# The Road Ahead: Long-Term Financial Planning in Connection With Divorce 

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## Organizations and Committees:

Chair, Family Law Section, State Bar of Texas (1999-
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Chair, Appellate Practice \& Advocacy Section, State Bar of Texas (1996-97)
Chair, Continuing Legal Education Committee, State Bar of Texas (2000-02)
Vice-Chair, Continuing Legal Education Committee, State Bar of Texas (2002-03)
Member, Supreme Court Advisory Committee on Rules of Civil Procedure (1994-present); Chair, Subcommittee on Rules 16-165a
Member, Pattern Jury Charge Committee (Family Law), State Bar of Texas (1987-2000)
Supreme Court Liaison, Texas Judicial Committee on Information Technology (2001-present)
Tx. Bd. of Legal Specialization, Civil Appellate Law Advisory Commission (Member 1994-1997, 19992001, 2003-2006) and Civil Appellate Law Exam Committee (1990-present; Chair 1991-1995)
Tx. Bd. of Legal Specialization, Family Law Advisory Commission (1987-1993)
Member, Supreme Court Task Force on Jury Charges (1992-93)
Member, Supreme Court Advisory Committee on Child
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Member, Board of Directors, Texas Legal Resource
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President, Texas Academy of Family Law Specialists (1990-91)
President, San Antonio Family Lawyers Association (1989-90)
Associate, American Board of Trial Advocates Fellow, American Academy of Matrimonial Lawyers Director, San Antonio Bar Association (1997-1998)
Member, San Antonio, Dallas and Houston Bar Associations

## Professional Activities and Honors:

--Texas Academy of Family Law Specialists’ Sam Emison Award (2003)
--State Bar of Texas Presidential Citation "for innovative leadership and relentless pursuit of excellence for continuing legal education" (June, 2001) --State Bar of Texas Family Law Section’s Dan R. Price Award for outstanding contributions to family law (2001)
--State Bar of Texas Gene Cavin Award for Excellence in Continuing Legal Education (1996)
--State Bar of Texas Certificate of Merit, June 1995, June 1996, June 1997 \& June 2004
--Listed in the Best Lawyers in America (1987-to date)
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## Continuing Legal Education and Administration:

Course Director, State Bar of Texas Practice Before the Supreme Court of Texas Course (2002, 2003, 2004, 2005)

Co-Course Director, State Bar of Texas Enron, The Legal Issues (March, 2002) [Won national ACLEA Award]
Course Director, State Bar of Texas Advanced Expert Witness Course (2001, 2002, 2003, 2004)
Course Director, State Bar of Texas 1999 Impact of the New Rules of Discovery
Course Director, State Bar of Texas 1998 Advanced Civil Appellate Practice Course
Course Director, State Bar of Texas 1991 Advanced Evidence and Discovery Course
Director, Computer Workshop at Advanced Family Law Course (1990-94) and Advanced Civil Trial Course (1990-91)
Course Director, State Bar of Texas 1987 Advanced Family Law Course
Course Director, Texas Academy of Family Law Specialists First Annual Trial Institute, Las Vegas, Nevada (1987)

## Books and Journal Articles:

-Chief Editor of the State Bar of Texas’ Texas Supreme Court Practice Manual (2005)
---Chief Editor of the State Bar of Texas Family Law Section's Expert Witness Manual (Vols. II \& III) (1999)
---Author of Vol. 6 of McDonald Texas Civil Practice, on Texas Civil Appellate Practice, published by Bancroft-Whitney Co. (1992) (900 + pages)
---A Guide to Proceedings Under the Texas Parent Notification Statute and Rules, South Texas Law ReVIEW (2000) (co-authored)
---Obligations of the Trial Lawyer Under Texas Law Toward the Client Relating to an Appeal, 41 South Texas Law Review 111 (1999)
---Asserting Claims for Intentionally or Recklessly Causing Severe Emotional Distress, in Connection With a Divorce, 25 ST. MARY'SL.J. 1253 (1994), republished in the American Journal of Family Law (Fall 1994) and Texas Family Law Service NewsAlert (Oct. \& Dec., 1994 and Feb., 1995)
---Chapter 21 on Business Interests in BancroftWhitney's Texas Family Law Service (Speer's 6th ed.)
---Characterization of Marital Property, 39 BAY. L. Rev. 909 (1988) (co-authored)
---Fitting a Round Peg Into A Square Hole: Section 3.63, Texas Family Code, and the Marriage That Crosses States Lines, 13 St. Mary's L.J. 477 (1982)

