001
Telephone (202) 606-6900

The Consumer Expenditure Survey may be a resource when calculating the consumption or maintenance of a single person.

**Cheit Study**

A study published in 1961 by Dr. Earl Cheit established individual consumption expenditures by family size, based on data from the Department of Labor. This study was based on two adults in the family and the consumption percentage varied by the number of dependent children. The study also assumed the husband was the head of household. The results of this study are outlined below in Table 7-1, “Cheit Study Results—Percent of Income Consumed by Head of Household.”

<table>
<thead>
<tr>
<th>Number of Dependent Children</th>
<th>Percent of Income Consumed by Head of Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>30%</td>
</tr>
<tr>
<td>1</td>
<td>26%</td>
</tr>
<tr>
<td>2</td>
<td>22%</td>
</tr>
<tr>
<td>3</td>
<td>20%</td>
</tr>
<tr>
<td>4</td>
<td>18%</td>
</tr>
</tbody>
</table>

In the earlier example, John’s personal records reflected a personal consumption rate of 20 percent. Based on the Cheit study, John’s consumption of family expenditures would have been 22 percent.

**Patton and Nelson Studies**

The Cheit study did not consider consumption rates for families with only one adult nor did it consider consumption amounts by family members other than the head of household. Other studies have since been performed that consider these factors, as well as how consumption varies

---

with levels of income. Robert T. Patton, Ph.D. and David M. Nelson, Ph.D. have published several studies on personal consumption. Their first study was published in 1984 and was based on data from the 1972-73 Consumer Expenditure Survey. This study was updated in 1991, in 1998, and in 2002. These studies summarize the data in the Consumer Expenditure Survey by family size and income bracket and illustrate consumption based on:

- Average annual expenditures excluding pensions and Social Security
- Average annual expenditures excluding pensions and Social Security, vehicle purchases, and household furnishings and equipment

Tables 1, 2, and 3 from the Patton-Nelson Personal Consumption Tables are illustrated in Exhibit 7-1, “Patton-Nelson Personal Consumption Tables—Table 1 (2000-01)—Summary of BLS Consumer Expenditure Survey,” Exhibit 7-2, “Patton-Nelson Personal Consumption Tables—Table 2 (2000-01)—Consumption Costs for Adults as Percent of Income From Analysis of BLS Consumer Expenditure Survey,” and Exhibit 7-3, “Patton-Nelson Personal Consumption Tables—Table 3 (2000-01)—Incremental Consumption Cost Percentage.”

Patton and Nelson point out that excluding purchases of all durable goods results in an understatement of consumption because a portion of these expenditures increases the estate value, thus the first percentage may overstate personal consumption and the second percentage may understate personal consumption for families of two or more persons. They further examined the Consumer Expenditure Survey to establish consumption rates, based on varying levels of income and family size, and distinguished between male and female consumption. The conclusions of the 1991 study are presented in a table at income levels ranging from $5,000 to $80,000, at $5,000 increments. The income levels range from $10,000 to $110,000 in the 1998 study.

Other Studies

Other studies have been performed, generally concluding similar consumption rates. These studies include:


The Gilbert study compares different methods used to estimate consumption of one individual and concludes: “For the average two-person family, about one third of a family’s total expenditures is spent on jointly consumed goods while each individual spends about one third of the family budget on his (her) own personal consumption.” The Harju and Adams study addresses consumption when both spouses work. Trout and Foster estimate smaller consumption ratios than other studies; however they note many reasons why they cannot consider their results to be definitive.

All studies conclude consumption varies based on the number of dependent children. An adjustment is generally made to the consumption rate when the children are no longer dependent. It therefore may be necessary to determine the age at which the children would no longer be dependent. This may be age 18 in some families and age 21 or later in other families.

*Example*

You analyze consumption information and conclude the decedent would have consumed 20 percent of income while he and his wife had two dependent children. You conclude this amount would increase to 25 percent when one child was no longer dependent and increase to 31 percent with no dependent children. You conclude the children would no longer be dependent upon reaching age 18. Your damage calculation reflects these adjustments to the personal consumption rate.

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**CONSUMPTION OF OTHER ELEMENTS OF LOSS**

Fringe benefits or household services may represent other areas of loss. A deduction for personal consumption or personal maintenance may apply to these amounts. When a reduction should be made for consumption or maintenance, consider the effect on the calculation of all elements of monetary loss.

*Example*

Louis was killed in an accident and the loss to his family includes the fringe benefits and household services Louis provided. The portion attributed to Louis is eliminated from the loss calculation because this would have been consumed by Louis. The portion of fringe benefits and household services provided by Louis and of benefit to family members other than Louis may be included in the loss calculation.
### Patton-Nelson Personal Consumption Tables—Table 1—Summary of BLS Consumer Expenditure Survey, 2000-2001

#### Table 1 (2000-2001)
Summary of BLS Consumer Expenditure Survey

<table>
<thead>
<tr>
<th>Family Size</th>
<th>Income Bracket</th>
<th>$10,000 to $14,999</th>
<th>$15,000 to $19,999</th>
<th>$20,000 to $29,999</th>
<th>$30,000 to $39,999</th>
<th>$40,000 to $49,999</th>
<th>$50,000 to $69,999</th>
<th>$70,000 and over</th>
</tr>
</thead>
</table>

#### One Person

- **Average Income Before Taxes**: $12,158, $17,146, $24,320, $34,113, $43,732, $57,331, $107,709
- **Total Average Annual Expenditures Excluding Pensions and Social Security**: $17,625, $19,918, $22,766, $26,762, $30,809, $35,405, $52,443
- **As % of Income**: 145.0%, 116.2%, 93.6%, 78.5%, 70.4%, 61.8%, 48.7%

#### Two Person

- **Average Income Before Taxes**: $12,524, $17,438, $24,467, $34,634, $44,457, $58,956, $113,250
- **Total Average Annual Expenditures Excluding Pensions and Social Security**: $23,177, $25,978, $29,258, $33,835, $37,674, $43,087, $60,135
- **As % of Income**: 185.1%, 149.0%, 119.6%, 97.7%, 84.7%, 73.1%, 53.1%

#### Three Person

- **Average Income Before Taxes**: $12,534, $17,224, $24,686, $34,601, $44,385, $58,812, $112,948
- **Total Average Annual Expenditures Excluding Pensions and Social Security**: $23,393, $24,745, $30,005, $36,926, $39,484, $45,952, $65,406
- **As % of Income**: 186.6%, 143.7%, 121.5%, 106.7%, 89.0%, 78.1%, 57.9%

#### Four Person

- **Average Income Before Taxes**: $12,654, $17,246, $24,787, $34,415, $44,544, $59,459, $114,148
- **Total Average Annual Expenditures Excluding Pensions and Social Security**: $29,653, $27,194, $30,005, $36,926, $39,484, $45,952, $70,404
- **As % of Income**: 234.3%, 157.7%, 123.8%, 107.4%, 95.2%, 79.5%, 61.7%

---

Download Excel File
### Family Size

<table>
<thead>
<tr>
<th></th>
<th>$10,000 to $14,999</th>
<th>$15,000 to $19,999</th>
<th>$20,000 to $29,999</th>
<th>$30,000 to $39,999</th>
<th>$40,000 to $49,999</th>
<th>$50,000 to $69,999</th>
<th>$70,000 and over</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Five or More Persons</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Income Before Taxes</td>
<td>$12,630</td>
<td>$17,644</td>
<td>$24,784</td>
<td>$34,560</td>
<td>$44,756</td>
<td>$58,839</td>
<td>$115,759</td>
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<td>Total Average Annual Expenditures</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As % of Income</td>
<td>180.3%</td>
<td>153.6%</td>
<td>131.0%</td>
<td>103.9%</td>
<td>98.6%</td>
<td>85.3%</td>
<td>64.5%</td>
</tr>
<tr>
<td>Total Average Annual Expenditures</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excluding Pensions and Social Security, Vehicle Purchases and Household Furnishings and Equipment</td>
<td>$20,895</td>
<td>$23,925</td>
<td>$27,808</td>
<td>$31,434</td>
<td>$37,537</td>
<td>$41,746</td>
<td>$63,112</td>
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<td>As % of Income</td>
<td>165.4%</td>
<td>135.6%</td>
<td>112.2%</td>
<td>91.0%</td>
<td>83.9%</td>
<td>70.9%</td>
<td>54.5%</td>
</tr>
</tbody>
</table>

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### Patton-Nelson Personal Consumption Tables—Table 2—Consumption of Costs for Adults as Percent of Income From Analysis of BLS Expenditure Survey

#### Table 2 (2000-2001)
Consumption of Costs for Adults as Percent of Income From Analysis of BLS Expenditure Survey

<table>
<thead>
<tr>
<th>Family Size</th>
<th>Family Income Bracket</th>
<th>( $10,000 ) to ( $14,999 )</th>
<th>( $15,000 ) to ( $19,999 )</th>
<th>( $20,000 ) to ( $29,999 )</th>
<th>( $30,000 ) to ( $39,999 )</th>
<th>( $40,000 ) to ( $49,999 )</th>
<th>( $50,000 ) to ( $69,999 )</th>
<th>( $70,000 ) and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Person</td>
<td>Average Income</td>
<td>$12,158</td>
<td>$17,146</td>
<td>$24,320</td>
<td>$34,113</td>
<td>$43,732</td>
<td>$57,331</td>
<td>$107,709</td>
</tr>
<tr>
<td></td>
<td>Male Consumption</td>
<td>145.0%-127.0%</td>
<td>116.2%-104.3%</td>
<td>93.6%-82.2%</td>
<td>78.5%-68.5%</td>
<td>70.4%-61.9%</td>
<td>61.8%-53.9%</td>
<td>48.7%-42.8%</td>
</tr>
<tr>
<td></td>
<td>Female Consumption</td>
<td>145.0%-127.0%</td>
<td>116.2%-104.3%</td>
<td>93.6%-82.2%</td>
<td>78.5%-68.5%</td>
<td>70.4%-61.9%</td>
<td>61.8%-53.9%</td>
<td>48.7%-42.8%</td>
</tr>
<tr>
<td>Two Person</td>
<td>Average Income</td>
<td>$12,524</td>
<td>$17,438</td>
<td>$24,467</td>
<td>$34,634</td>
<td>$44,457</td>
<td>$58,956</td>
<td>$113,250</td>
</tr>
<tr>
<td></td>
<td>Male Consumption</td>
<td>63.1%</td>
<td>50.9%</td>
<td>38.8%</td>
<td>32.3%</td>
<td>28.3%</td>
<td>23.2%</td>
<td>15.8%</td>
</tr>
<tr>
<td></td>
<td>Female Consumption</td>
<td>63.8%</td>
<td>52.1%</td>
<td>39.5%</td>
<td>32.9%</td>
<td>29.3%</td>
<td>23.8%</td>
<td>16.2%</td>
</tr>
<tr>
<td>Three Person</td>
<td>Average Income</td>
<td>$12,534</td>
<td>$17,224</td>
<td>$24,686</td>
<td>$34,601</td>
<td>$44,385</td>
<td>$58,812</td>
<td>$112,948</td>
</tr>
<tr>
<td></td>
<td>Male Consumption</td>
<td>49.9%</td>
<td>35.1%</td>
<td>30.3%</td>
<td>27.7%</td>
<td>22.6%</td>
<td>19.3%</td>
<td>13.2%</td>
</tr>
<tr>
<td></td>
<td>Female Consumption</td>
<td>51.9%</td>
<td>35.8%</td>
<td>31.2%</td>
<td>28.2%</td>
<td>23.8%</td>
<td>19.8%</td>
<td>13.5%</td>
</tr>
<tr>
<td>Four Person</td>
<td>Average Income</td>
<td>$12,654</td>
<td>$17,246</td>
<td>$24,787</td>
<td>$34,415</td>
<td>$44,544</td>
<td>$59,459</td>
<td>$114,148</td>
</tr>
<tr>
<td></td>
<td>Male Consumption</td>
<td>51.2%</td>
<td>35.8%</td>
<td>26.6%</td>
<td>22.8%</td>
<td>21.0%</td>
<td>16.6%</td>
<td>12.0%</td>
</tr>
<tr>
<td></td>
<td>Female Consumption</td>
<td>52.7%</td>
<td>36.3%</td>
<td>27.7%</td>
<td>23.1%</td>
<td>21.2%</td>
<td>17.1%</td>
<td>12.3%</td>
</tr>
<tr>
<td>Five or More Persons</td>
<td>Average Income</td>
<td>$12,630</td>
<td>$17,644</td>
<td>$24,784</td>
<td>$34,560</td>
<td>$44,756</td>
<td>$58,839</td>
<td>$115,759</td>
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<tr>
<td></td>
<td>Male Consumption</td>
<td>35.7%</td>
<td>31.6%</td>
<td>27.1%</td>
<td>20.1%</td>
<td>20.1%</td>
<td>17.0%</td>
<td>11.4%</td>
</tr>
<tr>
<td></td>
<td>Female Consumption</td>
<td>36.7%</td>
<td>33.2%</td>
<td>27.9%</td>
<td>20.3%</td>
<td>21.0%</td>
<td>17.5%</td>
<td>12.1%</td>
</tr>
</tbody>
</table>

# Exhibit 7-3

**Patton-Nelson Personal Consumption Tables—Table 3—Incremental Consumption Cost Percentage**

Table 3 (2000-2001)  
Incremental Consumption Cost Percentage

## Income Level

<table>
<thead>
<tr>
<th>Income Level</th>
<th>Low—High</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>20,000</td>
<td>91.7–103.7</td>
<td>45.5</td>
<td>34.1</td>
<td>31.6</td>
<td>29.5</td>
<td></td>
</tr>
<tr>
<td>25,000</td>
<td>82.4–93.3</td>
<td>39.7</td>
<td>30.3</td>
<td>27.8</td>
<td>26.2</td>
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</tr>
<tr>
<td>30,000</td>
<td>75.5–85.7</td>
<td>35.5</td>
<td>27.5</td>
<td>25.1</td>
<td>23.8</td>
<td></td>
</tr>
<tr>
<td>35,000</td>
<td>70.2–79.7</td>
<td>32.3</td>
<td>25.4</td>
<td>23.0</td>
<td>21.9</td>
<td></td>
</tr>
<tr>
<td>40,000</td>
<td>65.8–74.8</td>
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<td>23.6</td>
<td>21.4</td>
<td>20.4</td>
<td></td>
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<tr>
<td>45,000</td>
<td>62.2–70.8</td>
<td>27.7</td>
<td>22.2</td>
<td>20.0</td>
<td>19.1</td>
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<td>50,000</td>
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<td>18.1</td>
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<tr>
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<td>20.0</td>
<td>17.9</td>
<td>17.2</td>
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<tr>
<td>60,000</td>
<td>54.2–61.8</td>
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<td>19.1</td>
<td>17.0</td>
<td>16.4</td>
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<tr>
<td>65,000</td>
<td>52.2–59.6</td>
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<td>16.3</td>
<td>15.7</td>
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<tr>
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<tr>
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<tr>
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<td>11.9</td>
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## Family Size

<table>
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<tr>
<th>Income Level</th>
<th>Low—High</th>
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<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
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<td></td>
<td></td>
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<tr>
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<td>25.7</td>
<td>24.6</td>
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<tr>
<td>35,000</td>
<td>70.2–79.7</td>
<td>33.0</td>
<td>26.1</td>
<td>23.5</td>
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<tr>
<td>40,000</td>
<td>65.8–74.8</td>
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<td>21.1</td>
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<tr>
<td>45,000</td>
<td>62.2–70.8</td>
<td>28.3</td>
<td>22.8</td>
<td>20.4</td>
<td>19.9</td>
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</tbody>
</table>

(continued)
## Patton-Nelson Personal Consumption Tables—Table 3—Incremental Consumption Cost Percentage (continued)

### Table 3 (2000-2001)
Incremental Consumption Cost Percentage

<table>
<thead>
<tr>
<th>Income Level</th>
<th>1 Low—High</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<td>50,000</td>
<td>59.1–67.4</td>
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<td>19.3</td>
<td>18.8</td>
</tr>
<tr>
<td>55,000</td>
<td>56.5–64.4</td>
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<td>20.6</td>
<td>18.3</td>
<td>17.9</td>
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<tr>
<td>60,000</td>
<td>54.2–61.8</td>
<td>23.8</td>
<td>19.6</td>
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<tr>
<td>65,000</td>
<td>52.2–59.6</td>
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<td>18.8</td>
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<td>16.4</td>
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<tr>
<td>70,000</td>
<td>50.3–57.5</td>
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<td>15.9</td>
<td>15.7</td>
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Chapter 8

Worklife Expectancy and Life Expectancy

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The period of loss in personal injury and wrongful death cases is generally determined by reference to worklife and life expectancy. Employment discrimination cases may have a shorter period of loss, depending on the facts of the case.

This chapter covers calculation of life expectancy, calculation of worklife expectancy, reference sources for worklife expectancy, and date of calculation.

CALCULATION OF LIFE EXPECTANCY

Life expectancy represents the number of years the claimant would have lived but for the loss event. This number is generally determined by reference to tables prepared by the Vital Statistics Division of the U.S. National Center for Health Statistics.1 These tables are updated annually. The most frequently used life table is “Expectation of Life by Age, Race, and Sex, United States,” which represents the average number of years remaining for persons who have attained a given age.2 To access these life expectancy tables see CD Internet Link 8.1 “National Center for Life Statistics—Life Tables.”

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The Public Health Service examined various classes of individuals in its study. From the data gathered, it was possible to determine the proportion of the original cohort (100,000) that lived to a specific age. Once it was determined how many of the original 100,000 died at a given age, it was possible to arrive at a median age of death. Then, from these determinations, the life expectancy tables were originated.

Life expectancy tables are used in calculations such as medical expenses, retirement benefits, and the imputed value of household and other nonmarket services performed by a spouse. For example, many organizations offer pensions to their employees based on years of service; the more years of service the greater the pension will be upon retirement. If an employee had 20 years of service it may be company policy to receive 40 percent of salary at retirement date as pension benefits. These benefits are normally paid annually until the date of death, and may include cost of living or inflationary adjustments for each period. Likewise, if an individual has demonstrated 30 years of service, it may be company policy to receive 60 percent of salary at retirement date as pension benefits. This would be a 20 percent increase in annual benefits. If an incident precluded this employee from working the full 30 years, the loss in benefits may represent an additional element of loss.

The loss would be determined by calculating the difference between the retirement benefits the person would have received had the harmful event not occurred, and the retirement benefits that will be received, given the harmful event. Using this methodology, other types of benefits and deferred compensation can be included in damage calculations. These may include, but are not limited to, life insurance, medical insurance, use of company facilities, and household services.

**CALCULATION OF WORKLIFE EXPECTANCY**

Worklife expectancy represents the number of years the claimant would have worked but for the loss event. This number is generally determined by reference to statistical tables, and calculations of personal damages generally assume that worklife is uninterrupted. Use of an arbitrary worklife, such as years until attainment of normal retirement age (that is, age 65), may be criticized and not accepted by the trier of fact.

**REFERENCE SOURCES—WORKLIFE EXPECTANCY**

**Bureau of Labor Statistics Tables**

In the recent past, the primary statistical tables for establishing an individual’s estimated worklife were from the U.S. Department of Labor, Bureau of Labor Statistics (BLS), Worklife Estimates: Effects of Race and Education (hereafter BLS tables). The most recent BLS tables were released in February 1986, based on data from 1979 through 1980. This is the contin-

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\[\text{Ibid.}\]
uation of the estimates derived by BLS from the initial program that began in 1950. Over the years, the methodology used to arrive at the estimates changed. The BLS tables today are referred to as increment/decrement tables. They account for the fact that many adults repeatedly move in and out of the labor force, and generally do not remain in the work force continuously from entry to final withdrawal. These worklife estimates thus summarize the length of time that the average participant would spend in the labor force during his or her lifetime. These tables have not been updated since 1986 and the BLS has no plans to do so. Other tables have been developed using the methodology employed by the BLS.

As with the figures in previous BLS worklife tables, the 1986 BLS bulletin is based on information collected in the Current Population Survey (CPS), a nationwide monthly household survey conducted by the Bureau of the Census on behalf of the BLS. Officials interviewed from 56,000 to 65,000 households to determine applicable changes in the labor force. The original BLS tables divided the population only by gender giving no additional demographic or functional detail by race, educational attainment, occupation, or other characteristics that might distinguish between high and low turnover groups. In the 1986 release, the worklife model includes the impact of race, gender, and education.

Other factors that could influence worklife include training, health, marital and family responsibilities, economic opportunity, and additional sources of income. However, as expected, it was not feasible to determine the actual work-lives of each possible group. The BLS did, however, identify two statuses within each class, active and inactive. The active status denotes persons working at the time of injury. Those not working are inactive. The active classes of individuals have slightly longer worklife estimates for all ages. Most alternative tables have adopted the increment/decrement methodology and include the active/inactive classes.

The inclusion of education as an identifiable group is a significant improvement from the older format. The new tables reveal a clear and direct relationship between years of schooling and duration of involvement in the labor force. Men and women with higher levels of education have longer worklife estimates than those of the same age with lower levels of education. Furthermore, many experts believe that the older tables significantly understate this differential, especially in females. More recently developed tables attempt to correct this deficiency.

In calculating damage awards in personal injury, wrongful death, and employment discrimination cases, two approaches are commonly used. The first approach, commonly called the expected worklife approach, projects the victim’s lost earnings over the applicable expected worklife estimate. Future earnings are calculated by assuming that the victim will remain in the labor force, without interruption, for the number of years

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5Ibid., p. 2.

6Ibid., p. 5.
equal to his or her estimated worklife represented on the tables. The alternative method, the *transition probability approach*, is one where the victim's expected yearly earnings are projected over his or her life expectancy. With the latter approach, the expected earnings are calculated by weighting yearly earnings by the probability of being in the labor force. With the transition probability approach, the victim is assumed to be in and out of the labor force each year over his or her lifetime based on the age-specific transition probabilities. Edward B. Bell and Allen J. Taub of the Department of Economics, Cleveland State University, Cleveland, Ohio, performed a comparison of the two approaches. For every group compared, the present value of expected earnings using transition probabilities is less than the present value of earnings calculated using the worklife approach. They do acknowledge that there are instances where the transition approach could produce a greater present value of earnings using certain interest rates and applicable earnings. However, the study included the most common earnings and interest rate combinations.

**Markov Model**

Newer tables have also been developed with regard to worklife expectancies. The most commonly used may be found in an article in the *Journal of Legal Economics*, Winter 1999-2000 issue titled, “A Markov Process Model of Worklife Expectancies Based on Labor Market Activity in 1997-98.” James Ciecka, Thomas Donley, and Jerry Goldman of DePaul University authored these tables. Data from the 1979-80 Current Population Survey (CPS) serve as the source to originate the BLS tables whereas the “Markov” Model is based on 1997-98 CPS activity. (“Markov chain” is defined in Webster’s Dictionary as “the aspect of probability theory that analyzes discrete states in which transition is a fixed probability not affected by the past history of the system; named for Andrei A. Markov, Russian mathematician.”) Many experts have disputed the current reliability of the BLS estimates due to the economic and structural changes our labor force environment has demonstrated since 1980. During this period, many factors have affected individuals’ actual worklives. Such factors include, but are not limited to, increasing years of life through improved health care and medical research, age requirement and law changes, and increased development of personal retirement plans and pension plans.

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8Ibid., p. 98.
Life and Worklife Expectancies

Life and Worklife Expectancies by Hugh Richards and Jon R. Abele, examines various estimates that provide tables for expanded characteristics, such as smoker status, national or racial origin, occupation level, and education level.

Median Years to Retirement Study

Another worklife expectancy source is the Journal of Forensic Economics 10(2), 1997, “Median Years to Retirement and Worklife Expectancy for the Civilian U.S. Population,” by Tamorah Hunt, Joyce Pickersgill, and Herbert Rutemiller. The estimates are prepared using 1992-93 BLS labor force participation rates. This is the same data used to create the “Markov” model tables mentioned above. The two measures used in estimating how long an individual will remain in the labor force and earn money are median years to retirement (MYR) and worklife estimates. Worklife expectancies are defined as the number of years that a person of particular age will participate in the labor force over the remainder of his or her life. The definition of MYR is the age at which 50 percent of those in the base group would have permanently separated from the labor force.

The result of these tables is similar to the results in the “Markov” tables. When factoring in the level of education, both men and women are spending slightly more time in the labor force over their entire work-lives when compared to past data. Most of the increase in worklife is due to the application of the educational classes. To use the MYR tables, a single figure is given to represent the number of years an individual will remain in the work force. The MYR tables also provide a more detailed breakdown of education classes. The classes used for education are as follows:

- Less than high school diploma
- High school diploma
- Some college, no degree
- Associate degree
- Bachelors degree
- Advanced degree

Worklife expectancies are also presented in the MYR article in the same form as in the “Markov” model. Nevertheless, as shown above, these tables present a greater degree of detail with respect to education.

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12Tamorah Hunt, Joyce Pickersgill, and Herbert Rutemiller, “Median Years to Retirement and Worklife Expectancy for the Civilian Population,” Journal of Forensic Economics, 10(2) 1997, p. 171. Hunt is an economist and principal in the firm Formuzis, Pickersgill & Hunt, Inc., Santa Ana, CA; Pickersgill is Professor Emeritus of Economics at California State University—Fullerton and principal of the firm, Formuzis, Pickersgill & Hunt, Inc.; Rutemiller is Professor Emeritus of Management Science at California State University—Fullerton.
13Ibid., p. 172.
14Ibid.
Specialized Worklife Tables

In addition to the availability of alternative life and worklife tables to derive an individual’s normal worklife expectancy, there are additional sources for instances where an individual may have “other than normal” worklife expectancy.

Use caution when considering the use of specialized tables because they may not meet the “reliable” test required by the Federal Rules of Evidence. In Marcel v. Placid Oil Co. 11 F 3d 563 Ca5 No. 91-3788, the worklife expectancy of an oilfield worker was based on a study by Richard Camus and Associates. The worklife provided was shorter than the average worklife. The court excluded the testimony because the study was found to not be “reliable” and Daubert was cited (Daubert v. Merrell Dow Pharmaceuticals, Inc. 113 S.Ct. 2786 (1993)).

Life expectancy tables for persons with medical risks have been provided by Robert J. Thornton and Frank Slesnick (professors of Economics at Lehigh University and Bellarmine College, respectively). The theory in adjusting life expectancies lies in the principle of “relative mortality ratios.” For example, when using the life tables the expert is assuming a relative mortality ratio of unity (or one). Therefore, no adjustment is made to the life expectancy estimate and it is assumed that the probability of that person’s dying in any year is equal to that of the general population. Likewise, if an individual has a relative mortality ratio of two (R = 2), he or she is considered twice as likely to die in any given year. Still, this does not mean his or her life expectancy is half. The tables provide life expectancy estimates based on individuals with any given relative mortality ratios ranging from R = 1 to R = 20. Although the tables do not specifically apply the ratios to worklife estimates, the authors do state, “Since the worklife tables are based on yearly survival probabilities, higher relative mortality ratios will also affect worklife expectancies.” The authors elaborate further, “Put in another way, the effect of a reduction in life expectancy does not simply materialize in a lump at the end.” It would, therefore, be logical to adjust worklife estimates in the same manner. Medical expert testimony may be necessary to support a given mortality ratio.

Female Worklife Capacity

Hugh Richards of Economic Consultants of the North (ECON) in Fairbanks, Alaska has originated tables specifically for single women titled “Female Worklife Capacity by Education and Occupation.” For the purposes of the table, “single women” refers to women who have not been married nor had

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16Ibid., p. 285.
17Ibid., p. 286.
18Ibid., p. 285.
any children. Obviously, the assumption here is that single women have an increased amount of time to allocate towards careers having avoided most family responsibilities. This specific “single female” information is not presented in the previously mentioned BLS, “Markov,” or MYR tables.

The methodology behind the female worklife tables is consistent with worklife studies previously mentioned. The studies affirm the correlation of education and worklife expectancy. Furthermore, the 1990 Census of the Population data suggest that single females are among the highest educated. For example, the percent of single females with less than a high school education was less than a third of the national average. Moreover, using the classes represented in the tables, the percent of those that had obtained the highest level of education was nearly twice the average of the population. It is, therefore, easy to understand why single females generally have longer work-lives than females of the same age shown in previous tables mentioned. In fact, single female worklife expectancies were very similar to those of males when aggregated over all educational categories. However, this was mostly due to the large variance in the highest educational category. For each separate educational category, male worklife estimates were slightly higher than single females, except for those females with a graduate degree.

Worklife for Various Degrees of Disability

Worklife expectancies for various degrees of disabilities are addressed in Anthony Gamboa’s The New Worklife Expectancies: 2002 Edition. Gamboa uses the life (L), participation (P), and employment (E) methodology in determining worklife. This method is better known as the LPE Approach and was first introduced in 1983 by economists Brookshire and Cobb. The LPE model was created using the Department of Labor data. Gamboa’s tables expand on the LPE Approach to include disabled persons. It should be stated that The New Worklife Expectancies: 2002 Edition is not regarded without debate within the economic expert community.

Smokers’ Worklife Capacity

Worklife and life expectancy of smokers is addressed in Life and Worklife Expectancies. Tables are provided for mortality rate and worklife by smoking status. James Ciecka and Jerry Goldman of DePaul University provide worklife tables of smokers versus nonsmokers in “Markov Process Model for Worklife Expectancies of Smokers and Nonsmokers.” These worklife

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20Ibid., p. 257.
21Ibid.
23Ibid., pp. 152-155.
24Ibid., pp. 192-193.
tables were developed using transition probabilities for smoker and non-smoker deaths. The transition probabilities were based upon mortality rate tables developed by a task force of the Society of Actuaries and published in *Transactions of the Society of Actuaries Committee Reports (1982)*.

The variances between worklife estimates for smokers and nonsmokers systematically trend downward from two years to zero as an individual’s age increases from 16 to 75. The difference is 2.3 years at age 25, 1.9 at age 35, and 1.5 at age 45. In addition, the differences between black male smokers and nonsmokers are greater. The tables support what one would obviously suspect, that people who smoke have shorter life and worklife expectancies. As with the above examples, it may be availing to use these alternate tables to best determine the amount needed to make the plaintiff whole. It would be inappropriate to use an estimate that increased the damage award beyond what could be credibly argued in court. As more experts become familiar with the alternate sources of information, reports may incorporate these alternatives. Even if not used, experts may wish to familiarize themselves with these alternate sources to be able to defend their calculations on the stand.

The following excerpt from the *Journal of Forensic Economics* by Stephen M. Horner and Frank Slesnick explains:

Standard worklife tables are usually applied in estimating the plaintiff’s pre-injury earning capacity. Most courts have held that unless there is sufficient evidence proving otherwise, it is acceptable to use general worklife tables when estimating pre-injury earning capacity. However, if a person has significant health problems, for example, this fact might also be considered. In *Marcel v. Placid Oil* (1994), the 5th circuit demonstrated that deviations from general worklife tables might need strong support in order to be allowed in court.27

**DATE OF CALCULATION**

A final issue to address in determining worklife expectancy is whether worklife should be calculated as of the date of injury or the date of trial. It is common to find both approaches in the courts today due to case law not being undeniably explicit as to which approach is correct. An analysis is provided in “Date of Injury or Date of Trial: A Comment on Work Life Expectancy Calculations,” by Jules A. Townsend.28 He cites several cases and concludes that worklife expectancy calculations should be as of injury date. Since damages are broken down into two sections, past loss and future loss, some experts find it more efficient or reasonable to start calculating the worklife expectancy upon the start of the discounting period (trial date). Thus, the future loss period is equal to the remaining worklife expectancy as of trial date.

26Ibid., p. 7.
Chapter 9

Employment Discrimination and Wrongful Termination

Contributed by
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and
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Damage calculations in employment discrimination and wrongful termination cases generally involve methodology similar to the methodology used in personal injury and wrongful death cases. Employment discrimination cases have important distinctions from personal injury and wrongful death cases, although the calculation methodology is generally the same. Because of the distinctions, the subject matter has been presented in a separate chapter, although this duplicates some information provided in other chapters of the book.

This chapter covers legal issues, calculation of damages in employment discrimination cases, establishing the loss period, reference materials, post-incident income, and post-incident employment earnings.

LEGAL OVERVIEW

Several important laws protect employees against discrimination in employment.

- Title VII of the Civil Rights Act of 1964 provides that it shall be an unlawful employment practice for an employer to fail or refuse to hire or to discharge any individual, or to otherwise discriminate against any individual with respect to his or her compensation, terms, conditions, or privileges of employment, because of such individual’s race, color, religion, sex, or national origin.
The Age Discrimination in Employment Act of 1967 provides protection against age discrimination of individuals aged 40 or older.

The Americans with Disabilities Act of 1990 prohibits discrimination in the workplace against qualified individuals with disabilities.

The Pregnancy Discrimination Act of 1978 requires equal treatment of pregnant employees and speaks to the employee’s right to return to work after pregnancy leave.


In California, the Fair Employment and Housing Act prohibits employment discrimination on the basis of race, color, national origin, sex, marital status, physical and mental disability, medical condition, age, and religion.

The Civil Rights Act of 1991 amended Title VII of the Civil Rights Act of 1964 and allowed for compensatory and punitive damages for claims of intentional discrimination or harassment.

Legislation was passed in 1999 in California prohibiting discrimination on the basis of sexual preference.

Filing of discrimination claims may be made with the California Department of Fair Employment and Housing (DFEIH), which may investigate claims. Depending on the outcome of the investigation, the DFEIH may then issue a right-to-sue letter, giving the individual the right to file suit. Charges of discrimination by most employers on the basis of race or color, gender, religion, or national origin must be filed with the Equal Employment Opportunity Commission (EEOC). The EEOC may investigate claims and, depending on its investigation, may issue a right-to-sue letter.

As a result of these laws, protected classes include: race or color, national origin or ancestry, gender, sexual orientation, marital status, religion, age, mental and physical disability, medical condition, pregnancy, and veterans. Discrimination is prohibited in the hiring, promotion or demotion, and firing of an individual from a protected class. Harassment against individuals from a protected class is against the law. An employer’s retaliation against complaints of discrimination or harassment is also prohibited.

**CALCULATION OF DAMAGES IN EMPLOYMENT DISCRIMINATION CASES**

A plaintiff may allege that harassment, a hostile work environment, or both, led to wrongful termination of employment. Such cases may arise out of an employer’s actual discharge of the plaintiff, or they may arise out of the employee’s voluntary termination, or constructive discharge. The plaintiff could also bring claims of employment discrimination when not hired, when demoted or passed over for promotion, when given an undesirable reassignment, or when given reassignment with significantly different responsibilities or with reduced possibilities of future promotion. The plaintiff also may allege employment discrimination attributable to a reduction in force.

The nature of employment discrimination cases therefore lends itself to the inclusion of claims for lost earnings and lost fringe benefits and
retirement benefits. The fired individual may allege loss of professional reputation or loss of standing in the industry or community, claiming that re-employment at a comparable level may be difficult to achieve. The individual whose failure to advance within the company is alleged to be due to discrimination may claim that his or her career within the company has been stymied, and that opportunities outside the company are limited on the basis of harm to professional reputation or on the basis of limited outside opportunities due to age or industry economics.

The forensic accountant’s or economist’s role in such cases is similar to the role in personal injury actions. The forensic accountant or economist may be retained as a consultant only, or may be retained, initially or later in the case, as an expert who will testify regarding his or her analysis, findings, and opinions at deposition or trial. Attorneys for the plaintiff or defendant may retain damages experts to evaluate potential lost earnings and benefits based on the allegations of termination of employment, or based on demotion or lack of promotion, or based on failure to hire. In certain situations, the forensic accountant or economist may be useful in quantifying certain objective criteria regarding liability, evaluating time to find alternative employment, and analyzing the composition of the relevant workforce before and after termination or a reduction in force.

Past lost earnings are generally termed “back pay” and future lost earnings are generally termed “front pay” or “front wages.”

**ESTABLISHING THE LOSS PERIOD**

There are several approaches to determining the period of damages for lost earnings and benefits. The jurisdiction or facts of the case may limit the amount of “front pay,” and thus limit the loss period. If there is no such limitation and if it is assumed that the plaintiff will never fully mitigate his or her lost earnings, the damage period may be based on the years of worklife remaining. Alternatively, the damage period may be based on the normal retirement age as determined by the pre-incident employer’s retirement plan and historical retirement statistics of the employer. Some damage experts use age 65 as the date of retirement regardless of worklife expectancy statistics. However, depending on the facts of the case, it may be unreasonable to assume that the plaintiff’s damages continue until retirement age is reached. At some date in the future, damages may be fully mitigated as the plaintiff’s post-incident mitigating earnings “catch up” to pre-incident earnings levels. At that date, lost earnings end, and there exists the possibility that mitigating earnings may surpass earnings “but for” the incident. However, in that situation, it is not appropriate to conclude that the net gain in subsequent earnings may offset the net loss of earnings prior thereto.

Another approach to determining the damage period for lost earnings and benefits is to rely on statistics as to when the plaintiff could have reasonably been expected to find mitigating employment. Duration of unemployment statistics for various job classifications are compiled by the U.S. Bureau of Labor Statistics. To access this information see [Internet Link 9.1 “U.S. Bureau of Labor Statistics.”](#) The duration of unemployment varies with the business cycle. During economic expansions, the
duration of unemployment tends to be shorter than during economic contractions. Depending on the facts of the case, the duration of unemployment statistics may be useful in pinpointing a date by which the plaintiff, on average, could have secured another job within the relevant employment classification occupation or industry group. This statistic may be particularly useful to the defendant when the plaintiff has made no, or minimal, effort at finding a comparable new job, or it may support the plaintiff's claim that despite efforts to obtain a new job, mitigating employment was difficult to find.

Other information that may be obtained regarding the availability of comparable employment may be found in the employment section of trade journals and local newspapers, as well as by contacting local industry and occupation-specific recruiters.

Life expectancy may be relevant when the damages expert has to calculate lost pension benefits from the date of retirement to the plaintiff's life expectancy. The expert should discuss with the attorney whether the plaintiff's life expectancy is normal or if an unrelated pre-existing medical condition exists that would reduce the plaintiff's life expectancy. A reduced life expectancy may affect the payout period of retirement benefits as well as the potential damage period.

REFERENCE MATERIALS—EMPLOYMENT
DISCRIMINATION AND WRONGFUL TERMINATION

Plaintiff's Resume

The plaintiff's resume may provide information regarding prior jobs, employers, and length of time at prior jobs. The average length of time at prior jobs may be useful information in arriving at the end point for lost earnings, particularly for the very young plaintiff or for those whose employment history has never included long-term employment with a single employer. The plaintiff's resume may also display information about skills, training, qualifications, and education, which may be useful in arriving at a mitigating alternative occupation for cases where the plaintiff claims loss of standing or reputation in an industry or community. Additionally, the resume may provide knowledge of additional skills and education earned by the plaintiff subsequent to the date of incident, which may affect the potential for re-employment. Finally, when pre-incident and current resumes are provided, the damages expert should compare the resumes closely and make note of any recorded differences.

Job Description of the Pre-incident Job

A detailed description of the pre-incident job, including job duties and responsibilities as well as qualifications, may be useful to the damages expert. The damages expert generally should have a complete understanding of the plaintiff's job and expectations in order to be knowledgeable about the case and potentially assist the attorney in making liability arguments. If the job duties and responsibilities state
numerical goals, such as sales targets for salespersons, these goals may be compared to the plaintiff's actual on-the-job performance as a liability argument. However, caution should be exercised. For example, if peer employees did not meet their sales targets, the below-target performance argument may not hold and the relative performance of the plaintiff compared to his or her peers needs to be analyzed. For the person who claims discrimination in hiring, or failure to be promoted, the qualifications of the desired job and the qualifications of peers may be compared to the individual's qualifications as a liability argument.