## Selected CLE Speeches and Articles

State Bar of Texas' [SBOT] Advanced Family Law Course: Intra and Inter Family Transactions (1983); Handling the Appeal: Procedures and Pitfalls (1984); Methods and Tools of Discovery (1985); Characterization and Reimbursement (1986); Trusts and Family Law (1986); The Family Law Case in the Appellate Court (1987); Post-Divorce Division of Property (1988); Marital Agreements: Enforcement and Defense (1989); Marital Liabilities (1990); Rules of Procedure (1991); Valuation Overview (1992); Deposition Use in Trial: Cassette Tapes, Video, Audio, Reading and Editing (1993); The Great Debate: Dividing Goodwill on Divorce (1994); Characterization (1995); Ordinary Reimbursement and Creative Theories of Reimbursement (1996); Qualifying and Rejecting Expert Witnesses (1997); New Developments in Civil Procedure and Evidence (1998); The Expert Witness Manual (1999); Reimbursement in the $21^{\text {st }}$ Century (2000); Personal Goodwill vs. Commercial Goodwill: A Case Study (2000); What Representing the Judge or Contributing to Her Campaign Can Mean to Your Client: Proposed New Disqualification and Recusal Rules (2001); Tax Workshop: The Fundamentals (2001); Blue Sky or Book Value? Complex Issues in Business Valuation (2001); Private Justice: Arbitration as an Alternative to the Courthouse (2002); International \& Cross Border Issues (2002); Premarital and Marital Agreements: Representing the Non-Monied Spouse (2003); Those Other Texas Codes: Things the Family Lawyer Needs to Know About Codifications Outside the Family Code (2004); Pearls of Wisdom From Thirty Years of Practicing Family Law (2005)

SBOT's Marriage Dissolution Course: Property Problems Created by Crossing State Lines (1982); Child Snatching and Interfering with Possess'n: Remedies (1986); Family Law and the Family

Business: Proprietorships, Partnerships and Corporations (1987); Appellate Practice (Family Law) (1990); Discovery in Custody and Property Cases (1991); Discovery (1993); Identifying and Dealing With Illegal, Unethical and Harassing Practices (1994); Gender Issues in the Everyday Practice of Family Law (1995); Dialogue on Common Evidence Problems (1995); Handling the Divorce Involving Trusts or Family Limited Partnerships (1998); The Expert Witness Manual (1999); Focus on Experts: Close-up Interviews on Procedure, Mental Health and Financial Experts (2000); Activities in the Trial Court During Appeal and After Remand (2002)

UT School of Law: Trusts in Texas Law: What Are the Community Rights in Separately Created Trusts? (1985); Partnerships and Family Law (1986); Proving Up Separate and Community Property Claims Through Tracing (1987); Appealing Non-Jury Cases in State Court (1991); The New (Proposed) Texas Rules of Appellate Procedure (1995); The Effective Motion for Rehearing (1996); Intellectual Property (1997); Preservation of Error Update (1997); TRAPs Under the New T.R.A.P. (1998); Judicial Perspectives on Appellate Practice (2000)

SBOT's Advanced Evidence \& Discovery Course: Successful Mandamus Approaches in Discovery (1988); Mandamus (1989); Preservation of Privileges, Exemptions and Objections (1990); Business and Public Records (1993); Grab Bag: Evidence \& Discovery (1993); Common Evidence Problems (1994); Managing Documents--The Technology (1996); Evidence Grab Bag (1997); Evidence Grab Bag (1998); Making and Meeting Objections (1998-99); Evidentiary Issues Surrounding Expert Witnesses (1999); Predicates and Objections (2000); Predicates and Objections (2001); Building Blocks of Evidence (2002); Strategies in Making a Daubert Attack (2002); Predicates and

Objections (2002); Building Blocks of Evidence (2003); Predicates \& Objections (High Tech Emphasis) (2003)

SBOT's Advanced Civil Appellate Practice Course: Handling the Appeal from a Bench Trial in a Civil Case (1989); Appeal of Non-Jury Trials (1990); Successful Challenges to Legal/Factual Sufficiency (1991); In the Sup. Ct.: Reversing the Court of Appeals (1992); Brief Writing: Creatively Crafting for the Reader (1993); Interlocutory and Accelerated Appeals (1994); Non-Jury Appeals (1995); Technology and the Courtroom of the Future (1996); Are Non-Jury Trials Ever "Appealing"? (1998); Enforcing the Judgment, Including While on Appeal (1998); Judges vs. Juries: A Debate (2000); Appellate Squares (2000); Texas Supreme Court Trends (2002); New Appellate Rules and New Trial Rules (2003); Supreme Court Trends (2004); Recent Developments in the Daubert Swamp (2005)