**Company Memoranda and Objective Standards of Performance**

Employers may memorialize objective standards of performance, which may change over time. Comparing pre-determined objective standards of performance with the plaintiff's actual performance may provide useful insights. The damages expert may chart this comparison as a visual aid for the trier-of-fact to easily assess the plaintiff's relative achievement of objective standards.

**Company Policies and Procedures Manual**

Human resources departments are often responsible for preparing company policies and procedures manuals. Such manuals often clearly state the company's policies with respect to the "at will" nature of employment and the company's commitment to equal opportunity. Other issues often addressed are sexual harassment, alcohol and drug use, office courtesy, business ethics, personal use of computers and e-mail, work schedules, attendance, sick leave, vacation, holidays, overtime, employee warnings and discipline, hiring and job postings, employment exams, continuing education, occupational injuries and illnesses, and objective standards of performance. The damages expert may incorporate some of the information about policies and procedures in the damages analysis, or with respect to liability arguments. Typically, employees are required to sign contemporaneous statements acknowledging they have received a copy of the manual at date of hire, as well as important updates to the manual during the course of employment. A company having a policies and procedures manual should adhere to the manual in practice. If practice differs from the manual, the effectiveness and usefulness of the manual as a standard of performance is substantially diminished.

**Plaintiff's Personnel File**

The personnel file may trace the employee's history with the company from the initial date of contact to the date of incident. It may contain the plaintiff's employment application and resume and copies of education transcripts or certifications, as well as information about the initial interview and verifications of prior employment. During the course of the plaintiff's employment, the personnel file may be expanded to include documentation of promotions, merit increases, cost of living increases, changes in job classification, changes in the employee's region or department, com-
pletion of in-house training or outside education, performance evaluations, employee warnings, disciplinary actions, and employee awards. Generally, the damages expert may wish to map out the plaintiff's employment history from date of hire to date of incident, including information such as job title and grade level, salary and bonuses, any periods of leave, and quantitative performance evaluations. The employment and salary history allows the damages expert to calculate the percentage changes in wages given to the plaintiff prior to the incident. Sometimes this information is useful, for example, when a plaintiff has experienced a change in supervision. Prior to the change, the plaintiff's salary increases may have followed a certain pattern consistent with companywide increases. Subsequent to the change in supervision, the plaintiff's salary may have increased minimally or not at all, or the plaintiff may have been demoted. This change in the usual pattern of increases may help substantiate the plaintiff's claim of retaliation for lack of cooperation in unwanted sexual advances or sexual harassment, for example. Or it may support the defendant's claim that companywide increases were lower for all employees, or the plaintiff's performance deteriorated for unknown reasons outside the employer's control. In any event, the plaintiff's historical salary increases and relative job performance should be summarized by the damages expert. They provide information about the plaintiff's past history with the company and help provide support for the expert's assumptions about future wage increases.

**Plaintiff's Payroll File**

In addition to the personnel file, the plaintiff's payroll file is also useful. The payroll file may contain salary increase forms and copies of the plaintiff's W-2 forms. When the W-2 form is compared to the plaintiff's salary, it may be possible to derive overtime pay or bonuses, or to note when the plaintiff's reported earnings are less than salary, suggesting a leave of absence or part-time employment. From the W-2 form, it may also be possible to note whether the plaintiff had been contributing into a retirement savings plan that may have a company-matching contribution. Additionally, the payroll file may include information about other employee deductions, which would substantiate participation in fringe benefits plans, such as health insurance or disability coverage. Finally, there may be cases wherein the plaintiff claims that the wrongful discharge led to financial ruin and consequential damages. The payroll file may show indications of pre-existing financial problems, such as tax liens, child support liens or liens from public utilities or other companies, or repeated requests for salary advances.

**Company Organization Chart**

The organization chart may provide more insight about the company's organizational structure and reporting lines before and after the incident. While not usually an essential element of a damages evaluation, it may give a better overview of the company and the plaintiff's role as an employee. It may also be useful in a reduction in force claim or discrimination claim in identifying other peer employees at or about the plaintiff's level.
Salary Schedules

The company's salary schedules may assist the damages expert in determining where the plaintiff was placed within the salary range for the position. The expert may be able to determine whether the plaintiff was at the top step within the job classification, or whether there was potential for future salary increases that may have occurred automatically based on time on the job but for the incident. Additionally, the salary schedule may reveal the next potential promotional opportunity that could have occurred absent the incident. The schedule also may be used to compare the plaintiff's salary with the salaries of his or her peers and the overall company as tests of equitable treatment. The historical salary schedules will allow the damages expert to calculate annual average wage increases over time, which may be utilized in the damage analysis for the past and future wage growth rates. Salary schedules from the date of incident to the present will indicate the appropriate wage increases in calculating wages that could have been earned during the past damage period. A sufficient historical record of company increases may be used as the basis for projecting future wage increases that could have been earned from the date of trial forward.

Fringe Benefit and Retirement Plan Summaries

The company's compensation package may have included partially or fully employer-funded fringe benefits, such as health insurance, dental insurance, vision insurance, life insurance, short-term disability coverage, long-term disability coverage, profit sharing, stock option plans, retirement plans, thrift and savings plans, deferred compensation 401(k) plans, education reimbursement, child care, and other miscellaneous benefits. These benefits are often described in some detail in plan summary booklets. Additionally, some companies provide benefit statements quantifying the employer and employee costs of benefits. This is useful in calculating the value of the benefits the plaintiff would have had but for the incident. Any changes in company benefits should become evident by looking at subsequent benefit plan summaries. Many companies will begin to limit employer contributions to medical insurance premium increases as rates have shown large increases.

With respect to defined retirement benefit plans, the plan description may contain information about early retirement and normal retirement benefits and how they are calculated. The formulas for calculating the benefits may be contained in the retirement plan summary or other employment documents.

Identification of Comparable Pre-incident Employees

The plaintiff's claim of discrimination or wrongful termination may be bolstered or disputed by comparing the plaintiff's qualifications and performance with those of peer employees. Assuming similar qualifications and work experience, fulfillment of objective performance standards by the employee compared to the performance levels of peer employees may or may not substantiate claims of wrongful termination. If the sub-
ject employee's objective job performance was no better or no worse than that of peer employees, claims of wrongful termination may appear to be substantiated.

Peer employees' data may be useful for another purpose—to show that had the plaintiff remained with the company, his or her progress may have mirrored that of the peer employees. This allows assumptions to be made regarding advancement potential and the salary the plaintiff could have received. Or, if peer employees experienced salary freezes, changes in company benefit packages, or layoffs, these possibilities should be discovered and considered.

**Employer's Pre- and Post-incident Employee Population**

The demographics of the employer's pre- and post-incident employee population may be important to the case. For example, the plaintiff may allege age discrimination, claiming that older workers were terminated first in companywide layoffs or reductions in force. Demographic analysis will show the company's pre- and post-layoff employee age distribution. A reduction in force statistical analysis may be performed to show the mean age before and after the layoff and standards of deviation in the age of employees. Similar analysis may be performed in comparing company demographics with those of the population in the geographic region. Other demographics frequently challenged are race and gender.

**POST-INCIDENT INCOME**

The employer may provide a severance package to a terminated employee which may consist of several weeks of pay. These subsequent earnings should be considered as mitigation after the date of termination and reduce damages.

Disability insurance is sometimes a factor in employment discrimination cases. Some plaintiffs may have claims of stress-related disability during employment with the company, or after the employment has terminated. Therefore, the plaintiff may claim as damages the amount that could have been earned during disability. This amount may be offset by disability benefits in some jurisdictions. The retaining attorney should be consulted as to the proper treatment of disability benefits.

Unemployment compensation may be received by a terminated employee. Again, the retaining attorney should be consulted as to whether this should offset calculated damages.

Worker's compensation generally refers to payments to employees or family members resulting from employment-related accidents. Worker's compensation claims may be filed by a worker for stress-related illnesses or medical conditions arising out of a hostile work environment or the alleged discrimination by the employer. It may be helpful for the damages expert to review the worker's compensation file for information such as the date on which the plaintiff may be released to return to work by worker's compensation, and in what job capacity. Future treatment plans may be revealed in the worker's compensation file. The cost of ongoing therapy or medical treatment may be considered as another element of
damages. The worker’s compensation file will show whether the plaintiff has settled the worker’s compensation claim, whether temporary or permanent disability benefits have been paid, and whether therapy or medical treatment expenses have been reimbursed. If a worker’s compensation lien has been filed, this may be contained in the worker’s compensation file. A worker’s compensation lien generally means that any settlement should be used to reimburse this lien. The relevance and significance of a worker’s compensation lien with respect to the damages analysis as well as other offsets related to worker’s compensation should be discussed with the retaining attorney.

**MEDICAL EXPENSES**

A plaintiff may claim medical rehabilitation or therapy expenses resulting from the incident. This is discussed in Chapter 6.

**POST-INCIDENT EMPLOYMENT EARNINGS**

W-2 forms, paycheck stubs, and personnel records evidencing post-incident employment earnings, fringe benefits, and retirement benefits provide the damages expert with figures for mitigating compensation. All earnings subsequent to the termination should be considered as offsetting the loss of earnings. Other nonwage compensation, such as fringe benefits, should be compared to the plaintiff’s pre-incident plan to determine whether there is any ongoing loss. The same comparison should be made regarding the pre- and post-incident retirement plan under which the plaintiff would receive benefits. You may wish to verify that the plaintiff has declared all earnings to the Internal Revenue Service and pair the appropriate taxes, particularly if amounts are paid in cash.

In order to determine the advancement potential available to the plaintiff in his or her post-incident employment, the mitigating employer’s salary schedules, job classifications, and job descriptions should be reviewed and analyzed. The plaintiff may have the ability to advance with the mitigating employer, so that mitigating earnings will at some point in the future converge with the earnings the plaintiff would have had with the pre-incident employer. At that point, lost earnings for the plaintiff would end.

Copies of the post-incident employer’s fringe benefit plan and retirement plan summary may also be obtained for comparison with the plans provided to the plaintiff prior to the incident. With respect to certain fringe benefits, such as health insurance, life insurance, and dental coverage, it is possible that the post-incident employer’s plan may be equivalent to the pre-incident employer’s plan. If so, this element of damage should end on the effective date of coverage.

Regarding retirement benefits, there may be an ongoing differential in what is provided to the plaintiff. This differential may be attributed to a lower employer-matching contribution in a 401(k) type plan. With defined benefit plans, where years of service and average pay at retirement determine an annuity payout at retirement, it may be necessary to calculate and compare the annuity payout that would have been provided by con-
continued pre-incident employment with the annuity provided by the post-incident employer. Refer to Chapter 4 for additional information regarding calculation of lost retirement benefits.

Employment cases present unique challenges in determining economic damages. The damages expert must take care to avoid overestimating or underestimating damages, and must be sensitive to mitigation issues and the duration of the loss.
Chapter 10
Income Tax Issues

The taxation of damages awards varies, depending on why the damages were awarded. Damages for loss of business profits generally represent taxable income to the recipient because they compensate or reimburse for amounts that would have been taxable. Amounts recovered for property damages are generally treated as taxable proceeds with taxable gain or loss measured by comparison of these proceeds to the adjusted basis of the property. “The test is not whether the action was one in tort or contract but rather the question to be asked is, in lieu of what were the damages awarded?” (Raytheon Products Corp. v. Commissioner, 144 F2d 110,113 [1st Cir. 1944]).

Damages awarded for injuries or sickness may be excluded from income. Internal Revenue Code (IRC) section 104(a)(2) provides that gross income does not include:

The amount of any damages (other than punitive damages) received (whether by suit or agreement and whether as lump sums or as periodic payments) on account of personal injuries or physical sickness.

Some courts applied this exclusion to awards for personal injury that did not relate to a physical injury or sickness, particularly certain forms of employment discrimination and injury to reputation (Threlkeld v. Commissioner, 87 T.C. 1294 [1986]). This issue was clarified by the Small Business Job Protection Act of 1996, which modified the exclusion of damages received on account of personal injury or sickness. Damages received by a claimant not involving a physical injury or sickness are treated as compensation for lost profits or lost wages that would otherwise be included in taxable income. The exclusion from income only applies to damages received on account of personal physical injury or physical sickness. Specific language was then added to IRC section104(a)(2) to provide that emotional distress shall not be treated as a physical injury or physical sickness. Personal injury or sickness must have its origin in a
physical injury or physical sickness and emotional distress is not considered a physical injury or physical sickness. The exclusion from gross income therefore does not apply to any damages received from a claim of employment discrimination or injury to reputation accompanied by a claim of emotional distress. This is distinguished from damages received based on a claim of emotional distress that is attributable to a physical injury or physical sickness. The exclusion from gross income applies to damages received from a claim of emotional distress that is attributable to a physical injury or physical sickness. The exclusion also applies to the amount of damages received that is not in excess of the amount paid for medical care attributable to emotional distress.

This chapter covers punitive damages and taxes, deductions from damages awards, periodic payments, medical expenses, allocation of award, jurisdictional issues, calculation of the income tax rate, and taxes and employment discrimination cases.

**PUNITIVE DAMAGES AND TAXES**

The tax treatment of punitive damages was also unclear prior to 1996 and this too was addressed in the Small Business Job Protection Act of 1996. The Committee Reports of the Act explain that Congress considers punitive damages as punishment for wrongdoers and not compensation for pain and suffering. Punitive damages are considered a windfall to the taxpayer and should be included in taxable income. IRC section 104 was revised to clarify that the income exclusion provision does not apply to punitive damages. Thus, punitive damages are taxable, regardless of the nature of the claim. However, punitive damages may be excluded from income taxation when awarded in a civil action that is a wrongful-death action under a special exception for states with law in effect on September 13, 1995, and without regard to any modification after such date. The state law must provide that only punitive damages may be awarded in such an action. The exception shall not apply to any civil action filed on or after the first date on which the applicable state law ceases to provide this treatment.

**DEDUCTIONS FROM DAMAGE AWARDS**

The taxation of damages from nonphysical injuries presents a dilemma for taxpayers who incur attorney fees. The law provides that the total award may be taxable and any expenses associated with producing the award may be deductible. Legal fees and court costs are not deducted from the gross amount received in determining taxable income, but instead are generally treated as a miscellaneous itemized deduction. The deduction will not be available to taxpayers who do not itemize deductions and instead use the standard deduction in arriving at taxable income. The deduction will be limited when taxpayers do itemize deductions because miscellaneous itemized deductions are reduced by a percentage of adjusted gross income. A further limitation may apply if the alternative minimum tax is applicable because miscellaneous itemized deductions are disallowed in arriving at
alternative minimum taxable income. Taxpayers have argued that the amounts paid to the attorney for fees and costs should be offset from the gross income amount; however they have been unsuccessful in most jurisdictions (Srivastava v. Commissioner, 5th Circuit Ct. of Appeals #99-60437, July 21, 2000; Brewer v. Commissioner, 83 AFTR 2d 1517 [9th Cir. 1999]; Benci-Woodward v. Commissioner, T.C. Memo. 1998-395). The Fifth Circuit recently overruled the Tax Court (Srivastava v. Commissioner, T.C. Memo. 98-362) and held that contingent fees paid to attorneys as governed under Texas law are excluded from gross income; however the Ninth Circuit ruled otherwise. The Ninth Circuit found that a punitive damage award paid to an attorney under a contingent fee arrangement governed by California law is includable in the taxpayer-plaintiff’s gross income, and the amount kept by the attorneys may be deducted as a miscellaneous itemized deduction subject to the itemized deduction limitations. Despite arguments of double-taxation and inequitable treatment, the Ninth Circuit concluded that legal expenses are miscellaneous itemized deductions and not a direct offset against the total award.

PERIODIC PAYMENTS

Damages excluded from gross income on account of personal injury or sickness (IRC section 104(a)(2)) include amounts received either as lump sums or as periodic payments. Earnings on lump sums represent taxable income and are not excluded under this provision (Rosemary S. Kovaés, et al. [1993] 100 T.C. 124.), but periodic payments are excluded, even though earnings may be inherent in this arrangement. This provision was enacted in 1982 and the Committee Reports provide, “Specifically, any amount so received will not be included in gross income to the extent it is used to purchase an annuity contract issued by a company licensed to do business as an insurance company under the laws of any State or an obligation of the United States.”

MEDICAL EXPENSES

Award amounts attributable to medical expenses deducted in prior taxable years will not meet the exclusion provisions. The exclusion does apply to amounts received through accident or health insurance, provided the amounts are attributable to contributions of the employer, which were not includible in the gross income of the employee or are paid by the employer.

Example

John was injured in February 1996. He incurred $20,000 of medical expenses during 1996; he paid $5,000 of these expenses and his employer paid $15,000 through the accident and health plan. He deducts the $5,000 of expenses on his tax return but only gets the benefit of a $2,000 deduction due to the itemized deduction limitation on medical expenses. John receives cash settlement of $100,000 with $20,000 specifically allocated to past medical expenses. Of this settlement, $2,000 will not meet the exclusion provision and will be taxable to John.
An award may allocate an amount to future medical expenses. Revenue Ruling 75-232, 1975-1 CB 94 considered this situation and found that when part of an award is allocated to future medical expenses, the deductions for future medical expenses related to the injury are disallowed to the extent of the award. If amounts are excluded from taxation, use of proceeds will not give rise to a tax-deductible expense. A double tax benefit will not be provided to the taxpayer.

**ALLOCATION OF AWARD**

Amounts received for more than one type of claim should be allocated when the claims have differing tax treatments. Failure to clearly provide the allocation may result in no portion excludable from income under IRC section 104(a)(2) (Garrett, C. Anson (1994) TC Memo 1994-70). IRS Revenue Ruling 85-98, 1985-2, CB 51 provides that the complaint is the most persuasive evidence available in determining proper allocation.

Taxpayers have been very creative, albeit usually unsuccessful in arguments to convert settlement awards to tax-exempt proceeds by treating the claim as arising from a personal injury or sickness.

- Despite the taxpayer’s claim that sale of blood plasma should be excludable as damages received on account of personal injuries or sickness, the court rejected the argument and held the payments were not in settlement of tort liability (U.S. v. Garber [1979, CA5] 79-2 USTC 9709).

- Payments made in exchange for general release that were based on length of service and rate of pay were found to be taxable severance payments and not on account of personal injury or sickness (Foster, Leslie [1996] TC Memo 1996-276, aff’d [1998, CA5]; Sodoma, Robert [1996] TC Memo 1996-275, aff’d [1998 CA5]).

- Payments received by a corporation were not excludable from income since a corporation, by its nature, could not suffer personal injury. Argument that sole shareholder actually suffered the injury was rejected (P & X Markets Inc. [1996] 106 TC 436, aff’d [1998, CA9]).

**JURISDICTIONAL ISSUES**

The jurisdiction governs the treatment of taxes in calculating damages, and the treatment varies.

**Federal Jurisdiction**

The U.S. Supreme Court addressed the taxation issue in 1980 in *Norfolk & Western Railway Co. v. Liepelt* (*Norfolk & Western Railway Company v. Liepelt*, 444 U.S. 490 [1980]). To see more information on this case see CD Internet Link 10.1 “FindLaw—Norfolk & Western Railway Company v. Liepelt.” This wrongful-death action involved a fireman who suffered fatal injuries and the alleged damages included lost future wages. The plaintiffs estimated these wages at the gross amount with no reduction for
income taxes. The consideration of taxes by the defendants reduced the loss from $302,000 to $138,327. The trial judge instructed the jury that the award would not be subject to income taxes and not to consider such taxes in fixing the amount of award. The Supreme Court observed while many courts reduce future earnings by the personal expenditures or personal consumption of the decedent, they have generally not included income taxes as a personal expenditure. The prediction of future tax consequences was considered too speculative and complex for a jury’s deliberations. The Supreme Court found estimating after-tax earnings was not too speculative or complex for a jury. The facts of this case qualify the award for exclusion from taxation under IRC section 104(a)(2); however, the Court considered it possible that members of the jury may assume the recovery is subject to federal taxation and increase the award to fully compensate for these taxes. The Court held that federal taxes that would have been paid by the deceased victim must be subtracted in computing the amount of the wrongful-death award. This includes taxes on future wages as well as tax on the income to be earned on the damage award.

**Example**

Future wages are estimated to be $35,000 for year 1 and grow at a rate of 4 percent per year. Income tax on this amount is estimated to be 25 percent. The wage loss for year 1 is $26,250 after-tax ($35,000 less $8,750 tax). A discount rate of 6 percent is selected to represent the investment of the award over the loss period. This rate is based on taxable securities; therefore a reduction is also applied to the discount rate. Applying the same income tax rate of 25 percent, the discount rate would be 4.5 percent after-tax.

Consideration should also be given to the tax on the award, as illustrated by Tyler J. Bowles and W. Cris Lewis in “Taxation of Damage Awards: Current Law and Implications.”\(^1\) The tax rate applicable to future lost earnings is established and applied to amounts that would have been earned “but for” the loss incident. Future losses are discounted to present value by an after-tax rate. A further adjustment needs to be made to reflect the income tax on the award, and as noted by Bowles and Lewis, the formula for this adjustment is 

\[
A = \frac{w}{1-t}
\]

where \(A\) represents the after-tax award amount, \(w\) represents the present value of future after-tax wages, and \(t\) represents the after-tax rate on the award. **Exhibit 10-1, “Sample Before-Tax Calculation,”** illustrates why this calculation needs to be made.

**State and Local Jurisdictions**

Applicable state law will govern how income taxes should be handled and it is important to consult with hiring counsel regarding the consideration of taxes in the calculation. Also note that state cases may be tried in federal court. This does not mean that federal law will apply and counsel

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should direct you regarding what taxes, if any, to consider. The effect of income taxes on personal damage awards is often ignored in state and local jurisdictions. The concept is considered complex and may be confusing to the trier of fact. There is also an offsetting effect in the tax calculation because taxes reduce the future loss amounts, but rate of discount to present value is also reduced to reflect the tax effect. Exhibit 10-2, “Sample Tax Adjustment Calculation,” illustrates awards with and without consideration of income tax. Consideration of income tax generally results in an increase in the award amount, but the increase is usually not significant.

Internet sites for particular states are listed in Exhibit 10-3, “Internet Links to State Web Sites.” Items which may be taxable for federal purposes may be tax-exempt for state purposes. The rules of taxation for the relevant state or states should be reviewed to determine the applicable tax rate.

Example
You determine applicable income tax rates of 20 percent and 4 percent for the federal and state, respectively. Federal and state taxes total 24 percent. You determine the lost earning amount is subject to both federal and state rate because this is an employment discrimination case. Your discount rate is based on U.S. Treasury obligations and these are exempt from state taxation. The applicable income tax rate for the award earnings will therefore be 20 percent and not 24 percent.

OTHER TAXES TO CONSIDER
Payroll taxes have been considered income taxes in numerous court decisions and this is detailed in “Accounting for Medicare, Social Security Benefits and Payroll Taxes in Federal Cases: Federal Case Law and Errors by Many Forensic Economists,” by Paul C. Taylor and Thomas R. Ireland. Taylor and Ireland conclude payroll taxes should be considered income taxes and deducted from loss estimates. They provide citations of federal decisions to support their conclusion and note they could find no federal court case that concluded otherwise.

The payroll tax calculation will require review of the applicable wages to determine the applicable tax rate. Generally, employee wages are subject to Social Security tax and Medicare tax. Social Security has an annual limit whereas Medicare tax does not.

<table>
<thead>
<tr>
<th></th>
<th>Social Security Tax</th>
<th>Medicare Tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>6.2 percent</td>
<td>1.45 percent</td>
</tr>
<tr>
<td>Year 2003</td>
<td>$87,000 limit</td>
<td>unlimited</td>
</tr>
<tr>
<td>Year 2004</td>
<td>$87,900 limit</td>
<td>unlimited</td>
</tr>
</tbody>
</table>

These limits change annually and you may obtain information from Social Security Online. To access this information see CD Internet Link 10.2 “Social Security Online.”

Some workers are not covered by Social Security, such as federal employees hired before 1984, railroad employees with more than 10 years of service, and children under age 18 who work for a parent. Special rules apply to other workers such as domestic employees, farm employees, and employees of a church or church-controlled organization. Payroll records of the employee may be reviewed to establish the applicable payroll or employment tax rate.

**CALCULATION OF THE INCOME TAX RATE**

When taxes are considered in the damage calculation, federal income tax will generally be applicable to the taxable elements of the claim. The laws of the state and local income jurisdiction will govern proper treatment. Some states and most localities do not assess income tax. U.S. Treasury securities are generally not subject to state taxation. These factors may be considered in calculation of the income tax rate.

Tax rates change over time and rates generally vary with levels of income. An average rate may be selected or estimation may be made based on the applicable rate for the loss period.

**TAXES AND EMPLOYMENT DISCRIMINATION CASES**

Employment discrimination awards are generally subject to income taxation; however, lump-sum back pay awards covering multiyear periods may result in a higher applicable tax rate because of the graduated tax rate structure. The effect of “negative tax consequences” was considered in *O'Neill v. Sears Roebuck & Co* (*O'Neill v. Sears*, 2000 WL 1133269 [E.D.Pa., July 31, 2000]). The court ruled that the jury’s verdict may be enhanced to compensate for the negative tax consequences of receiving a lump-sum award for back pay and front pay in a single year instead of spreading the income over several years. A tax component may be added to the calculation of a back pay award to cover the increased tax liability resulting from the lump-sum payment.

The year of reference for calculation of FICA and FUTA taxes was considered in *United States v. Cleveland Indians Baseball Co.* (To see more information on this case see CD Internet Link 10.3 “FindLaw—United States v. Cleveland Indians Baseball Co.”) The Cleveland Indians Baseball Company owed backpay for years 1986 and 1987 and payment was made in 1994. Allocating the back pay to 1986 and 1987 would result in no additional FICA or FUTA tax liability because the taxpayers had already reached the maximum FICA and FUTA earnings for these years. The Supreme Court however held that back wages are subject to FICA and FUTA taxes by reference to the year the wages are in fact paid.
**EXHIBIT 10-1**  

**Sample Before-Tax Calculation**

**ASSUMPTIONS:**

- Lost annual wage: $35,000
- Wage growth: 4%
- Tax rate: 25%
- Discount rate: 6%
- After tax discount: 4.50%

<table>
<thead>
<tr>
<th>Year</th>
<th>Wage Loss</th>
<th>Less Tax</th>
<th>Net After Tax</th>
<th>Discount to Present Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>35,000</td>
<td>(8,750)</td>
<td>26,250</td>
<td>25,120</td>
</tr>
<tr>
<td>2</td>
<td>36,400</td>
<td>(9,100)</td>
<td>27,300</td>
<td>24,999</td>
</tr>
<tr>
<td>3</td>
<td>37,856</td>
<td>(9,464)</td>
<td>28,392</td>
<td>24,880</td>
</tr>
<tr>
<td>4</td>
<td>39,370</td>
<td>(9,843)</td>
<td>29,528</td>
<td>24,761</td>
</tr>
<tr>
<td>5</td>
<td>40,945</td>
<td>(10,236)</td>
<td>30,709</td>
<td>24,642</td>
</tr>
</tbody>
</table>

**Amount of award**  

The result obtained from applying income tax to the wage loss and discount rate is $124,402, and as illustrated below, appears sufficient.

<table>
<thead>
<tr>
<th>Year</th>
<th>Beginning Balance</th>
<th>Earnings on Award</th>
<th>Less Withdrawal</th>
<th>Ending Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>124,402</td>
<td>5,598</td>
<td>(26,250)</td>
<td>103,750</td>
</tr>
<tr>
<td>2</td>
<td>103,750</td>
<td>4,669</td>
<td>(27,300)</td>
<td>81,119</td>
</tr>
<tr>
<td>3</td>
<td>81,119</td>
<td>3,650</td>
<td>(28,392)</td>
<td>56,377</td>
</tr>
<tr>
<td>4</td>
<td>56,377</td>
<td>2,537</td>
<td>(29,528)</td>
<td>29,386</td>
</tr>
<tr>
<td>5</td>
<td>29,386</td>
<td>1,322</td>
<td>(30,709)</td>
<td>0</td>
</tr>
</tbody>
</table>

This is incorrect because taxes have not been applied to the award. The beginning balance in year 1 is only $93,302 and this will be insufficient to compensate the plaintiff as illustrated below.

<table>
<thead>
<tr>
<th>Year</th>
<th>Beginning Balance</th>
<th>Tax on Award</th>
<th>Earnings on Award</th>
<th>Less Withdrawal</th>
<th>Ending Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>124,402</td>
<td>(31,100)</td>
<td>4,199</td>
<td>(26,250)</td>
<td>71,251</td>
</tr>
<tr>
<td>2</td>
<td>71,251</td>
<td>3,206</td>
<td>(27,300)</td>
<td>47,157</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>47,157</td>
<td>2,122</td>
<td>(28,392)</td>
<td>20,887</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>20,887</td>
<td>940</td>
<td>(29,528)</td>
<td>(7,701)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>(7,701)</td>
<td>(347)</td>
<td>(30,709)</td>
<td>(38,756)</td>
<td></td>
</tr>
</tbody>
</table>
Adjustment of the award to reflect the tax on the award results in a total award of $165,869 before-tax and $124,402 after tax. The award is now sufficient to compensate the plaintiff.

Amount of award before tax on award 124,402
Adjustment for tax effect \([124,402/(1-.25)]\) 165,869

<table>
<thead>
<tr>
<th>Year</th>
<th>Beginning Balance</th>
<th>Tax on Award</th>
<th>Earnings on Award</th>
<th>Less Withdrawal</th>
<th>Ending Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>165,869</td>
<td>(41,467)</td>
<td>5,598</td>
<td>(26,250)</td>
<td>103,750</td>
</tr>
<tr>
<td>2</td>
<td>103,750</td>
<td></td>
<td>4,669</td>
<td>(27,300)</td>
<td>81,119</td>
</tr>
<tr>
<td>3</td>
<td>81,119</td>
<td></td>
<td>3,650</td>
<td>(28,392)</td>
<td>56,377</td>
</tr>
<tr>
<td>4</td>
<td>56,377</td>
<td></td>
<td>2,537</td>
<td>(29,528)</td>
<td>29,386</td>
</tr>
<tr>
<td>5</td>
<td>29,386</td>
<td></td>
<td>1,322</td>
<td>(30,709)</td>
<td>—</td>
</tr>
</tbody>
</table>
## Exhibit 10-2: Sample Tax Adjustment Calculation

### Assumptions:

- **Lost wage**: $35,000
- **Wage growth**: 4%
- **Tax rate**: 0%
- **Discount rate**: 6%
- **After tax discount**: 6%

<table>
<thead>
<tr>
<th>Year</th>
<th>Wage Loss</th>
<th>Less Income Tax</th>
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**Amount of award**: $158,981

### Additional Assumptions:

- **Lost wage**: $35,000
- **Wage growth**: 4%
- **Income tax rate**: 25%
- **Discount rate**: 6%
- **After tax discount**: 4.50%

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**Amount of award**: $124,402

**Total adjustment**: $165,869

[Download Excel File](#)
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(continued)
## EXHIBIT 10-3  
### Internet Links to State Web Sites (continued)

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The use of the proper discount rate to determine the present value of future economic losses should be one of the more straightforward matters facing an economic expert. After all, market rates of return are easily identifiable and readily available. Unfortunately, or fortunately, depending on your point of view, just the opposite is true. The discount rate has become one of the variables in economic testimony most clouded by controversy, lack of consensus and understanding by the court, and continued debate. This chapter covers the purpose of the discount rate, justification for a risk-free discount rate, determining a risk-free discount rate, determining present value, nominal discount rates, “below market” (net) discount rates, the “total offset method,” and discount rates in commercial cases.

**THE PURPOSE OF THE DISCOUNT RATE**

Since the responsibility of an economic expert is to opine for the court the amount of money in hand today that fairly represents the difference between an expected pre-event income and an assumed lower income post event, we have to recognize the time value of money. The application of a discount rate across time in the future provides the mechanism to reduce each year’s income differential to the present time; the sum of these discounted annual amounts provides the present value of future loss (hereafter referred to as present value). That sounds fairly easy. The complexity comes about as a result of the wide range of potential investments and their suitability for various time frames. Should short-term rates be
used? Should long-term rates be used? Should historical rates be used? Should a constant net rate be used across varying economic conditions and case variables? Should the rate apply specifically to the case at hand? When should the rate include consideration of the riskiness inherent in the income (or cash flow) stream analyzed? This is the crux of the dilemma.

Be prepared to defend the reasons for selection of a particular rate and method and attempt to determine the reasons for any differences in rate and method selected by the opposing expert.

The discount rate has to come from a rate of return on a market investment. Given the wide range of potential investments in this country, there are almost countless possibilities. When we recognize, however, that our responsibility is to identify safe investments, the universe of possibilities narrows dramatically. We have to base our opinions of present value on risk-free investments, thereby assuring the court that an award fairly represents the amount of money required to compensate the plaintiff without undue risk of default.

**JUSTIFICATION FOR A RISK-FREE DISCOUNT RATE**

The discount rate is the interest rate that will be applied to potential future annual economic losses to determine a present value (a sum of money in hand at the time of trial or mediation) that will fairly compensate the plaintiff for potential economic losses. There are two simple and overriding principles to observe in the determination of the proper discount rate.

1. The discount rate should be such that all of the principal that may be awarded and the interest it will generate are exhausted on the last day the plaintiff would have received future income had the accident not occurred.
2. The rate should be based upon investments that are risk-free from the potential of default.

(A different approach is used for valuing cash flows of corporations as discussed later in the chapter.)

**Safe Investment Criteria**

As decided in a United States Supreme Court decision (*Jones & Laughlin Steel Corp. v. Pfeifer*, 462 U.S. 523 [1983]), the Court ruled that the discount rate should be based on the rate of interest that would be earned on “the best and safest investments” (*Chesapeake & Ohio R. Co. v. Kelly*, 241 U.S. 485 [1916] 491 [1916].) (To access more information on *Jones & Laughlin Steel Corp. v. Pfeifer* see [CD Internet Link 11.1](https://findlaw.com/jones-laughlin-steel-corp-v-pfeifer.html) “FindLaw—Jones & Laughlin Steel Corp. v. Pfeifer.”) Furthermore, the Court ruled that a wrongfully injured worker is entitled to a risk-free stream of future income to replace lost wages; therefore, the discount rate should not reflect the market’s premium for investors who are willing to accept some risk of default. While the Court did not specifically state the proper investment, the notion of the “best and safest” investment was established in law.
In the United States, the safe investment criterion is satisfied by only one investment—obligations of the U.S. government. Admittedly, there may be other risks associated with the government’s debt, but credit risk (or worthiness) is not one of them. U.S. government-backed securities are the most popular in the world due to their safety and the liquidity offered to investors. American and foreign investors believe that the United States, due to its economic and political stability, provides the safest place in the world to invest. Whether the debt is represented by Treasury bills, notes, or bonds, the timely receipt of principal and associated interest payments is guaranteed by the federal government. This guarantee has not been abrogated, and the possibility of such an occurrence in the future is so remote as to make discussion of this possibility a mere exercise without any objective justification. (If the U.S. government defaults on its debt, the practice of accounting and expert witness testimony in this country may not be our greatest concern.)

Rate of Interest and Risk

In normal times, the debt of the U.S. government yields the lowest rate of interest for a given maturity. This fact alone is prima facie evidence of the creditworthiness of this debtor. On occasion, there may arise a question regarding the reason for the choice of an investment that yields such a low rate of interest. The associated question is, “Why wouldn’t an expert recommend an investment that would provide a larger interest payment monthly (or annually) to the plaintiff?” (I have been asked this question many times. Sometimes it was asked without the understanding that the court won’t look approvingly upon a recommendation for investments in common stocks or real estate, for example, and on other occasions it has been asked to reinforce the concept of conservatism and prudence.) The reason is that any other (and presumably higher) rate of interest for a given maturity is evidence of a higher credit risk even if that differential can be measured by only a few basis points. Moreover, while there are “near” obligations of the United States government, they are not specifically guaranteed by the federal government. The only obligations guaranteed by the federal government are Treasury obligations. Other debt, such as those issued by the Federal Farm Credit Bank, the Federal Home Loan Bank, Freddie Mac, and Fannie Mae, and others representing federal government agencies, are not specifically guaranteed by the U.S. Treasury.

All of the rates associated with “Treasury Bonds, Notes, and Bills” and “Government Agencies and Similar Issues” are listed daily in Section C of The Wall Street Journal. The Federal Reserve releases selected interest rates daily, known as the H.15 Daily Update. To access the H.15 Daily Update see CD Internet Link 11.2 “Federal Reserve Statistical Release.” This update includes Treasury obligations with constant maturities ranging from 3 months to up to 30 years, and an additional section for Treasury inflation indexed bonds. Historical data on Treasury obligations and other investments may be found in Stocks, Bills and Inflation: Valuation Edition, Ibbotson Associates, Chicago, IL. To access the Ibbotson Web site see CD Internet Link 11.3 “Ibbotson Web site.” Data on bond yields and interest rates is provided in the Economic Report of the
Deposits at Banks

Let’s consider the converse of higher rates. You may be asked why one wouldn’t recommend deposits at a bank or savings institution. These investments are considered safe by the general public, and their convenience at a local bank or thrift institution may give the plaintiff some comfort due to its proximity or the relationship with his or her banker. These deposits are not necessarily guaranteed by the federal government, and if they are, only up to the first $100,000.00 of principal. Judgments determined by trial or mediation can easily exceed this amount, and a substantial portion of an award could be unreasonably at risk. Banks and thrifts have failed in this country within the last 20 years. I would not want to try to reassure a court that the local institution may be “too big to fail.” Moreover, this question is a disingenuous one in that any lower discount rate increases the damage award, all other factors being unchanged. The expert’s responsibility is to determine the amount of specific damages that fairly compensate a wrongfully damaged plaintiff, not to unjustly enrich him. Alternatively, it would be equally as inappropriate to reduce the damages by using too high of a discount rate. There is no objective or valid economic reason to use any rate other than one based upon U.S. Treasury obligations and, perhaps, certificates of deposit for the very short-term maturities. (Note, however, that Treasury bills [T-bills] are also available for short-term maturities—those that are needed to fund losses within the first year of an award.)

Municipal Bonds

The economic expert may also argue that rates associated with municipal bonds are appropriate to determine present value. These investments do not satisfy the “best and safest” criterion established by the Court (remember the Washington State public utility bonds that defaulted in the early 1980s?). Moreover, their use is additionally inappropriate because they are priced in the market by investors in the highest marginal tax brackets, resulting in a present value that overstates future losses due to the artificially low tax adjusted interest rate.

DETERMINING A RISK-FREE DISCOUNT RATE

Once an expert decides to use U.S. Treasury obligations to determine a discount rate, the next hurdle is to identify which of the many issues traded daily in financial markets (and the new issues sold routinely by the Treasury) should be used in the analysis. After all, there are Treasury obligations maturing literally from one day to 25 to 30 years. A normal yield curve has lower short-term rates and higher long-term rates. The wide range of maturities gives the expert wide latitude in the selection of
the appropriate maturity and discount rate. Accordingly, the expert has a potentially wide range of discount rates on which to base his or her opinion. The critical factor is the choice of the appropriate maturities.