Various CLE Providers: SBOT Advanced Civil Trial Course: Judgment Enforcement, Turnover and Contempt (1990-1991), Offering and Excluding Evidence (1995), New Appellate Rules (1997), The Communications Revolution: Portability, The Internet and the Practice of Law (1998), Daubert With Emphasis on Commercial Litigation, Damages, and the NonScientific Expert (2000), Rules/Legislation Preview (State Perspective) (2002); College of Advanced Judicial Studies: Evidentiary Issues (2001);

El Paso Family Law Bar Ass’n: Foreign Law and Foreign Evidence (2001); American Institute of Certified Public Accounts: Admissibility of Lay and Expert Testimony; General Acceptance Versus Daubert (2002); Texas and Louisiana Associations of Defense Counsel: Use of Fact Witnesses, Lay Opinion, and Expert Testimony; When and How to Raise a Daubert Challenge (2002); SBOT In-House Counsel Course: Marital Property Rights in Corporate Benefits for HighLevel Employees (2002); SBOT 19 ${ }^{\text {th }}$ Annual Litigation Update Institute: Distinguishing Fact Testimony, Lay Opinion \& Expert Testimony; Raising a Daubert Challenge (2003); State Bar College Spring Training: Current Events in Family Law (2003); SBOT Practice Before the Supreme Court: Texas Supreme Court Trends (2003); SBOT $26^{\text {th }}$ Annual Advanced Civil Trial: Distinguishing Fact Testimony, Lay Opinion \& Expert Testimony; Challenging Qualifications, Reliability, and Underlying Data (2003); SBOT New Frontiers in Marital Property: Busting Trusts Upon Divorce (2003); American Academy of Psychiatry and the Law: Daubert, Kumho Tire and the Forensic Child Expert (2003); American Institute of CPAs National Conference on Divorce: Cutting Edge Issues: New Alimony Theories; Measuring Personal Goodwill (2006)
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# The Road Ahead: Long-Term Financial Planning in Connection With Divorce 

by<br>Richard R. Orsinger<br>Board Certified in Family Law<br>\& Civil Appellate Law<br>Texas Board of Legal Specialization

I. INTRODUCTION. This article discusses long term financial considerations upon divorce. This includes calculating the present value of money to be paid in the future; tax-effecting alimony; volatility in the stock market; expected appreciation in real estate; the demographics of an aging population; valuing deferred compensation; what to expect in Social Security and Medicare assistance; life expectancies; private health insurance; and where to get information on general economic conditions.
II. IMPORTANCE OF A FINANCIAL APPROACH TO DIVORCE. As divorce lawyers, we naturally think about and talk about the legal aspects of divorce. We focus on determining the extent of the community estate, and how that should be divided. We don't focus as much on purely financial concepts, and how we can use them in divorce practice to help maximize our client's post-divorce financial circumstances.

Sometimes a better settlement approach is to look at the long-term needs of the spouse with inadequate earning capacity. An accountant or financial planner can prepare a spreadsheet projecting financial needs and financial resources for the rest of a person's life and the property division can be approached as a way to meet those needs. Sometimes a high-earning spouse will agree to pay alimony sufficient to support an adequate lifestyle for the ex-spouse, even if it exceeds $55 \%$ of the net community estate. This may especially be true if the lawyers are careful not to introduce or exacerbate acrimony by operation of the litigation process. This article deals with financial concepts, and financial tools, that we should understand and use in resolving divorces. Because many financial considerations involve a long-term perspective, long term and demographic issues are considered.
III. THE PRESENT VALUE OF FUTURE MONEY. Albert Einstein said that compound interest "is the greatest mathematical discovery of all time." We constantly settle divorces with promises to pay in the future. Taking or making a future payment requires us to consider interest earned or interest foregone. We must understand the concepts of the present and future value of money, and discounting for the risk that future payments will not be received on time, or in the full amount.
A. HOW LONG WILL SAVINGS LAST? In determining a good settlement, it is useful to project out how long a cash settlement will last, if used to pay the client's recurrent expenses. For example, say that in settlement you would like the husband to pay the wife, as part of the property division, $\$ 120,000$ for the wife to put into savings and use over time for living expenses. Assume that the wife can work after divorce, but needs to augment her income by $\$ 2,000$ per month, to be taken out of this savings balance. If the wife invests the $\$ 120,000$ at $5 \%$, but makes withdrawals from the fund at the rate of $\$ 2,000$ per month, how long before the savings, plus earnings, are exhausted? Go, for example, to the following URL (last checked 6-1206) [http://www.moneychimp.com/calculator/compound_interest_calculator.htm](http://www.moneychimp.com/calculator/compound_interest_calculator.htm) on the World Wide Web, select "annuity," and at the bottom of the page, select "See 'How Finance Works' for the annuity formula." That will take you to <http://www.moneychimp.com/articles/finworks/ fmpayout.htm>. Set the "Starting Principal" to 120,000; set "Growth Rate" to 5. Now you will have to try different "Years to Pay," but you'll find that you get to $\$ 24,000$ per year somewhere between a 5 - and a 6 -year pay-out. So, the $\$ 120,000$
settlement, invested at $5 \%$ per year, and drawn out at the rate of $\$ 2,000$ per month, will last between 5 and 6 years. If the wife can only invest at $3 \%$ per year rate of return, you change the "Growth Rate" to $3 \%$, and you find that the fund will be exhausted in closer to 5 years.
B. RULE OF 72. In addition to equating mass to energy, suggesting the existence of the photon, confirming the molecular theory of gas, establishing that the speed of light is constant while space and time are relative, and explaining that mass doesn't attract objects but rather bends space, Albert Einstein also developed the Rule of 72 . The Rule of 72 says that to estimate the number of years required to double your money at a given interest rate, you divide the interest rate into 72. For example, under the Rule of 72, at 5\% interest compounded annually, it would take approximately 14.4 years to double your money. The actual mathematical calculation is 14.21 years. Here are the calculations on the length of time it would take to double your money, at the specified rate of interest, compounded annually (ignoring income tax):