**Treasury Bills**

Treasury bills (T-bills) have a maturity of at most one year when the Treasury issues them. They have a 13-, 26-, or 52-week maturity when issued. Since these obligations remain in the market until paid by the Treasury, existing T-bills will mature from one day or seven days up to one year. Generally, maturities are available every seven days for the next year. For example, a one-year T-bill issued October 24, 2003, will have a six-month maturity on April 21, 2004 (a 180-day maturity). As time passes, its maturity will shorten until it is only one day. T-bills can be purchased with a $10,000 minimum investment and in additional increments of $5,000. They sell at a discount, with the face value paid at maturity. No interest is paid until the bill is sold or redeemed.

The justification for a discount rate derived from Treasury bills is generally based upon the following argument. T-bill rates offer the safest investment in terms of interest rate risk; that is, their short-term maturity does not subject them to the effects of inflation. Since other 90-day T-bills would be purchased upon the maturity of the first investment after an award, the market will reprice these securities every 90 days and the plaintiff is protected from the erosion of the value of the dollar. On some occasions the term “conservative” will be used to justify this position further. Generally speaking, the public’s and the court’s understanding of the word “conservative” is different from an economic expert’s understanding of that word. Since the term is such a nebulous one and has different meanings for different people, I think its use should be avoided. One can nearly always come along and claim that his or her opinion is more “conservative” than yours, but that doesn’t mean he or she is more correct or realistic as to future expectations.

The selection of a 90-day T-bill rate may also be supported by reference to a recent *Report to the Office of the President* (an annual publication). The 90-day T-bill rate is certainly cited in that publication, and it is usually identified for an historical period. Why is that rate any more appropriate than the 90-day rate on T-bills that existed at the time the expert’s report was rendered or at the time of trial even if the 90-day rate is applicable?

**Treasury Notes**

Treasury notes have maturities ranging from 2, 3, 4, 5, 7, and 10 years when issued. Two- and three-year notes start at $5,000 and increase in $5,000 increments. The 4-, 5-, 7-, and 10-year notes are available for $1,000 and in $1,000 increments. Justification for a discount rate based solely upon these securities may be based upon selecting an “average” maturity. Since there may be short-term maturities that yield 3.0 percent to 4.0 percent and long-term maturities that yield 5.0 percent to 6.0 percent, the argument may be presented that an intermediate term rate, let’s
say 5.5 percent for a 7-year note, is most representative of a range of rates. Some experts may also average short- and long-term rates to establish a discount rate, rather than relying upon a rate associated with any specific maturity. In the example above, an average of 3.0 percent to 6.0 percent would result if the focus were on rates rather than maturities. Justification for either approach may be supported by the notion that a rate implied by an average maturity or an average rate best represents a wide range of yields; hence, there is an implication of additional safety. Neither argument is necessarily accurate.

**Treasury Bonds**

Treasury bonds are issued with maturities longer than 10 years and up to 25 to 30 years. (In the last few years, 30-year maturities have not been issued by the Treasury, but since previously issued 30-year bonds remain in the market, there are maturities that had an original “life” of 30 years.) These bonds sell for $1,000 and in increments of $1,000. (Note that all Treasury securities can be purchased from a full service or discount broker, a bank, or directly from the Treasury. Treasury obligations can be ordered by mail directly from any Federal Reserve Bank or branch with no commission, and they can also be purchased on the Internet. Order forms and informative pamphlets are available from the Bureau of Public Debt, Washington, D.C. 20226.) An expert’s discount rate may be based solely upon rates for T-bills, or they may also be based upon the rate for a 25- to 30-year bond alone. Justification for the latter approach may take the form of a long-term approach to valuation and the safety it implies. Conversely, it may be asserted that the effects of long-term inflation have more serious implications for a plaintiff, and the avoidance of these rates provides fairer compensation. The 25-year Treasury bond yield may also be used routinely in cases requiring a “below market” (or net) discount rate. (See below.)

**“Strips”**

In 1982, investment bankers such as Merrill Lynch and Salomon Brothers realized that some investors would prefer to receive a single payment rather than a principal payment preceded by timely interest payments semi-annually (for Treasury notes or bonds). (The original “mini-bonds,” as some people called them, had more interesting names in the marketplace. Merrill Lynch’s issues were called “TIGRs” [Treasury Investment Growth Receipts]. The mini-bonds issued by Salomon Brothers were known as “CATS” [Certificates of Accrual on Treasury Securities].) They bought U.S. Treasury notes and bonds and resold them as separate “issues,” some representing an interest payment and others representing a principal payment. For example, instead of an investor buying a 7-year note and thereby receiving 13 semi-annual interest payments and one final payment representing the 14th interest payment and the principal repayment, he or she could buy a Treasury obligation that would make a
single payment at the time he or she wanted or needed it. The investor could literally pick a 4½-year single payment, a 6¾-year single payment, or nearly any other maturity that met his or her requirements. These securities were so popular that the Treasury began issuing their own “Strips.” This term developed because the interest payments were “stripped” from the associated principal payment.

The pricing of these instruments is interesting. An interest payment in May 2009 will not necessarily have the same yield as a May 2009 principal payment. Moreover, the yield on a conventional Treasury security maturing in May 2009 may not have the same yield as either of the “Strips” with the same maturity. The difference in yields arises from the size and timing of payments. A May 2009 interest payment is likely to be significantly smaller than a May 2009 principal payment. Accordingly, it will satisfy different needs in financial markets and will be priced differently, although generally within a few basis points of a principal payment with the same timing. Yields for “Strips” are listed daily in The Wall Street Journal next to those of the other Treasuries.

Since “Strips” are U.S. Treasury obligations, they may be perfectly suited for use in present value calculations. They also provide excellent sources of funding for life care plans and structured settlements. While their yields may be higher than those of similar term conventional government obligations, there is no objective reason to criticize their use in your valuations. One Treasury obligation is no safer than any other.

**Inflation-Indexed Bonds**

The U.S. Treasury began issuing “inflation indexed” bonds in January 1997. These bonds’ interest and principal are repriced every six months by the U.S. Treasury to compensate for the effects of inflation in the last six months. Their yield is truly an inflation-free return, and their real returns are consistent with the “below market” interest rates required in certain litigation. In fact, they provide the first contemporaneous, empirical identification of real interest rates in this country. These bonds are currently available in several maturities, and the Treasury has announced plans to issue additional securities to provide a wide range of maturities eventually. At that time, the spectrum of maturities will be as complete as it is for traditional government obligations.

The use of inflation-indexed bonds is entirely appropriate for valuing losses, although the limited number of maturities at this time poses some restrictions because you may not be able to satisfy annual cash payments for losses. Nonetheless, there are reasonable economic implications for rates between various maturities based upon a normal yield curve. These bonds are particularly well suited for use in valuing life care plans due to certain claims that may be made about the effects of inflation on health care costs. Sometimes these arguments take on a more emotional tone than anything that may be truly economic. Their repricing mechanism eliminates any reasonable argument that very short maturities are required for such costs.
As strange as it may seem, the choice of the discount rate by some experts has been based upon *historical* rates, whether the reliance is on Treasury bills, notes, or bonds, for some stated period of time, such as a 30-, 40-, or 50-year period. The expert may state that Treasury bonds have yielded 7.5 percent for the past 30 years, for example, and that is what he or she is going to use. Note that there is not necessarily a reference to the maturity in this example, although it may be cited. This approach has always been a source of wonder to me. There is no way to purchase Treasury securities that have already matured or been otherwise retired.

Another twist on the historical approach to discount rates is to select a period of time prior to the trial or mediation that corresponds to the period of potential future loss. If the future period of potential loss is 12 years, for example, the expert may rely upon the average of Treasury yields for a 12-year period prior to either the date of the event giving rise to the lawsuit or the date of the trial or mediation. While this approach to valuation is even stranger than the one described in the preceding paragraph, it has been used. If our economy had sectors, cycles, or indices that precisely reproduced themselves in routine fashion for any arbitrary period of time, there would be many more people in this country in the highest marginal tax bracket. I suspect that if such were the case, you would not be reading this book. More likely, you may be in Bimini relaxing on your own private stretch of beach.

Finally, and more appropriately, the discount rate should be based upon yields currently available year by year for maturities up to the period of potential future loss. These rates will range from the current T-bill rate to the rate for a Treasury note or bond (or inflation-indexed bond) maturing in the last full year of the future period. The fraction of a year at the end of the term is ignored for purposes of identifying the appropriate rates. For example, if the remaining worklife of the plaintiff is 19.46 years, the first discount rate may represent a 3- or 6-month maturity and the last discount rate would be provided by a Treasury bond maturing in 19 years. Between these extremes, a rate would be used for each year from 2 to 18 years that is currently available on a Treasury obligation. In using rates for the entire term of the potential future loss period, assets (cash inflows, represented by future interest income and exhaustion of principal) and liabilities (cash outflows, represented by the income lost as a result of alleged actions of the defendant) have been matched. The risk of inflation and its effect on future income has been minimized. This concept of asset-liability management has been employed by financial institutions for many years to minimize interest rate risks. This financial management technique has been refined into the concept of duration, which includes a time-weighted assessment of cash flows. While a discussion of the calculation of duration and its use is not appropriate here (due primarily to its complexity and the needless additional explanation for the court), it is an interesting tool. It may be useful to you in other applications.¹

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CHAPTER 11 DISCOUNTING ECONOMIC LOSSES TO PRESENT VALUE

Whether a single interest rate across time is used or specific rates are used for each year individually, the calculation of present value will be based upon discounted cash flows. The effects of a static 3 percent rate (for example) will have a different economic influence in earlier years than it does toward the end of the loss period. In my view, this makes the argument for using rates specific to the time period more compelling. The proper calculation of present value takes the form of:

\[ PV = \sum_{n=0}^{\infty} (\Delta I (1 + i)^n) (1 + d_r)^n \]

where:

- \( n \) = number of future periods
- \( \Delta I \) = future income differential (starting at the trial or mediation date)
- \( i \) = annual increase rate for the “but for” and future incomes
- \( d_r \) = discount rate per period

In determining present value, the future receipt of interest income and the timely use of principal are matched with the otherwise timely receipt of "but for" income forgone as a result of the event at hand. (Please note that the timely receipt of “but for” income represents an argument against the sole use of T-bills rates when the potential loss is for periods longer than one year. The claim that the flexibility of short-term investments is required to provide the plaintiff more insulation from the effects of inflation also provides far more liquidity than would have been in the income stream.) Moreover, the full range of applicable yields on safe investments is recognized for the loss period, and the time value of cash inflows is recognized. While an opposing economic expert may argue the efficacy of this methodology, no other technique is more defensible. When the investments are held to maturity, negating the re-investment argument while also satisfying the “but for” receipt of income, the use of this methodology is appropriate for the determination of present value despite the context of its application. If it is applicable for valuation purposes in a matter not involved in litigation, how can it reasonably be argued that there is something magical about litigation that requires a different valuation technique? The deficiencies of other potential methods, described above, result in a distorted valuation as explained.

NOMINAL DISCOUNT RATES

Thus far, the discussion of rates has focused on the use of a nominal discount (except for the comments on inflation-indexed bonds). This is the rate that most people can identify in any publication as a yield or rate of return. The general public understands this concept because it has typically earned a nominal rate of return on bank accounts, certificates of deposit, and insurance contracts. The nominal rate is also the rate of interest that people refer to when they say, “I earned a 4-percent raise this year,” or they look in The Wall Street Journal or a local newspaper to identify an interest rate on an investment they may have made or contemplate making. It is the interest rate that “stands alone,” without any considera-
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\[
PV = \sum_{n=0}^{\infty} \frac{I(1 + i)^n}{(1 + d_n)^n}
\]

where:

- \( n \) = number of future periods
- \( I \) = future income differential (starting at the trial or mediation date)
- \( i \) = annual increase rate for the “but for” and future incomes
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tion for other variables discussed in this book. Jurors readily understand this rate because it is a concept they have dealt with for much of their lives. Applicable case law may require the expert to use a nominal discount rate. Some states may require the application of a nominal discount rate.

"BELOW MARKET" (NET) DISCOUNT RATES

The use of nominal discount rates to determine present value is based upon what is called the "case by case" method of valuation. This method requires the expert (under applicable law) to explain the annual increase rate (many times incorrectly referred to simply as the inflation rate) and the nominal discount rate individually. In doing so, the discount rate warrants its own defense in the absence of any discussion of the annual increase rate. Please note, however, that attorneys or experts may try to link the two even though a separation is appropriate under applicable law and in spite of the fact that it is easier for the court (whether it is a judge or a jury) to understand the two components separately. While there may be a relationship between these variables, particularly in the longer term, the applicable law may require a separate explanation of the two variables. Care must be taken to satisfy the courts regarding the use of a "below market" discount rate when it is applicable.

Under certain federal law cases, particularly those tried under federal maritime law (which includes Jones Act cases), railroad workers (FELA cases), and certain types of employment discrimination cases, the economic expert is required to use a "below market" discount rate. (The landmark case that introduced the concept of "below market" discount rate is the aforementioned Jones & Laughlin case. The notion is codified in a case popularly known as Culver II, Fifth Circuit. Please note that this Fifth Circuit opinion may not apply to other Federal Circuits.) From our perspective, this can be referred to as a net discount rate because it is the difference between the nominal discount rate and the annual increase rate. It is not unusual for the expert to assert that learned studies and treatises, or more rarely his or her own research, indicate that the relationship between long-term Treasury bonds and inflation (or the expectation of inflation) is x percent. Various academic studies indicate that x = 3.00 percent, and these studies indicate that this relationship has existed over a long period of time in this country. (This 3.00 percent is the real return for long-term government bonds.) But what if the potential period of loss is four years? Or eight years? Is this relationship as applicable for shorter terms as for longer terms (at least 20 to 30 years)? This is something each expert must determine and defend before the court.

Rather than applying a static below market discount rate such as 3 percent to varying cases, a more appropriate method is to use rates that are based upon the relevant data, facts, and market factors at hand at the time the report is written or updated. If the potential period of loss is six years, examine the relationship between economic conditions and nominal interest rates for the applicable term. The interest rate consideration should include all rates between zero and six years. To develop the below market discount rate, subtract the annual increase rate from the nominal
discount rate. It may or may not result in a difference of 3.00 percent, but this methodology will be based upon current economic conditions and interest rates. One could certainly consider the “real” rate of return on U.S. Treasury inflation-indexed bonds.

For example, the below market discount rate developed by the expert for six years of future worklife may take the form of:

<table>
<thead>
<tr>
<th>Nominal discount rate</th>
<th>4.50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual increase rate assumption</td>
<td>2.50%</td>
</tr>
<tr>
<td>Below market (net) discount rate</td>
<td>2.00%</td>
</tr>
</tbody>
</table>

In general, when an economic expert does not explain the annual increase rate and the annual discount rate separately, without the need to do so under applicable law, it may be a clue that the expert has an ulterior motive in disguising the annual increase rate, the nominal discount rate, or both. It is not unusual in such a case for the expert to be using a negative discount rate, meaning that the plaintiff’s income would grow at a higher rate than the long-term rate he or she could earn on safe investments. While there may be relatively short periods of time when this relationship exists, and it may be true for some workers in the earlier part of their worklife for a period of time, this relationship is not sustainable for the long term. A separate explanation of each rate, despite the applicable law, provides a ready understanding of the discounting mechanism. Nonetheless, in cases applying federal law, the economic expert must ultimately satisfy the court that he or she is using a below market discount rate or rates.

**TOTAL OFFSET METHOD**

In *Beaulieu v. Elliott* (434 P. 2d 665, Alaska, 1967), the court ruled that the discount rate and the annual increase rate should offset one another, resulting in a 0 percent net discount rate. Whether or not an expert helped the court to arrive at this decision would be interesting to know but immaterial if the court deems the “Alaskan method,” also known as the “total offset method” of discounting, applicable. In these cases, one may simply multiply the wage base by the number of future years of potential loss to derive the “present value.” Note that this method implies that when long-term T-bonds yield at least 9 percent, as they did in the late 1970s and early 1980s, the appropriate annual increase rate is also 9 percent. This relationship is untenable as it relates to wages and fringe benefits for any reasonable period of time.

The Alaskan method is not recognized by most jurisdictions, but it is important to note that I testified in a trial in which it was suggested that I should use the Alaskan method of discounting. An immediate objection from an attorney, and my explanation of what the Alaskan method means, was sustained, and we proceeded with a more appropriate discounting method. Perhaps the best argument, and the one most easily understood, against the Alaskan method is the fact that “we aren’t in Alaska.”
DISCOUNT RATES IN COMMERCIAL CASES

The discussion above has centered on the application of discount rates in personal injury, wrongful death, and employment-related cases. Other cases, those involving a claim for a corporation, are generally called “corporate” cases. While this title isn’t all that original, the distinction is an important one. These cases include business interruption, anti-trust matters, unfair competitive claims, stolen intellectual property, trade secrets, and others.

In these cases, it is necessary to recognize the uncertainty of business income and its inherent riskiness. As a result, application of a risk-free discount rate would result in a windfall for the plaintiff in the event of an award for damages. The economic expert should utilize a discount rate that reflects the expected return on the affected cash flow in these cases. For example, if the plaintiff company claims business interruption as the result of a fire, discounting at rates in the 3 percent to 6 percent range does not reflect the riskiness of the business. If the business anticipated returns in the 3 percent to 6 percent range, it could simply invest in U.S. government securities. This is not what investors expect for the risk they assume in making an investment in a business. Why give money to a corporation so it can buy government securities? Any rational investor would make this investment himself or herself without the need of an intermediary.

Typically, using the Capital Asset Pricing Model (CAPM) is the preferred method of developing an appropriate discount rate in these cases. While this concept can be a little arcane, it can be described as a mechanism that fairly represents the risk assumed in making investments where the rate of return is uncertain (if it is even positive). Investors require a premium for the risk they assume. The difference between the return on a market portfolio of common stocks and the return on T-bills is called the market risk premium. It is the additional return a knowledgeable investor expects (and hopes for) over entirely risk-free investments. Over a long period of time, over 60 years in our economy, the market risk premium has averaged 8.4 percent annually. This result is based upon returns on “market” investments, that is, investments in a broad cross section of common stocks, such as investments in the Standard & Poor’s 500 (S&P 500).

In using the CAPM, financial economists employ a beta coefficient, a measure of the price movement of a stock in relation to price changes in the market, as measured by a broadly diversified portfolio such as the S&P 500. The sensitivity of a stock’s price change in relation to the market is the stock’s beta.

Since the measurement of price changes of an individual stock is gauged against the market, the S&P 500 (representing the market) has a beta of 1.0. Treasury bills have a beta of 0 because they are the risk-free investment. Stocks with betas in the range of 0 to 1.0 move with the market, but not to the same extent. Stocks with betas higher than 1.0 have a disproportionately higher reaction to market price movements. As you would expect, stocks with betas less than 1.0 are considered more conservative investments. They tend to be slow growth companies, such as utilities, and companies like AT&T and Exxon. Stocks with betas greater than 1.0 are riskier investments, and they include companies such as Amgen, Intel, and Cisco. If a company has a beta of 1.22, for example, one
would expect its price, on average, to change 1.22 times as much as the market. A 1 percent gain for the market would produce, over time, a 1.22 percent increase in this company’s stock price. That sounds pretty good, but when the market falls 1 percent, one would expect a 1.22 percent decline in the stock (over time, and on average). (Don’t assume that all “old economy” stocks have betas lower than 1.0. Companies such as Ford, McDonald’s, and McGraw-Hill have had betas higher than 1.0. It may be a valid generalization, however, to say that a high percentage of “new economy” stocks have betas greater than 1.0. Many Internet stocks don’t have betas yet.)

How does the beta help one determine the appropriate discount rate for a risky cash flow stream? That’s where the CAPM comes into play. In financial markets, the risk premium of an investment changes in direct proportion to its beta. Consequently, the expected return on an investment is its beta times the market rate of return (8.4 percent) plus the risk-free rate of return.

As an equation:

\[ r = \beta (r_m - r_f) + r_f \]

where:

- \( r \) = expected return on a risky investment
- \( \beta \) = a security’s sensitivity to changes in the market
- \( r_f \) = risk-free rate (as determined by T-bills)
- \( (r_m - r_f) \) = market risk premium = 0.084 = 8.4%

For example, recently the International United Amalgamated Conglomerate Corp. had a beta of 1.28. The current risk-free rate is 2.0 percent. The expected return for shareholders of United Amalgamated is

\[ 1.28 \times 0.084 + 0.020 = 0.1275 = 12.75\% \]

The CAPM works relatively easily for companies whose stocks are publicly traded. What do you do for a large privately held company, or for a smaller business that may have an owner-manager? In these cases, you have to identify a proxy for the company’s stock. Try to identify a company or an industry that the subject company is most like or may resemble. The Internet has become a useful tool to research betas and other information that will assist your analysis. Please note that there is a beta premium for smaller, perhaps privately owned, companies. If the subject company is a locally owned auto parts company, for example, it realistically does not have the same beta as Autozone, Inc. (stock symbol AZO). An ascribed premium in the range of 1.25x to 2.50x or more may be appropriate. More likely than not, you will calculate a relatively high beta, and the resulting expected return for such a company can easily be in the range of 20 to 25 percent or more. Whatever the rate may be, that is the appropriate discount rate for calculating a present value in a corporate damage case.
CASE STUDY ONE: PERSONAL INJURY—FEDERAL COURT CASE

You have been hired to prepare an economic loss calculation for a personal injury case in federal court. The hiring attorney confirms that taxes should be considered in your calculation.

Facts

1. Name of plaintiff: Penelope Potter.
2. Date of accident: January 1, 2000.
4. Plaintiff: Married female with college education.
5. Date of birth: January 12, 1955.
6. The plaintiff was employed by the Department of Transportation at the time of the accident and worked regular time and overtime each year.
7. The plaintiff is still employed by the Department of Transportation, but due to the accident can no longer work overtime.

Your Review

1. Legal petition.
2. Individual income tax returns of plaintiff.
3. Earnings statements and pay stubs of plaintiff.
4. Retirement benefit statements of plaintiff.
5. Depositions of the plaintiff and her husband.
6. Employer pay schedules.
7. Employer retirement plan summary.
8. Medical reports.
9. Vocational rehabilitation reports.
Your Analysis

1. Due to the accident, the plaintiff is no longer able to work overtime.
2. This amount will be lost over the plaintiff’s worklife.
3. Worklife expectancy as of accident date is established to be 17.02 years, by reference to tables in “A Markov Process of Work Life Expectancies Based on Labor Market Activity in 1997–98.”
4. Real rate of growth over worklife is 1.15 percent, based on analysis of past industry data.
5. Real rate of discount over worklife is 3 percent, based upon the rate of return available in U.S. Treasury securities.
6. The lost overtime results in lost retirement contributions because the employer would have contributed 5 percent into the plaintiff’s retirement account.
7. The retirement contributions would have grown at a real rate of 5.7 percent, based upon the investment allocation of the plaintiff at the time of the accident.
8. The plaintiff will be unable to perform certain household services as a result of the accident. In her deposition, she estimates she has lost 10 hours of services per week and that these services were evenly divided between cleaning, painting, and gardening. Reference to hourly rates provided by the Bureau of Labor Statistics establishes a replacement cost of $9.39 per hour for these household services. This replacement cost is projected to increase at a real rate of 0 percent per year.
9. Lost household services are projected over the plaintiff’s worklife expectancy.
10. Applicable taxes based on the plaintiff’s income are federal income taxes of 18.3 percent, state income taxes of 3.75 percent, and Social Security taxes of 7.65 percent.

Your Conclusions

1. Past lost wages and fringes total $17,529.
2. Past lost household services total $9,827.
3. Future lost wages total $116,441.
4. Future lost household services total $58,042.

The sample report is in Exhibit 12-1, “Sample Report—Case Study One: Personal Injury—Federal Court Case.” The Excel spreadsheet showing the calculations for generating the conclusions is in Exhibit 12-2, “Spreadsheet—Case Study One: Personal Injury—Federal Court Case.”

CASE STUDY TWO: WRONGFUL DEATH—STATE COURT CASE

You have been hired to prepare an economic loss calculation for a wrongful death case in state court. The hiring attorney confirms that taxes should not be considered in your calculation. The trial date has not been set, but the hiring attorney instructs you to prepare the calculation of past and future losses based on your report date of June 1, 2001.
Facts

1. Name of decedent: John O’Kelley.
4. Decedent: Married male with education less than high school.
5. Dependents: None.
9. The decedent was employed as a security guard at the time of the accident.
10. The decedent’s spouse was not employed at the time of the accident.

Your Review

1. Individual income tax returns of decedent.
2. Deposition of decedent’s spouse.
3. Legal petition.
4. Interrogatories and answers to interrogatories.

Your Analysis

1. Worklife expectancy as of the date of death is established to be 14.61 years, by reference to tables in “A Markov Process of Work Life Expectancies Based on Labor Market Activity in 1997–98.”
2. Mr. O’Kelley would have personally consumed 30 percent of family earnings.
3. Mr. O’Kelley had earnings ranging from $16,000 to $20,000, prior to death.
4. Mr. O’Kelley’s earnings would have increased at a nominal rate of 2 percent per year.
5. Mrs. O’Kelley estimates that her husband provided 8 hours of household services per week. This represents his help with household cleaning and cooking. You assume a replacement cost based on minimum wage and project a nominal rate increase of 2 percent per year.
6. Lost household services are projected over the plaintiff’s worklife expectancy.
7. Nominal rate of discount is 5.5 percent, based upon the rate of return available in U.S. Treasury securities.

Your Conclusions

1. Lost annual wages at the time of death range from $16,000 to $20,000.
2. Past lost wages range from $29,988 to $37,485.
3. Past lost household services total $3,737.
4. Future lost wages range from $114,194 to $142,743.
5. Future lost household services total $13,854.

The sample report is in Exhibit 12-3, “Sample Report—Case Study Two: Wrongful Death—State Court Case.” The Excel spreadsheet showing the calculations for generating the conclusions is in Exhibit 12-4, “Spreadsheet—Case Study Two: Wrongful Death—State Court Case.”
CASE STUDY THREE: WRONGFUL TERMINATION—
FEDERAL COURT CASE

You have been hired to prepare an economic loss calculation for a wrongful termination case in federal court. The hiring attorney confirms that taxes should be considered in your calculation. The hiring attorney instructs you to prepare the calculation under two scenarios. Scenario One assumes no limit on front pay and Scenario Two assumes a three-year limit on front pay.

Facts

1. Name of plaintiff: Sam Allen.
2. Date of wrongful termination: June 11, 1998.
4. Plaintiff: Married male with high school education.
5. Date of birth: March 8, 1961.
6. The plaintiff was employed by the AMC Corporation as a lift operator at the time of the termination and worked regular time and overtime each year.
7. The plaintiff alleges he was wrongfully terminated by AMC Corporation.
8. The plaintiff is now employed by Newco as a clerical assistant and earns $660 per month.

Your Review

1. Legal petition.
2. Individual income tax returns of Sam Allen for years 1995 through 1999.
3. Payroll data of Sam Allen from AMC Corporation.
6. Correspondence to Sam Allen from AMC Corporation dated October 27, 2000.

Your Analysis

1. Sam Allen earned $50,513 in the year before termination. He earned $11.00 per hour for the first 40 hours per week, and $16.50 for overtime hours.
2. His annualized earning for the year of the termination total $58,858 and assuming he worked 85 hours each week, 50 weeks per year, his total annual earnings would be $59,125.
3. A range of $50,000 to $59,000 is selected as the earnings base to address the various scenarios.
5. Life expectancy as of termination date is established to be 39.17 years, by reference to “United States Life Tables 1997; vol. 47, No. 28,” National Center for Health Statistics.
6. Real rate of growth of compensation as a lift operator over worklife is .5 percent, based on analysis of past industry data.
7. Real rate of growth of compensation as a clerical assistant is 0 percent, based on analysis of past industry data.
8. Real rate of discount over worklife is 3 percent, based upon the rate of return available in U.S. Treasury securities.
9. Mr. Allen received health insurance coverage from AMC Co. and this benefit is valued at $59.71 per month by AMC Co. Mr. Allen now pays the full cost of health insurance through payroll deductions in his present employment.
10. Mr. Allen will have future medical costs for therapy sessions. The cost of the therapy sessions is $100 per month. This therapy is projected by Joe Doctor, M.D. to be needed over Mr. Allen’s lifetime.
11. The real rate of growth of the cost of therapy sessions is 1 percent per year, based upon data provided in Economic Report of the President 1999.
12. Applicable taxes based on the plaintiff’s income are federal income taxes of 8 percent, state income taxes of 2 percent, and Social Security taxes of 7.65 percent. The award will be taxable to the plaintiff.

Your Conclusions

Scenario One
1. Past lost wages and fringes range from $99,469 to $117,066.
2. Past lost medical expenses total $3,156.
3. Future lost wages range from $724,735 to $865,758.
4. Future lost medical expenses total $29,984.

Scenario Two
5. Past lost wages and fringes range from $99,469 to $117,066.
6. Past lost medical expenses total $3,156.
7. Future lost wages range from $123,354 to $147,513.
8. Future lost medical expenses total $3,416.

The sample report is in Exhibit 12-5, “Sample Report—Case Study Three: Wrongful Termination—Federal Court Case.” The Excel spreadsheet showing the calculations for generating the conclusions is in Exhibit 12-6, “Spreadsheet—Case Study Three: Wrongful Termination—Federal Court Case.”

CASE STUDY FOUR: WRONGFUL DEATH—PERSONAL CONSUMPTION ILLUSTRATION

Facts

Mary died during the delivery of her only child, Frank, Jr. Mary was born on March 8, 1973, and died on March 9, 1996. Frank, Jr. was born on
March 9, 1996. Mary was married to Frank, Sr., who was born on January 8, 1972. Mary had a high school education and had been employed at minimum wage. Frank, Sr. earned $14,752 in 1995.

**Your Analysis**

1. Mary’s remaining worklife as of death was 26.5 years.
2. Mary’s life expectancy as of death was 57.5 years.
3. Earnings of Frank and Mary would increase at a rate of 3 percent per year.
4. Mary would have consumed 26 percent of family income until Frank, Jr. reached age 18; Mary would then have consumed 30 percent of family income.
5. Consumption is based upon family income.
6. A discount rate of 6.5 percent is selected, based upon U.S. Treasury securities.
7. Calculations are based upon a trial date of April 17, 2000.

**Your Conclusions**

<table>
<thead>
<tr>
<th></th>
<th>$14,999</th>
<th>$59,669</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past loss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present value of future loss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total loss</td>
<td>$74,668</td>
<td></td>
</tr>
</tbody>
</table>

The hiring attorney is not sure if consumption should be considered and requests you prepare two alternative calculations. Alternate Calculation One should reflect consumption only on Mary’s income, and not family income. Alternative Calculation Two should reflect no reduction for consumption.

**Your Conclusions**

<table>
<thead>
<tr>
<th></th>
<th>Alternate Calculation One</th>
<th>Alternate Calculation Two</th>
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</thead>
<tbody>
<tr>
<td>Past loss</td>
<td>$ 31,559</td>
<td>$ 42,648</td>
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<tr>
<td>Present value of future loss</td>
<td>$127,707</td>
<td>$172,577</td>
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<td>Total loss</td>
<td>$159,266</td>
<td>$215,225</td>
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The Excel spreadsheets showing the calculations for generating the conclusions in Case Study Four are in Exhibit 12-7, “Spreadsheet—Case Study Four: Wrongful Death—Personal Consumption Illustration.” There is no sample report for Case Study Four.
June 12, 2001

Christopher Palmer, Esquire
Walker, Powell & Palmer
100 South Street, Suite 3100
Anytown, USA

Re: Penelope Potter v. Kona Corporation
USDC (Southern District of Missouri)

Dear Mr. Palmer:

I have been hired by you and your clients, Penelope and Pete Potter, to review certain records and documents pertaining to the above captioned litigation and render my professional opinion with respect to the following issue:

- The economic loss to Penelope Potter resulting from her injury on January 1, 2000.

In the course of my work, I reviewed the following documents:

1. Individual income tax returns of Penelope and Pete Potter for years 1995 through 2000.
6. Thrift Savings Plan statement of Penelope Potter for the period 11/01/99 through 4/30/00.
7. Thrift Savings Plan statement of Penelope Potter for the period 2/1/00 through 4/30/00.

BACKGROUND UNDERSTANDING

Penelope Potter was born on December 12, 1955. She has a college degree. She was injured on January 1, 2000. She is employed by the U.S. Department of Transportation as a plant officer. She is presently employed at Grade 11, step 7 and was promoted to this level on April 2000.

I have made the following assumptions in my calculation:

1. Mrs. Potter had a worklife expectancy of 17.02 years at the time of her injury.
2. Mrs. Potter had a life expectancy of 38.03 years at the time of her injury.
3. Mrs. Potter's earnings would have increased at a real rate of 1.15 percent per year.
4. Mrs. Potter's thrift fund investment would have increased at a real rate of 5.71 percent per year.
5. Mrs. Potter's lost personal services total 10 hours per week, 50 weeks per year.
6. The date of trial is February 4, 2002.

ANALYSIS

The economic loss as a result of the injury of Mrs. Potter is calculated based on past losses and future losses. The past loss represents the amount of income Mrs. Potter would have earned from the date of her injury to the date of trial, but for (continued)
her injury. The future loss is the present net cash value of lost earnings, fringe benefits, medical expenses and personal services from the date of trial through the worklife expectancy and life expectancy of Mrs. Potter. The economic loss is calculated by using the below-market method as mandated in *Culver v. Slater Boat Co.*, 1983. 722 F.2d 114, 122 (Culver II).

**Earnings**

Mrs. Potter received $55,131.97 in taxable wages in 1999, the year of her injury. This included $13,366.94 in overtime. She earned $969 in overtime in year 2000. Lost overtime has been calculated based on analysis of years 1995 through 2000. Average overtime, as indexed to January 1, 2000, totals $11,995. This is reduced by $969 to provide lost overtime of $11,026. This is used as the base for lost earnings in Scenario One.

**Worklife Expectancy**

I refer to worklife tables in “A Markov Process of Work Life Expectancies Based on Labor Market Activity in 1997-98,” by James Ciecka, Thomas Donley, and Jerry Goldman, *Journal of Legal Economics*, Winter 1999-2000, for women active in the work force, and with 15 or more years of education, and determine Mrs. Potter’s remaining worklife as of the date of injury to be 17.02 years.

**Discount Rate**

The discount rate is based upon the rate of return available in U.S. Treasury securities. The effects of inflation are removed to provide the real rate of interest, without regard to inflation. This rate is 3 percent before income tax and 2.451 percent after income tax. U.S. Treasury securities are exempt from state income tax, therefore only federal income tax is considered in calculating the after-tax rate.

**Growth Rates**

The growth rate on earnings is based upon analysis of U.S. Office of Personnel Management rates of pay. The effects of inflation are removed to provide the real rates of growth, without regard to inflation. A real rate of 1.15 percent provides the expected rate of growth in compensation from the U.S. Department of Transportation.

The growth rate on household services is based upon data compiled by the Bureau of Labor Statistics. A real rate of zero provides the expected rate of growth of household services.


These rates represent before-tax real growth rates.

**Taxes**

In *Norfolk and Western Railway Company v. Liepelt*, 444 U. S. 490 (1980), the U.S. Supreme Court ruled that future wages should be estimated on an after-tax basis. The taxes applicable to Mrs. Potter’s future wages include federal and state income taxes, including payroll and Social Security taxes. Taxes have been calculated based on the rates currently in effect.

Taxes on Mrs. Potter’s future wages comprise federal income taxes of 18.3 percent, state income taxes of 3.75 percent, and Social Security taxes of 7.65 percent.

**Fringe Benefits**

Mrs. Potter receives retirement benefits as an employee of the U.S. Department of Transportation. She receives matching agency contribution to the thrift savings plan equal to 5 percent of compensation. Lost overtime and lost promotion
income result in loss of agency contributions to the thrift savings plan. Mrs. Potter was investing thrift savings plan contributions 50 percent in the G (Government Securities Investment) fund and 50 percent in the C (Common Stock Index Investment) fund at the time of her accident.

**Personal (Household) Services**

I have estimated the lost value of personal (household) services based upon 10 hours per week, 50 weeks per year, at a replacement cost of $9.39 per hour. The household services represent cleaning services, painting, and garden work performed by Mrs. Potter prior to the accident, and the hourly rate is determined by reference to the Bureau of Labor Statistics. This lost value is projected to increase at a real rate of 0 percent per year. This loss is projected over Mrs. Potter’s worklife expectancy.

**Pete Potter Lost Income**

It is my understanding that Mr. Potter lost income due to time caring for Mrs. Potter after her injury. Calculation of lost income of Mr. Potter is not included in this analysis.

**Summary and Conclusions**

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<tr>
<th></th>
<th>Wages and fringes</th>
<th>Personal Services</th>
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<td>$27,356</td>
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<td>Loss from trial (Future Loss)</td>
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<td>Total Economic Loss</td>
<td>$133,970</td>
<td>$67,869</td>
<td>$201,839</td>
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</table>

I reserve the right to amend, modify, or supplement this report based upon the receipt of new or additional information.

Sincerely,

CERTIFIED PUBLIC ACCOUNTANTS

Sally Smith, CPA

COMPENSATION

The fees for performing this engagement are based on my hourly rate of $XXX per hour.

EXPERT WITNESS TESTIMONY

I have testified as an expert at trial or by deposition in the following cases within the preceding three years:

[List cases here]

PUBLISHED MATERIALS

[List published materials here]
### CASE STUDY ONE

#### ECONOMIC LOSS CALCULATION

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<th>Name of injured</th>
<th>Penelope Potter</th>
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<td>Profession</td>
<td>Shipping</td>
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<tr>
<td>Education</td>
<td>college grad</td>
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<tr>
<td>Date of birth</td>
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<td>1/1/2000</td>
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<tr>
<td>Worklife expectancy</td>
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<td>Real household growth</td>
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<td>Income tax rate</td>
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<td>Social Security tax rate</td>
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<td>Real before tax discount</td>
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<tr>
<td>Real after tax discount</td>
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<td>Annual income lost</td>
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#### Income Tax Schedule

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<th>From Accident</th>
<th>To Report</th>
<th>Age</th>
<th>Lost Overtime</th>
<th>Net Loss of Earnings</th>
<th>Loss of Retirement</th>
<th>Retirement Fund Balance</th>
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</tbody>
</table>

Total economic loss $133,970

Future loss $116,441

Past loss $17,529

Excel File Download

(116,441) $116,441 Future loss

$133,970 Total economic loss
## HOUSEHOLD SERVICES CALCULATION

**Name of injured**: Penelope Potter  
**Calculation date**: 2/4/2002  
**Fraction of year**: 9.32%  
**Race/sex**: White female  
**Profession**: Transportation  
**Education**: college grad  
**Date of birth**: 1/12/1955  
**Date of accident**: 1/1/2000  
**Age at accident**: 44.97  
**Worklife expectancy**: 17.02 years  
**Age at end of worklife**: 61.99  
**Real earnings growth**: 1.15%  
**Real household growth**: 0.00%  
**Income tax rate**: total rate 22.050%, fed rate 18.300%, state rate 3.750%  
**Social Security tax rate**: 7.65%  
**Real before tax discount**: 3.00%  
**Real after tax discount**: 2.451%  
**Household Services**: 4,695

<table>
<thead>
<tr>
<th>Year</th>
<th>Yrs from Accident</th>
<th>To/From Report</th>
<th>Age</th>
<th>Household Services</th>
<th>Total Loss</th>
<th>Lost Value</th>
<th>Report Date</th>
<th>Yrs in Past loss</th>
<th>Total Economic Loss</th>
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<td>(4,376)</td>
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<td>(4,271)</td>
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<td>(4,169)</td>
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<td>4,695</td>
<td>(3,605)</td>
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<td>(3,519)</td>
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<td>(3,434)</td>
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<td>4,695</td>
<td>4,695</td>
<td>(3,272)</td>
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</table>

($58,042) $67,869
June 1, 2001

Mr. C. B. Garren
Garren and Smith
1555 Main Street
Anytown, USA

re: Estate of John O'Kelley v. Orleans Corporation
CDC Parish of Orleans, No. 12345

Dear Mr. Garren:

I have been hired by you and your client, the Estate of John O'Kelley, to review certain records and documents pertaining to the above captioned litigation and render my professional opinion with respect to the following issue:

- The economic loss to Estate of John O'Kelley resulting from the death of Mr. John O'Kelley on October 27, 1998.