| $4.0 \%$ | 17.67 yrs |
| :--- | :--- |
| $4.5 \%$ | 15.75 yrs |
| $5.0 \%$ | 14.21 yrs |
| $5.5 \%$ | 12.95 yrs |
| $6.0 \%$ | 11.90 yrs |
| $6.5 \%$ | 11.01 yrs |
| $7.0 \%$ | 10.24 yrs |
| $7.5 \%$ | 9.58 yrs |

C. CALCULATING PRESENT AND FUTURE VALUE. In settling divorces, we sometimes have to take payments over time. Would you rather have $\$ 10,000$ today, or $\$ 10,000$ ten years from now? If you said "today," then you understand the concept of present value. Present value is measured by the amount of interest income lost when the money is received later instead of now.

The concept of present value applies not only to a single payment at a later time, but also a stream of payments over time. The present value of a single payment to be received in the future is worth less than the present value of the same amount of money paid in equal installments over the same amount of time. For example, the present value of the right to receive $\$ 120,000$ at the end of ten years is worth less than the present value of the right to receive $\$ 120,000$ paid in monthly installments of $\$ 1,000$ for ten years. Recurrent payments are called an "annuity." Recurrent payments made at the start of each period are called an "annuity due."

Present value can be studied and even calculated on various websites. Search for "calculate present value" in Google, to find a site that explains these principles. To make present value calculations on-line, Google "present value calculator," "present value annuity calculator," or "present value annuity due calculator."

The following tables demonstrate present value determinations. Table One reflects the present value of a single payment of $\$ 1,000$, at the end of, 1,2 , or 3 , etc. years. If the payment in a case you're handling is really $\$ 50,000$, rather than $\$ 1,000$, then multiply the number in the box times 50 , to determine the present value. For example, the present value of a payment of $\$ 1,000$ at the end of five years, discounted at $5 \%$ is $\$ 783.53$. The present value of a payment of $\$ 50,000$ at the end of five years, discounted at $5 \%$ is 50 x $\$ 783.53=\$ 39,176.50$. Table One also reflects the present value if you assume a discount rate of $6 \%$ and $7 \%$.

Table Two reflects the present value of the right to receive $\$ 1,000$ per year, for a set number of years. Table

One differs from Table Two in that Table One reflects a single payment at the end of X years, while Table Two reflect payments of $\$ 1,000$ per year for $X$ years. In Table Two, at the end of five years, the sum of $\$ 5,000$ will have been paid, but because it was paid in installments over time the present value discounted at $5 \%$ is $\$ 4,329$. If the annual payment for Table Two is $\$ 24,000$ rather than $\$ 1,000$, multiply the number in the box by 24.

Table Three reflects the present value of the right to receive $\$ 1,000$ per month, for a set number of years. Table Two differs from Table Three in that Table Two has payments one time per year, while Table Three has payments of one time per month. In Table Three, at the end of five years, the sum of $\$ 60,000$ will have been paid, but because it was paid in monthly installments over time the present value at the start of the pay period, discounted at $5 \%$ is $\$ 52,991$. If the monthly payment is $\$ 2,500$ per month rather than $\$ 1,000$ per month, multiply the number in the box by 2.5 .