BACKGROUND UNDERSTANDING

Mr. John O'Kelley was born on March 19, 1954 and died on October 27, 1998. He was married at the time of his death and had no dependent children. He had one daughter who was not a minor at the time of his death.

I have made the following assumptions in my calculation:

1. Mr. O'Kelley had a worklife expectancy of 14.61 years at the time of his death.
2. Mr. O'Kelley would have personally consumed 30 percent of family earnings.
3. Mr. O'Kelley's earnings would have increased 2 percent per year.
4. Mr. O'Kelley would have provided 8 hours of household services to his family per week.
5. The value of household services is measured at the minimum wage amount in effect at the date of the death of Mr. O'Kelley.
6. The value of household services would have increased 2 percent per year from year 2002 though the worklife expectancy of Mr. O'Kelley.
7. Mr. O'Kelley's level of education was less than high school.
8. Mr. O'Kelley had been employed as a security guard and had annual wages ranging from $16,000 to $20,000, prior to his death.

ANALYSIS

The economic loss as a result of the death of Mr. John O'Kelley is calculated based on past losses and future losses. The past loss represents the amount of income Mr. O'Kelley would have earned from the date of his death to the date of trial, but for his death. The future loss is the present net cash value of lost earnings from the date of trial through the worklife expectancy of Mr. O'Kelley.

Earnings

Mr. O'Kelley had been employed as a security guard and annual wages ranged from $16,000 to $20,000. These amounts are used as the base to establish lost earnings.
Worklife Expectancy and Life Expectancy

Discount Rate
The discount rate is based upon the rate of return available in U.S. Treasury securities. A discount rate of 5.5 percent has been applied to future losses to provide the present net cash value.

Growth Rate
The growth rate is based upon data compiled by the United States Department of Labor Bureau of Labor Statistics. A growth rate of 2 percent has been applied to amounts Mr. O’Kelley would have earned over his worklife expectancy period.

Taxes
Taxes have not been considered in this analysis.

Personal Consumption
A reduction is applied to annual income for the amount that would have been spent on behalf of Mr. O’Kelley and not benefited his spouse. Personal consumption represents the portion of earnings that would have been used exclusively for the benefit of Mr. O’Kelley.

The personal consumption rate attributable to Mr. O’Kelley is 30 percent of wages and household services, applicable throughout the worklife expectancy of Mr. O’Kelley. This percentage is based on data provided by United States Department of Labor Bureau of Labor Statistics and studies performed based on data from the Department of Labor.

Household Services
The value of household services provided by Mr. O’Kelley to his family equals the hours of services he would provide each week, net of his personal consumption of these services. These hours are valued at the hourly minimum wage rate in effect for years 1998 through 2001. Annual growth of 2 percent is reflected for years after 2001. I have estimated Mr. O’Kelley would have provided 8 hours of household services per week, through the worklife expectancy of Mr. O’Kelley.

Summary and Conclusions

<table>
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<tr>
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<th>Lost Wages $16,000</th>
<th>Lost Wages $20,000</th>
<th>Household Services</th>
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<td>Total Economic Loss</td>
<td>$144,182</td>
<td>$180,228</td>
<td>$17,591</td>
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1Department of Labor/Bureau of Labor Statistics, Bulletin 1865, table 154; Annual Consumer Expenditure Surveys.

2The study performed by Earl Cheit, Injuy and Recovery in the Course of Employment (1961), was the first study that was widely accepted in determining the percentage of personal consumption, and is still relied on. Other studies, however, have expanded the Cheit study, such as Patton and Nelson, “Estimating Personal Consumption Costs in Wrongful Death Cases,” Journal of Forensic Economics, 4(2), 1991, pp. 233-240, and “Patton-Nelson Personal Consumption Tables Updated,” Journal of Forensic Economics 11(1), 1998, pp. 3-7.
I reserve the right to amend, modify, or supplement this report based upon the receipt of new or additional information.

Sincerely,

CERTIFIED PUBLIC ACCOUNTANTS

Sally Smith, CPA
**CASE STUDY TWO**

ECONOMIC LOSS CALCULATION BASED ON $20,000 LOST WAGE BASE

| Name of decedent | John O’Kelley |
| Calculation date | 6/1/2001 Report date |
| Fraction of year-calc date | 41.37% 1/1/2001 |
| Fraction of year-final year | 42% 12/30/12 06/03/13 |
| Sex | Male |
| Profession | Security guard |
| Education | less than high school |
| Date of birth | 3/19/1954 |
| Date of accident | 10/27/1998 |
| Age at accident | 44.61 |
| Worklife expectancy | 14.61 years |
| Age at end of worklife | 59.22 |
| Life expectancy | 27.81 years |
| Age at end of life expectancy | 72.42 |
| Discount rate | 5.500% |
| Annual income lost | 20,000% |
| Spouse’s income | — |
| Consumption | 30% |

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<thead>
<tr>
<th>Year</th>
<th>Yrs from Accident</th>
<th>To/From</th>
<th>Age</th>
<th>Age of Child</th>
<th>Spouse’s Earnings 2.00%</th>
<th>Lost Earnings 2.00%</th>
<th>Personal Consumption 30.00%</th>
<th>Total Loss</th>
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$142,743$ Future loss
$180,228$ Total economic loss

(continued)
### CASE STUDY TWO

**ECONOMIC LOSS CALCULATION BASED ON $16,000 LOST WAGE BASE**

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<th>John O'Kelley</th>
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<td>Age at accident</td>
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<tr>
<td>Worklife expectancy</td>
<td>14.61 years</td>
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<tr>
<td>Age at end of worklife</td>
<td>59.22</td>
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<tr>
<td>Life expectancy</td>
<td>27.81 years</td>
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<tr>
<td>Age at end of life expectancy</td>
<td>72.42</td>
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<td>Discount rate</td>
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<tr>
<td>Annual income lost</td>
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<td>Spouse’s income</td>
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<td>Consumption</td>
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<th>Year</th>
<th>Yrs from Accident</th>
<th>To/From Report</th>
<th>Age</th>
<th>Age of Child</th>
<th>Spouse’s Earnings 2.00%</th>
<th>Lost Earnings 2.00%</th>
<th>Personal Consumption 30.00%</th>
<th>Total Loss</th>
<th>Lost Value 5.500%</th>
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- **Future loss** $114,194
- **Total economic loss** $144,182
### CASE STUDY TWO

#### HOUSEHOLD SERVICES CALCULATION

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<thead>
<tr>
<th>Name of decedent</th>
<th>John O’Kelley</th>
</tr>
</thead>
<tbody>
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<td>Calculation date</td>
<td>6/1/2001</td>
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<tr>
<td>Report date</td>
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<tr>
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<td>42% 12/30/12</td>
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<tr>
<td>Sex</td>
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<td>Profession</td>
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<td>Education</td>
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<td>Age at end of worklife</td>
<td>59.22</td>
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<td>Consumption</td>
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<th>To/From Report</th>
<th>Age of Child</th>
<th>Age of Earnings 2.00%</th>
<th>Househol Services 2.00%</th>
<th>Personal Consumption 30.00%</th>
<th>Total Loss</th>
<th>Lost Value 5.500%</th>
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Future loss: $13,854
Total economic loss: $17,591
December 15, 2000

Christopher Powell, Esq.
Powell & Potts
2800 Jackson Blvd.
Anytown, USA

Re: Case Name
Case location

Dear Mr. Powell:

I have been hired by you and your client, Mr. Sam Allen, to review certain records and documents pertaining to the above captioned litigation and render my professional opinion with respect to the following issue:

- The economic loss to Sam Allen resulting from his employment termination on June 11, 1998.

In the course of my work, I reviewed the following documents:

1. Individual income tax returns of Sam Allen for years 1995 through 1999.
2. Payroll data of Sam Allen from AMC Corporation.
6. Correspondence to Sam Allen from AMC Corporation, dated October 27, 1998.

BACKGROUND UNDERSTANDING

Sam Allen was born on March 8, 1961. He has a high school degree. He was terminated from employment on June 11, 1998, and received payments until March 22, 2000. He was employed by AMC Corporation as a lift operator at the time of his termination. He is presently employed by Newco as a clerical assistant.

I have made the following assumptions in my calculation:

1. Mr. Allen had a worklife expectancy of 23.39 years at the time of employment termination.
2. Mr. Allen had a life expectancy of 39.17 years at the time of employment termination.
3. Mr. Allen’s real earnings as a lift operator, without regard to inflation, would have increased at a rate of .5 percent per year.
4. Mr. Allen’s real earnings as a clerical assistant will increase at a rate equal to inflation, or a real rate of 0 percent per year.
5. The date of trial is January 22, 2001.

ANALYSIS

The economic loss as a result of the injury of Mr. Allen is calculated based on past losses and future losses. The past loss represents the amount of income Mr. Allen would have earned from the date of employment termination to the date of trial, but for employment termination. The future loss is the present net cash value of lost earnings, fringe benefits, and medical expenses from the date of trial through the worklife expectancy and life expectancy of Mr. Allen.
Earnings

Mr. Allen received $50,513 in annual wages in the year before employment termination. He earned $11.00 per hour for the first 40 hours per week, and $16.50 for overtime hours. His annualized earnings for the year of the accident total $58,858. Assuming he worked 85 hours each week, 50 weeks per year, his total annual earnings would be $59,125. A range of $50,000 to $59,000 has been used as the base to project earnings had the employment termination not occurred.

Mr. Allen’s compensation from Newco is $860 per month. This compensation is used as the base to project actual earnings over his remaining worklife expectancy in Scenario One. Scenario Two projects the loss for three years from the date of trial.

Worklife Expectancy and Life Expectancy


Discount Rate

The discount rate is based upon the rate of return available in U.S. Treasury securities. The effects of inflation are removed to provide the real rate of interest, without regard to inflation. This rate is 3 percent, before income tax and 2.76 percent after income tax. U.S. Treasury securities are exempt from state income tax; therefore only federal income tax is considered in calculating the after-tax rate.

Growth Rates

The growth rates on earnings are based upon data compiled by the Bureau of Labor Statistics. The effects of inflation are removed to provide the real rates of growth, without regard to inflation. A real rate of .5 percent provides the expected rate of growth in compensation had Mr. Allen continued working as a lift operator. A real rate of 0 percent provides the expected rate of growth in compensation of a clerical assistant.

These rates represent before-tax real growth rates.

Taxes

In *Norfolk and Western Railway Company v. Liepelt*, 444 U.S. 490 (1980), the U.S. Supreme Court ruled that future wages should be estimated on an after-tax basis. The taxes applicable to Mr. Allen’s future wages include federal and state income taxes, including payroll and Social Security taxes. Taxes have been calculated based on the rates currently in effect.

Taxes on Mr. Allen’s future wages comprise federal income taxes of 8 percent, state income taxes of 2 percent, and Social Security taxes of 7.65 percent.

Fringe Benefits

Mr. Allen received health insurance coverage from AMC Co. up to November 1, 1998. This benefit is valued at $59.71 per month, based on correspondence from AMC Co. to Mr. Allen, dated October 27, 1998. I have assumed Mr. Allen is paying the full cost of health insurance through payroll deductions in his present employment.

(continued)
Medical Expenses
I have estimated the cost of therapy to be $100 per month, based upon the expert report of Joe Doctor, M.D. This expense is projected to increase at a real rate of 1 percent per year. This expense is projected over Mr. Allen’s life expectancy.

SUMMARY AND CONCLUSIONS
SCENARIO ONE: Loss over worklife and life expectancy
Wages and Fringes
Loss to trial $99,469 to $117,066
Loss from trial through worklife expectancy $724,735 to $865,758
Total economic loss: Wages and Fringes $824,204 to $982,824

Medical Expenses
Loss to trial $3,156
Loss from trial through life expectancy $29,984
Total economic loss: Medical expenses $33,140

SCENARIO TWO: Loss extended to three years from date of trial
Wages and Fringes
Loss to trial $99,469 to $117,066
Loss from trial through worklife expectancy $123,354 to $147,513
Total economic loss: Wages and Fringes $222,823 to $264,579

Medical Expenses
Loss to trial $3,156
Loss from trial through life expectancy $3,416
Total economic loss: Medical expenses $6,572

I reserve the right to amend, modify, or supplement this report based upon the receipt of new or additional information.

Sincerely,

Smith & Smith
A Professional Accounting Corporation

Sharon Smith, CPA
COMPENSATION
The fees for performing this engagement are based on my hourly rate of $XXX per hour.

EXPERT WITNESS TESTIMONY
I have testified as an expert at trial or by deposition in the following cases within the preceding three years:

[List cases here]

PUBLISHED MATERIALS

[List published materials here]
### CASE STUDY THREE

**ECONOMIC LOSS CALCULATION—$50,513 LOST INCOME**

- **Name of employee**: Sam Allen
- **Calculation date**: 1/22/2001  Trial date
- **Fraction of year-calc date**: 5.75%  1/1/2001
- **Fraction of year-final year**: 82.19%  27-Oct-21

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**Future loss**: $(724,735)

**Total economic loss**: $824,204
# Case Study Three

## Economic Loss Calculation—$59,000 Lost Income

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<td>Fraction of year-final year</td>
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### Race/sex
- White male

### Profession
- Lift operator

### Education
- High school

### Date of birth
- 3/8/1961

### Date of termination
- 6/11/1998

### Age at termination
- 37.26

### Worklife expectancy
- 23.39 years

### Age at end of worklife
- 60.65

### Life expectancy
- 39.17 years

### Age at end of life expectancy
- 76.43

### Earnings growth
- 0.50%

### After tax growth
- 0.45%

### Income tax rate
- Total tax 10.000%
- Fed rate 8.000%
- State rate 2.000%

### Social Security tax rate
- 7.65%

### Before tax discount
- 3.00%

### After tax discount
- 2.760%

### Annual income lost
- 59,000

### Replacement earnings
- 8,040

### Date of replacement hire
- 03/22/00

### Fraction of year to hire date
- 78%

---

## Case Study Three Table

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<th>Actual/ Capacity/ Total Earnings</th>
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**Future loss**: $865,758  
**Total economic loss**: $982,824
## NAME OF EMPLOYEE
Sam Allen

## CALCULATION DATE
1/22/2001

## FRACTION OF YEAR-CALC DATE
5.75% 1/1/2001

## FRACTION OF YEAR-FINAL YEAR
58.9% 03-Aug-37

## RACE/SEX
White male

## PROFESSION
Lift operator

## EDUCATION
High school

## Earnings growth
0.50% 0.50%

## After tax growth
0.45%

## Income tax rate
10.000% 8.000% 2.000%

## Social Security tax rate
7.65%

## Before tax discount
3.00%

## After tax discount
2.760%

## Therapy costs
1,200

---

### Earnings from Year

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<th>Yrs from Termination</th>
<th>ToFrom Report</th>
<th>Age</th>
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<th>Lost Value 2.76%</th>
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| 12/31/2001   | 3.56                 | -0.94         | 40.82 | 1,148         | 1,148       | (1,119)         |
| 12/31/2002   | 4.56                 | -1.94         | 41.82 | 1,224         | 1,224       | (1,161)         |
| 12/31/2003   | 5.56                 | -2.94         | 42.81 | 1,230         | 1,230       | (1,136)         |
| 12/31/2004   | 6.56                 | -3.94         | 43.82 | 1,236         | 1,236       | (1,111)         |
| 12/31/2005   | 7.56                 | -4.94         | 44.82 | 1,243         | 1,243       | (1,086)         |
| 12/31/2006   | 8.56                 | -5.94         | 45.82 | 1,249         | 1,249       | (1,062)         |
| 12/31/2007   | 9.56                 | -6.94         | 46.81 | 1,255         | 1,255       | (1,039)         |
| 12/31/2008   | 10.56                | -7.95         | 47.82 | 1,261         | 1,261       | (1,016)         |
| 12/31/2009   | 11.56                | -8.95         | 48.82 | 1,268         | 1,268       | (994)           |
| 12/31/2010   | 12.56                | -9.95         | 49.82 | 1,274         | 1,274       | (972)           |
| 12/31/2011   | 13.56                | -10.95        | 50.81 | 1,280         | 1,280       | (950)           |
| 12/31/2012   | 14.57                | -11.95        | 51.82 | 1,287         | 1,287       | (929)           |
| 12/31/2013   | 15.57                | -12.95        | 52.82 | 1,293         | 1,293       | (909)           |
| 12/31/2014   | 16.57                | -13.95        | 53.82 | 1,300         | 1,300       | (889)           |
| 12/31/2015   | 17.57                | -14.95        | 54.81 | 1,306         | 1,306       | (869)           |
| 12/31/2016   | 18.57                | -15.95        | 55.82 | 1,313         | 1,313       | (850)           |
| 12/31/2017   | 19.57                | -16.95        | 56.82 | 1,319         | 1,319       | (832)           |
| 12/31/2018   | 20.57                | -17.95        | 57.82 | 1,326         | 1,326       | (813)           |
| 12/31/2019   | 21.57                | -18.95        | 58.81 | 1,333         | 1,333       | (795)           |
| 12/31/2020   | 22.57                | -19.95        | 59.82 | 1,339         | 1,339       | (778)           |
| 12/31/2021   | 23.57                | -20.95        | 60.82 | 1,346         | 1,346       | (761)           |
| 12/31/2022   | 24.57                | -21.95        | 61.82 | 1,353         | 1,353       | (744)           |
| 12/31/2023   | 25.57                | -22.95        | 62.81 | 1,359         | 1,359       | (728)           |
| 12/31/2024   | 26.58                | -23.96        | 63.82 | 1,366         | 1,366       | (712)           |
| 12/31/2025   | 27.58                | -24.96        | 64.82 | 1,373         | 1,373       | (696)           |
| 12/31/2026   | 28.58                | -25.96        | 65.82 | 1,380         | 1,380       | (681)           |
| 12/31/2027   | 29.58                | -26.96        | 66.81 | 1,387         | 1,387       | (666)           |
| 12/31/2028   | 30.58                | -27.96        | 67.82 | 1,394         | 1,394       | (651)           |
| 12/31/2029   | 31.58                | -28.96        | 68.82 | 1,401         | 1,401       | (637)           |
| 12/31/2030   | 32.58                | -29.96        | 69.82 | 1,408         | 1,408       | (623)           |
| 12/31/2031   | 33.58                | -30.96        | 70.81 | 1,415         | 1,415       | (609)           |
| 12/31/2032   | 34.58                | -31.96        | 71.82 | 1,422         | 1,422       | (596)           |
| 12/31/2033   | 35.58                | -32.96        | 72.82 | 1,429         | 1,429       | (582)           |
| 12/31/2034   | 36.58                | -33.96        | 73.82 | 1,436         | 1,436       | (570)           |
| 12/31/2035   | 37.58                | -34.96        | 74.81 | 1,443         | 1,443       | (557)           |
| 12/31/2036   | 38.58                | -35.96        | 75.82 | 1,450         | 1,450       | (545)           |
| 8/3/2037     | 39.17                | -36.55        | 76.41 | 859           | 859         | (317)           |

### Future loss
$29,984

### Total economic loss
$33,140
## CASE STUDY THREE

### ECONOMIC LOSS CALCULATION—$50,513 LOST INCOME WITH THREE YEAR FRONT PAY

**Name of employee**  
Sam Allen

**Calculation date**  
1/22/2001  
Trial date

**Fraction of year-calc date**  
5.75%  
1/1/2001

**Earnings growth**  
0.50%  
0.50%

**After tax growth**  
0.45%

**Race/sex**  
White male

**Profession**  
Lift operator

**Education**  
High school

**Date of birth**  
3/8/1961

**Date of termination**  

**Age at termination**  
37.26

**Worklife expectancy**  
23.39 years

**Age at end of worklife**  
60.65

**Life expectancy**  
39.17 years

**Age at end of life expectancy**  
76.43

**Education**  
High school

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<th>Income Tax</th>
<th>Social Security Tax</th>
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<th>Lost Value</th>
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(continued)
### CASE STUDY THREE

**ECONOMIC LOSS CALCULATION—$59,000 LOST INCOME WITH THREE YEAR FRONT PAY**

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**Total Economic Loss**

$264,579
## CASE STUDY THREE

**LOST MEDICAL EXPENSES WITH THREE YEAR FRONT PAY**

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<tr>
<td>Education</td>
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<tr>
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<tr>
<td>Life expectancy</td>
<td>39.17 years</td>
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(3,416) #3,416 Future loss

#6,572 Total economic loss
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**Present value of future loss:** $59,669  
**Total loss:** $74,668
### CASE STUDY FOUR
#### CALCULATION WITH CONSUMPTION ON MARY’S INCOME ONLY

**Name of injured**
- Mary

**Calculation date**
- 4/17/2000

**Fraction Year 1**
- 29.32%
- 1/1/2000

**Fraction final year**
- 68.49%

**Profession**
- Minimum wage employment

**Education**
- High school

**Date of birth**
- 3/8/1973

**Date of accident**
- 3/9/1996

**Age at accident**
- 23.00

**Worklife expectancy**
- 26.5 years 07-Sep-22

**Life expectancy**
- 57.5 years

**Discount rate**
- 6.5%

**Annual income lost**
- 10,712

**Spouse’s income**
- 14,752

**Consumption rate**
- 26% for family

**Consumption rate**
- 30% once Frank Jr. is 18

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<th>Age of Child</th>
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<th>Lost Earnings 3.00%</th>
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**Note:**
- Present value of future loss: $127,707
- Total loss: $159,266
### CASE STUDY FOUR

**CALCULATION WITH NO REDUCTION FOR CONSUMPTION**

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**Present value of future loss**

$172,577$

**Total loss**

$215,225$
CD INTERNET LINKS

The links listed below are current as of the date of publication. To access these links use the enclosed CD-ROM. Instructions for using the CD-ROM are printed in the front of this book under “Instructions.” The links on the CD-ROM will be kept current as long as the book is in print and sold by the AICPA.

CHAPTER 1—OVERVIEW OF THE LAW OF DAMAGES


CD Internet Link 1.7 “Evidence and Expert Testimony, Will Yancey, PhD, CPA, willyancey.com” http://www.willyancey.com/evidence.htm
CHAPTER 2—THE ACCOUNTANT'S ROLE IN MEASURING DAMAGES INVOLVING INDIVIDUALS

CD Internet Link 2.1 “CPA2Biz Store—Conflicts of Interest in Litigation Services Engagements”

CD Internet Link 2.2 “CPA2Biz Store—Engagement Letters for Litigation Services”

CD Internet Link 2.3 “AICPA Web site—AICPA Standards That Apply to Consulting Services”
http://www.aicpa.org/members/div/mcs/stds/index.htm

CD Internet Link 2.4 “James Publishing—Determining Economic Damages”
http://www.jamespublishing.com/books/ded.htm

CD Internet Link 2.5 “CPA2Biz—Litigation Services Handbook: The Role of the Financial Expert”

CD Internet Link 2.6 “Practitioners Publishing Company—Guide to Litigation Support Services”

http://www.lawyersandjudges.com/productdetails.cfm?PC=1088

CD Internet Link 2.8 “CPA2Biz—Litigation Services and Applicable Professional Standards”
https://www.cpa2biz.com/CS2000/Products/Product+Detail.htm?cs_id=%7B06652CBC%2D7665%2D4DD7%2D9565%2DC34E2C13C23C%7D&cs_catalog=CPA2Biz&cs_category=litigation%5Fservices

CD Internet Link 2.9 “National Association of Forensic Economics—Journal of Forensic Economics Index”

CD Internet Link 2.10 “American Academy of Economic and Financial Experts—Journal of Legal Economics Index”
http://www.journalofeconomics.com/Articles.htm
CHAPTER 3—LOST EARNINGS AND LOST INCOME

CD Internet Link 3.1 “IRS—Prior Tax Returns”

CD Internet Link 3.2 “Social Security Administration—Earning History”
http://www.ssa.gov

http://www.bls.gov/oco/

CD Internet Link 3.4 “U.S. Department of Commerce—National Technical Information Service”
http://www.ntis.gov

CD Internet Link 3.5 “Bureau of Labor Statistics—Compensation and Working Conditions Online”
http://stats.bls.gov/opub/cwc

http://www.bls.gov/ncs/

CD Internet Link 3.7 “Department of Labor—Minimum Wage Data”
http://www.dol.gov
CD Internet Link 3.8 “Employment Standards Administration—Minimum Wage Laws in the States”
http://www.dol.gov/esa/minwage/americ.htm

CD Internet Link 3.9 “Economic Research Institute”
http://www.erieri.com/

CD Internet Link 3.10 “Ohio State University Department of Economics”
http://economics.sbs.ohio-state.edu

CD Internet Link 3.11 “careerbuilder Web Site”
http://www.careerbuilder.com/

CD Internet Link 3.12 “MSNcareers Web Site”
http://www.careers.msn.com

CD Internet Link 3.13 “jobweb Web Site”
http://www.jobweb.org

CD Internet Link 3.14 “American Institute of Certified Public Accountants—Accounting Salaries”
http://www.aicpa.org/nolimits/job/salaries/index.htm

CD Internet Link 3.15 “Robert Half—Salary Guide”
http://www.roberthalf.com

CD Internet Link 3.16 “American Bar Association Web Site”
http://www.abanet.org

CD Internet Link 3.17 “Altman Weil Web Site”
http://www.altmanweil.com

CD Internet Link 3.18 “Medical Group Management Association Web Site”
http://www.mgma.com

CD Internet Link 3.19 “American Medical Association Web Site”
http://www.ama-assn.org

CD Internet Link 3.20 “MD-Network—Physician Compensation Survey”
http://md-network.com/survey.htm

CD Internet Link 3.21 “Physician’s Weekly”
http://www.physiciansweekly.com/archive.asp

CD Internet Link 3.22 “Defense Finance and Accounting Service—Money Matters”
http://www.dfas.mil/money/milpay/

CD Internet Link 3.23 “Census Publications”
http://www.bls.census.gov/cps/pub
CD Internet Link 3.24 “Department of Labor—Monthly Labor Review.”

http://www.bls.gov/cps/home.htm


CD Internet Link 3.27 “Bureau of Labor Statistics—Consumer Price Index”
http://www.bls.gov/cpi/home.htm

CD Internet Link 3.28 “Bureau of Labor Statistics—Employment Cost Index”

CHAPTER 4—FRINGE BENEFITS

CD Internet Link 4.1 “Bureau of Labor Statistics—The Employee Benefit Survey”
http://stats.bls.gov/news.release/ebs3.t01.htm

CD Internet Link 4.2 “U.S. Chamber of Commerce Web Site”
http://www.uschamber.com

CD Internet Link 4.3 “Employee Benefit Research Institute Web Site”
http://www.ebri.org

CD Internet Link 4.4 “Social Security Administration—Benefits Estimate Program”
http://www.ssa.gov/OACT/ANYPIA/source.html

CD Internet Link 4.5 “Social Security Administration—Request a Social Security Statement”
https://s044a90.ssgagov/apps6/issis/bp-7004home.jsp

CHAPTER 5—HOUSEHOLD SERVICES

CD Internet Link 5.1 “Expectancy Data—The Dollar Value of a Day”
http://www.expectancydata.com/

CD Internet Link 5.2 “Panel Study of Income Dynamics”
http://psidonline.isr.umich.edu/

CD Internet Link 5.3 “Bureau of Labor Statistics—Occupational Employment Statistics”
http://stats.bls.gov/oes/
CHAPTER 6—MEDICAL AND REHABILITATION EXPENSES

CD Internet Link 6.1 “The Executive Office of the President—Economic Report of the President”
http://w3.access.gpo.gov/eop

CD Internet Link 6.2 “Families USA”
http://www.familiesusa.org/site/PageServer

CD Internet Link 6.3 “U.S. Department of Health and Human Services, Centers for Disease Control and Prevention—National Vital Statistics Reports”

CHAPTER 7—PERSONAL CONSUMPTION AND PERSONAL MAINTENANCE

CD Internet Link 7.1 “University of Missouri—St. Louis—Wrongful Death: Personal Consumption and Maintenance/Household Services.”
Go to downloadable paper number 29.
http://www.umsl.edu/%7Eireland/working.html

http://www.bls.gov/cex/

CHAPTER 8—WORKLIFE EXPECTANCY AND LIFE EXPECTANCY

CD Internet Link 8.1 “National Center for Life Statistics—Life Tables”

CHAPTER 9—EMPLOYMENT DISCRIMINATION AND WRONGFUL TERMINATION

CD Internet Link 9.1 “U.S. Bureau of Labor Statistics”
http://www.bls.gov

CHAPTER 10—INCOME TAX ISSUES

CD Internet Link 10.1 “FindLaw—Norfolk & Western Railway Company v. Liepelt”

CD Internet Link 10.2 “Social Security Online”
http://www.ssa.gov

CD Internet Link 10.3 “FindLaw—United States v. Cleveland Indians Baseball Co.”
http://caselaw.lp.findlaw.com/cgi-bin/getcase.pl?court=US&navby=case&vol=000&invol=00-203
CHAPTER 11—DISCOUNTING ECONOMIC LOSSES TO PRESENT VALUE

CD Internet Link 11.1 “FindLaw—Jones & Laughlin Steel Corp. v. Pfeifer”

CD Internet Link 11.2 “Federal Reserve Statistical Release”
http://www.federalreserve.gov/releases/h15/Update/

CD Internet Link 11.3 “Ibbotson Web site”
http://www.ibbotson.com

CD Internet Link 11.4 “The Executive Office of the President—Economic Report of the President”
http://w3.access.gpo.gov/eop
Holly Sharp, CPA, CFP, CFE
LaPorte Sehrt Romig Hand
Metairie, Louisiana

Holly Sharp is a Certified Public Accountant, Certified Financial Planner, and Certified Fraud Examiner. She is a member of the American Institute of Certified Public Accountants (AICPA) and is a past member of the AICPA’s Litigation and Dispute Resolution Services Subcommittee. Ms. Sharp is a shareholder and director in the CPA and Consulting firm, LaPorte Sehrt Romig Hand, located in Louisiana. She is an adjunct professor for the A. B. Freeman School of Business, Tulane University. She received a Masters of Science in Tax Accounting from the University of New Orleans in 1981 and a Bachelor of Science in Business Management from Tulane University in 1979. She provides consulting services for individuals, corporations, and other entities in areas of taxation, financial planning, estate planning, and business succession planning. Her litigation experience includes testimony and forensic accounting services in accounting, financial, economic, and business issues. She has written articles for publications such as The Practical Accountant, The Tax Adviser, CPA Expert, and CPA Litigation Services Counselor. She authored chapters in Income Reconstruction: A Guide to Discovering Unreported Income (AICPA 1999) and Litigation Support Report Writing (John Wiley & Sons, Inc., 2003). She authored AICPA Consulting Services Practice Aid 98-2: Calculation of Damages from Personal Injury, Wrongful Death and Employment Discrimination (AICPA 1999). She is a frequent lecturer on tax, estate planning, litigation, and forensic accounting topics before national, state, and local forums.
CONTRIBUTING AUTHORS

Dan M. Cliffe, CPA  
New Orleans, Louisiana  

Dan M. Cliffe, CPA, graduated from Tulane University in 1968 with a BS degree in Mechanical Engineering and in 1969 with an MBA. He worked in private industry for 17 years in capital planning and financial management before going into business for himself to provide litigation support services in New Orleans. He has taught in the business schools of both Loyola University (New Orleans) and Tulane. His work has required him to provide expert testimony in state and federal courts throughout Louisiana and in Texas, Mississippi, Alabama, Georgia, and Florida. He is married with one son.

Barbara C. Luna, Ph.D., CPA, CFE, ASA, CVA, ABV, CGREA, CMC  
White, Zuckerman, Warsavsky, Luna, Wolf & Hunt, LLP  
Sherman Oaks, California  

Barbara C. Luna is a senior partner in the accounting and litigation services firm of White, Zuckerman, Warsavsky, Luna, Wolf & Hunt, LLP. She has served as an expert witness for over 20 years in business and personal injury litigation and bankruptcy matters. Dr. Luna analyzes financial, accounting, economic, business, real estate, and valuation issues relating to liability and damages in litigation matters and reorganization of businesses. She has testified on numerous occasions in U.S. District Court, Superior Court, Bankruptcy Court, arbitrations, and depositions.

Prior to joining White, Zuckerman, Warsavsky, Luna, Wolf & Hunt, LLP, Dr. Luna was a partner with Coopers & Lybrand specializing in litigation and financial advisory services. Prior thereto, she was the National Director of Litigation consulting for Kenneth Leventhal & Company, where she was responsible for directing the litigation services practice nationwide. Previously, Dr. Luna was a partner with Pannell Kerr Forster, where she was responsible for providing litigation and reorganization services, and she was a senior manager with Price Waterhouse specializing in litigation services. Before focusing on litigation services, she was an investment banker specializing in corporate finance.

Dr. Luna has taught graduate and undergraduate courses in working capital management, business finance, and accounting at the UCLA Graduate School of Management and Pepperdine University. She has addressed numerous audiences and has appeared on several professional panels. She obtained her MS and PhD degrees in Applied Mathematics from Harvard University and her BA degree from Wellesley College.

Dr. Luna is a Certified Public Accountant, an Accredited Senior Appraiser in Business Valuation, Accredited in Business Valuation, a Certified Valuation Analyst, a Certified Forensic Financial Analyst, a Certified General Real Estate Appraiser, a Certified Commercial Real Estate Appraiser, a Certified Residential Real Estate Appraiser, a Certified Fraud Examiner, a Certified Management Consultant, and a Diplomate Board Certified Forensic Examiner and Accountant. She is a member of the American Institute of Certified Public Accountants (and holds the AICPA’s ABV designation), the California Society of Certified Public Accountants (and the Society’s Economic Damages, Fraud and Business Valuation Common Interest Member Services Committees and the Los Angeles Litigation Services Committee), the Association of Business Trial Lawyers (and the Association’s Committee on Experts), the National Association of Forensic Economists, the American Boards of Forensic Examiners and Accountants, the American Society of Appraisers, the National Association of Certified Valuation Analysts, the National Association of Real Estate Appraisers, the Association of Certified Fraud Examiners, the Institute of Management Consultants, the Harvard Graduate School Alumni Association Council, the Board of Directors of the Harvard-Radcliffe Club of Southern California, and the Organization of Women Executives and an associate member of the Appraisal Institute.
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White, Zuckerman, Warsavsky, Luna, Wolf & Hunt, LLP  
Sherman Oaks, California

Venita J. McMorris is a partner at White, Zuckerman, Warsavsky, Luna, Wolf & Hunt, LLP. She is an economist with over 20 years of litigation consulting experience providing damages analyses for medical malpractice, personal injury, wrongful death, wrongful termination, and other litigation. Ms. McMorris has testified as an expert witness in trial, arbitration, and deposition.

Prior to joining White, Zuckerman, Warsavsky, Luna, Wolf & Hunt, LLP, Ms. McMorris was a litigation services manager at Coopers & Lybrand, concentrating primarily in analyzing damages in civil litigation matters. She also has over five years of experience as an economist for one of Southern California’s medical malpractice trusts, where she was responsible for working with claims managers and defense counsel in quantifying economic damages. Ms. McMorris has provided critiques of opposing economists’ analyses, and assisted counsel during trial and deposition testimony of economic experts. Ms. McMorris’ experience includes working as an economic consultant and providing expertise on structured settlements and on the economic aspects of the Medical Injury Compensation Reform Act.

Ms. McMorris has served as an expert witness panelist for the National Institute for Trial Advocacy, and as an Advanced Litigation panelist at a Continuing Education for the Bar seminar. She has lectured at seminars for various law firms and provided training for attorneys for Minimum Continuing Legal Education. Ms. McMorris co-authored a chapter in the 1996 Wiley Expert Witness Update regarding the use of accountants and economists in personal injury cases.

Ms. McMorris has over 12 years experience teaching economics to college students. She was a full time tenured instructor of economics at Pasadena City College, where she taught macroeconomics and microeconomics. Ms. McMorris has been a part time economics instructor at Glendale Community College for the past 10 years. She has co-taught a seminar on forensic economics to the graduate accounting department faculty at California State University, Los Angeles, and she has co-taught a similar course to students there.

Ms. McMorris received a Bachelor of Arts degree from San Diego State University and a Master of Arts degree in economics from California State University, Fullerton.

Geoffrey P. Snodgrass, Esquire  
New Orleans, Louisiana

Geoffrey P. Snodgrass is an attorney practicing in New Orleans, Louisiana. He has a diverse litigation background and extensive trial experience in state and federal courts. His practice is presently concentrated in toxic torts and environmental law, products liability, real estate, and commercial litigation. Mr. Snodgrass is a frequent speaker at continuing professional education seminars and has published numerous articles and monographs. He is a graduate of Tulane Law School and a member of the American Bar Association, the Louisiana State Bar Association, the Defense Research Institute, the Louisiana Association of Defense Counsel, and the New Orleans Bar Association.

John W. Theriot, CPA  
Malcolm M. Dienes and Company  
New Orleans, Louisiana

John Theriot is a native New Orleanian. He is married with three daughters, ages 10, 2 and 1. John earned a Masters in Accounting from A. B. Freeman School of Business at Tulane University in 2004, and received his undergraduate degree from Nicholls State University in 1983.
Mr. Theriot joined Malcolm M. Dienes and Company upon graduation from Nicholls. He worked his way up to partner and in 2000, was made managing partner. As managing partner, John is responsible for client relations, generating new clients, productivity and staff.

Mr. Theriot has been called upon by the media in New Orleans to explain in layman’s terms the complex issues that the public has to deal with regarding taxes. He has appeared in the following venues:

- Talk About Taxes—Louisiana Certified Public Accountants sponsored 1998 and 2000
- WWL—TV—Interview regarding Jobs Growth Tax Relief Reconciliation Act in 2003
- WWL—TV—Interview regarding Quid Pro Quo donations in 2003
- WVUE—TV—Interview regarding Stelly Plan in 2004
- WGSO Radio—Jobs Growth Tax Relief Reconciliation Act in 2004
- The Louisiana Network—Louisiana Network—Interview regarding the Jobs Growth Tax Relief Reconciliation Act in 2004
- Times Picayune—Interview regarding the Stelly Plan in 2004

In the course of his career, Mr. Theriot has developed a litigation support department for the firm. He has been hired as an expert forensic accountant in hundreds of cases and is qualified to testify as an expert in federal and state courts. He is a diplomat in the American College of Forensic Examiners, a member of the National Association of Forensic Economists, and a Certified Forensic Accountant.

Mr. Theriot is involved in many civic and professional organizations and has served or serves on boards and/or committees for several organizations. He is the chairman of the Forensic Accounting Committee for BKR International and has served on numerous committees for the Louisiana State Society of Certified Public Accountants.