Table Four compares the present value of $\$ 120,000$, paid as a lump sum at the end of ten years, paid as ten annual payments of $\$ 12,000$, and paid as 120 monthly payments of $\$ 1,000$ each. Obviously, the more frequent the payments, the greater the present value.

These four tables assume that the promise to pay in the future is not accruing interest, as it would under a judgment or promissory note. If the balance to be paid by the husband bears interest at an adjustable market rate, then a present value discount is not needed.

Note that if government bonds are paying a $5 \%$ rate of return for no risk, then the risk associated with collecting from (for example) the husband should be higher than $5 \%$, to reflect the risk of delayed payment or non-payment. The better the collateral, the lower the risk of delayed or non-payment. Increasing the interest rate in a present value assessment, to account for difficulty in collecting, is often overlooked.

TABLE ONE
The Present Value of $\$ 1,000.00$ paid in a lump sum at the end of the indicated period of years, discounted at the specified rate:

| Years | 1 yr | 2 yrs | 3 yrs | 4 yrs | 5 yrs | 6 yrs | 7 yrs | 8 yrs | 9 yrs | 10 yrs |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5 \%$ | $\$ 952.38$ | 907.03 | 863.84 | 822.70 | 783.53 | 746.22 | 710.68 | 676.84 | 644.61 | 613.91 |
| $6 \%$ | $\$ 943.40$ | 890.00 | 839.62 | 792.09 | 747.26 | 704.96 | 665.06 | 627.41 | 591.90 | 558.39 |
| $7 \%$ | $\$ 934.58$ | 873.44 | 816.30 | 762.90 | 712.99 | 666.34 | 622.75 | 582.01 | 543.93 | 508.35 |

TABLE TWO
The Present Value of $\$ 1,000.00$ paid at the end of each year, for the indicated period of years, discounted at the specified rate:

| Years | 1 yr | 2 yrs | 3 yrs | 4 yrs | 5 yrs | 6 yrs | 7 yrs | 8 yrs | 9 yrs | 10 yrs |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5 \%$ | $\$ 952.38$ | 1,859 | 2,723 | 3,546 | 4,329 | 5,076 | 5,786 | 6,463 | 7,108 | 7,722 |
| $6 \%$ | $\$ 943.40$ | 1,833 | 2,673 | 3,465 | 4,212 | 4,917 | 5,582 | 6,210 | 6,802 | 7,360 |
| $7 \%$ | $\$ 943.58$ | 1,808 | 2,624 | 3,387 | 4,100 | 4,767 | 5,389 | 5,971 | 6,515 | 7,024 |

TABLE THREE
The Present Value of $\$ 1,000.00$ paid at the end of each month, for the indicated number of years, discounted at the specified rate:

| Years | 1 yr | 2 yrs | 3 yrs | 4 yrs | 5 yrs | 6 yrs | 7 yrs | 8 yrs | 9 yrs | 10 yrs |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5 \%$ | $\$ 11,681$ | 22,794 | 33,366 | 43,423 | 52,991 | 62,093 | 70,752 | 78,990 | 86,826 | 94,282 |
| $6 \%$ | $\$ 11,619$ | 22,563 | 32,871 | 42,580 | 51,725 | 60,340 | 68,453 | 76,095 | 83,293 | 90,073 |
| $7 \%$ | $\$ 11,557$ | 22,335 | 32,386 | 41,760 | 50,502 | 58,655 | 66,257 | 73,348 | 79,960 | 86,127 |

TABLE FOUR
The Present Value of $\$ 120,000.00$, paid (i) in a lump sum at the end of 10 years;
(ii) in annual installments of $\$ 12,000.00$; and (iii) in monthly
installments of $\$ 1,000.00$, discounted at the specified rate:

|  | Lump Sum | Annual Payments | Monthly Payments* |
| :---: | :---: | :---: | :---: |
| $5 \%$ | $\$ 73,669.59$ | $92,660.82$ | $94,677.62$ |
| $6 \%$ | $\$ 67,007.37$ | 88.321 .04 | $90,523.82$ |
| $7 \%$ | $\$ 61,001.92$ | $84,282.98$ | $86,643.85$ |

*Assumes monthly payments are paid on the first day of the month (annuity due)
D. THE DISCOUNT RATE. The key to calculating present value is the "discount rate." The discount rate is the rate of return that the money could have earned if it was paid in full now and then invested. Possible hypothetical investments to consider include depositing the money in an interest bearing account at a bank, or buying U.S. government bonds, or buying high quality corporate stocks or bonds, or buying junk bonds. Each type of investment involves a different expected rate of return, consisting of both income from, and appreciation of, the asset. Higher rates of return are associated with increased risk of loss in value of the investment. The riskier the investment, the greater the rate of return, and the greater the discount rate.

Here is what the Texas State Comptroller's office says about discounting future cash flows( in this instance for purposes of valuing a mineral interest) :

Because investors prefer immediate cash returns over future cash returns, investors pay less for future cash flows--they "discount" them. The amount investors discount the future cash flows depends on the length of time until the cash is due, the amount of risk that the cash will not be tendered when due and the rate of return available from other comparably risky investments. This discounting procedure converts future income to present value usually using annual discount factors. The discount factor for each successive year declines to reflect the reduced value of revenue received in the future. The appraiser calculates the present worth of the forecast revenue stream by multiplying the projected net income (cash flow) for each year by the calculated discount factor for that year. These discount factors are derived from the discount rate (also known as the yield rate), and the process is known as discounted cash flow (DCF) analysis.

Manual for Discounting Oil and Gas Income,
[http://www.window.state.tx.us/taxinfo/proptax/ogman/index.html](http://www.window.state.tx.us/taxinfo/proptax/ogman/index.html)(6-12-06).
The U.S. Office of Management and Budget requires that all calculations of future benefits and costs of federal programs use an appropriate discount rate. The Office of Management and Budget's discount rate involves only the time value of money, since it is based on interest rates for risk free government notes and bonds. The Circular No. A-94 Revised (10-29-1992) says:

In order to compute net present value, it is necessary to discount future benefits and costs.

This discounting reflects the time value of money. Benefits and costs are worth more if they are experienced sooner. All future benefits and costs, including nonmonetized benefits and costs, should be discounted. The higher the discount rate, the lower is the present value of future cash flows. For typical investments, with costs concentrated in early periods and benefits following in later periods, raising the discount rate tends to reduce the net present value.
[http://www.whitehouse.gov/omb/circulars/a094/a094.html\#8](http://www.whitehouse.gov/omb/circulars/a094/a094.html%5C#8). The Circular also discusses the difference between the real and the nominal discount rates.

Real versus Nominal Discount Rates. The proper discount rate to use depends on whether the benefits and costs are measured in real or nominal terms.

A real discount rate that has been adjusted to eliminate the effect of expected inflation should be used to discount constant-dollar or real benefits and costs. A real discount rate can be approximated by subtracting expected inflation from a nominal interest rate.

A nominal discount rate that reflects expected inflation should be used to discount nominal benefits and costs. Market interest rates are nominal interest rates in this sense.

Id.
The OMB publishes an annual projection of discount rates, in January of each year. The January 2006 projection, OMB Circular No. A-94 Appendix, provides:

Nominal Discount Rates. A forecast of nominal or market interest rates for 2006 based on the economic assumptions from the 2007 Budget are presented below. These nominal rates are to be used for discounting nominal flows, which are often encountered in lease-purchase analysis.

Nominal Interest Rates on Treasury Notes and Bonds of Specified Maturities (in percent)
3-Year 5-Year 7-Year 10-Year 20-Year 30-Year

$$
\begin{array}{llllll}
4.7 & 4.8 & 4.9 & 5.0 & 5.3 & 5.2
\end{array}
$$

Real Discount Rates. A forecast of real interest rates from which the inflation premium has been removed and based on the economic assumptions from the 2007 Budget is presented below. These real rates are to be used for discounting real (constant-dollar) flows, as is often required in cost-effectiveness analysis.

Real Interest Rates on Treasury Notes and Bonds of Specified Maturities (in percent)

```
3-Year 5-Year 7-Year 10-Year 20-Year 30-Year
```

$$
\begin{array}{llllll}
2.5 & 2.6 & 2.7 & 2.8 & 3.0 & 3.0
\end{array}
$$

Analyses of programs with terms different from those presented above may use a linear interpolation. For example, a four-year project can be evaluated with a rate equal to the average of the three-year and five-year rates. Programs with durations longer than 30 years may use the 30 -year interest rate.
<http://www.whitehouse.gov/omb/circulars/a094/a94 appx-c.html> (6/22/06). This information is also contained in a January 18, 2006 memorandum from Joshua Bolton, Director of the Office of Management and Budget, found at [http://www.whitehouse.gov/omb/memoranda/fy2006/m06-05.pdf](http://www.whitehouse.gov/omb/memoranda/fy2006/m06-05.pdf). It should be remembered that this is a risk free rate. All investments other than U. S. Government promises to pay have a higher discount rate due to risk of delayed payment or non-payment.

The IRS publishes a discount rate to be used in calculating the value of all planned gifts except pooled income fund gifts. The IRS discount rate floats monthly. The discount rate for May 2006 was $5.8 \%$; for June 2006 was $6.0 \%$; and for July 2006 was $6 \%$. [http://www.pgcalc.com/drate/default.htm](http://www.pgcalc.com/drate/default.htm)(6/22/06).

The U.S. Securities and Exchange Commission requires U.S. corporations to report the present value of future pension obligations. In a March 4, 1004 Memorandum available on the internet, the SEC said:

FASB Statement No. 87, Employers’ Accounting for Pensions, and FASB Statement No. 106, Employers' Accounting for Postretirement Benefits Other Than Pensions, require that the calculation of a projected benefit obligation include a discount rate that reflects the rates at which the pension benefits could effectively be settled. Conceptually, the selection of an assumed discount rate should be based on the single sum that, if invested at the measurement date, would generate the necessary cash flows to pay the benefits when due (see paragraph 186 of Statement No. 106). As discussed in EITF Topic D-36, one method for determining the assumed discount rate is to create a hypothetical portfolio of high quality bonds (rated Aa or higher by a recognized rating agency) for which the timing and amount of cash outflows approximates the estimated payouts of the defined benefit plan.
[http://www.sec.gov/divisions/corpfin/acctdis030405.htm\#P529_85472](http://www.sec.gov/divisions/corpfin/acctdis030405.htm%5C#P529_85472). For purposes of their 2005 SEC 10-K annual filings, large American corporations were discounting their future obligations under their defined benefit pension plans at somewhere around 5.5 to 5.75 \%. For example, Chevron, Conoco/Phillips and Dow Chemical Co. all used a $5.5 \%$ discount rate for their defined benefit pension obligations in 2005.

If you increase the discount rate, you will lower present value. A stream of future payments discounted at $8 \%$ has a lower present value than that same stream of future payments discounted at $5 \%$.
E. RISK INCREASES THE DISCOUNT RATE. The time value of money does not reflect the risk that full payment may not be received when due. In the real world, a promise to pay at a future time has some risk associated with it. The element of risk increases the discount rate above the present value interest rate set out above. Ten-year U.S. government bonds yield about 5\% per year. Calculating the present value of a promise to pay at a $5 \%$ discount rate assumes zero risk of non-payment. According to Ibbotson Associates, who has studied the "risk premium" required by investors before investing in bonds issued by the largest companies listed on the New York Stock Exchange (the "risk premium"), you should add some percentage points to the U.S. government bond interest rate to account for the risk of investing in corporate bonds. If you are going to accept a note from the husband as part of the settlement of the divorce, is the promise to pay, as collateralized, more or less safe than investing in corporate bonds? If less safe than a corporate bond, then
the discount rate should be higher than the corporate bond rate.
F. PRIME RATE FOR COMMERCIAL BORROWERS. The prime interest rate (prime rate) is the interest rate charged by banks to their most creditworthy customers. The prime rate is almost always the same at major banks, and prime rates are usually adjusted by banks at the same time. As of June 1, 2006, the prime rate was $8 \%$. The following table shows the prime rate on December 1 of each of the last ten years:

| $\underline{1996}$ | $\underline{1997}$ | $\underline{1998}$ | $\underline{1999}$ | $\underline{2000}$ | $\underline{2001}$ | $\underline{2002}$ | $\underline{2003}$ | $\underline{2004}$ | $\underline{2005}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 8.50 | 7.75 | 8.50 | 9.50 | 5.00 | $\frac{1.25}{4.00}$ | 5.00 | $7.00 \%$ |  |  |

G. INFLATION. Inflation is the fall in the market value or purchasing power of money. Stated differently, inflation is the increase in the prices you pay for items from one year to the next. The U.S inflation rate is calculated from the Consumer Price Index (CPI-U) which is compiled by the Bureau of Labor Statistics and is based upon a 1982 Base of 100. The annual inflation rate in June 2006 was $4.17 \%$. The annual inflation rates per year for the past ten years are as follows:

| $\frac{1996}{2.93}$ | $\frac{1997}{2.34}$ | $\frac{1998}{1.55}$ | $\frac{1999}{2.19}$ | $\frac{2000}{3.38}$ | $\frac{2001}{2.83}$ | $\frac{2002}{1.59}$ | $\frac{2003}{2.27}$ | $\frac{2004}{2.68}$ | $\frac{2005}{3.39 \%}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

The U.S. inflation rate in 1980 was $13.48 \%$. The U.S. historical rate of annual inflation has averaged 3.3\% per year over the past 90 years, and $4.78 \%$ per year since 1972. According to the June 7, 2006 Philadelphia FED's "Livingston Survey" (a poll of 44 economists), the ten-year inflation forecast is $2.5 \%$ per year. The survey reflects expected CPI inflation in 2006 to be $3.3 \%$, and in 2007 to be $2.6 \%$. [http://www.phil.frb.org/liv/index.html](http://www.phil.frb.org/liv/index.html).
"Inflation risk" is the risk that earnings on investments will suffer a reduction due to the loss in purchasing power attributable to inflation. Thus, if money is invested at $3.5 \%$ interest per year, and the inflation rate is $4 \%$ per year, the invested money is actually declining in value at $0.5 \%$ per year, in terms of purchasing power. You should subtract the inflation rate from the earnings rate on an investment to determine the real rate of return on the investment.
H. INTEREST ON JUDGMENTS IN TEXAS. Under Tex. Finance Code § 304.003, the interest rate on judgments issued by Texas courts is set at the prime rate of the Federal Reserve Bank of New York, with a minimum of $5 \%$ and a maximum of $15 \%$. The Office of the Consumer Credit Commissioner of the State of Texas sets the judgment rate on the $15^{\text {th }}$ day of each month. This rate can be viewed at the TCCC website: [http://www.occc.state.tx.us/pages/int_rates/Index.html](http://www.occc.state.tx.us/pages/int_rates/Index.html). The judgment rate for June 2006 was $8 \%$.
I. TAX-EFFECTING ALIMONY. Under Internal Revenue Code § 71, alimony (or separate maintenance) payments are included in the recipient’s gross income. Under IRC § 215, alimony payments (or separate maintenance) are deductible from the payor's taxable income. A payment to a spouse or an exspouse is alimony if it meets five conditions:
if (A) such payment is received by (or on behalf of) a spouse under a divorce or separation instrument, (B) the divorce or separation instrument does not designate such payment as a payment which is not includible in gross income under section 71 and not allowable as a deduction under section 215, (C) in the case of an individual legally separated from his spouse under a decree of divorce or of separate maintenance, the payee spouse and the payor spouse are not members of the same household at the time such payment is made, and (D) there is no liability to make any such payment for any period after the death of the payee spouse and there
is no liability to make any payment (in cash or property) as a substitute for such payments after the death of the payee spouse. Section $71(\mathrm{~b})(2)$ defines "divorce or separation instrument" as (A) a decree of divorce or separate maintenance or a written instrument incident to such a decree, (B) a written separation agreement, or (C) a decree (not described in subparagraph (A)) requiring a spouse to make payments for the support or maintenance of the other spouse. See Private Letter Ruling No. 200127039, April 10, 2001
[http://www.irs.gov/pub/irs-wd/0127039.pdf](http://www.irs.gov/pub/irs-wd/0127039.pdf).

When using alimony to settle a divorce case, the after-tax effect should be considered for both the payor and the payee. The federal marginal income tax brackets for 2006 are:

- $10 \%$ on income between $\$ 0$ and $\$ 7,550$
- $15 \%$ on the income between $\$ 7,550$ and $\$ 30,650$; plus $\$ 755.00$
- $25 \%$ on the income between $\$ 30,650$ and $\$ 74,200$; plus $\$ 4,220.00$
- $28 \%$ on the income between $\$ 74,200$ and $\$ 154,800$; plus $\$ 15,107.50$
- $33 \%$ on the income between $\$ 154,800$ and $\$ 336,550$; plus $\$ 37,675.50$
- $35 \%$ on the income over $\$ 336,550$; plus $\$ 97,653.00$

For a high-income former husband, the net after-tax cost of $\$ 1$ alimony paid out of his highest bracket income is 65 cents $(100 \%-35 \%=65 \%)$. The alimony is taxed to a lower-income former wife at her lower incremental tax bracket. If the ex-wife's marginal tax rate on the alimony dollars is $28 \%$, then her after taxvalue of $\$ 1$ in alimony is 72 cents. Under these facts, the after-tax cost of the ex-husband is $65 \%$ of the alimony paid, and the after-tax value to the ex-wife is $72 \%$ of the alimony received. In this example, the federal government loses tax revenue on the $7 \%$ spread between the two tax rates, and this tax savings to the parties can be awarded to one or the other spouse, or split between them.
IV. STOCKS VERSUS THE HOUSE AS AN INVESTMENT? The value of investments in the stock market can be approximated looking at the Standard \& Poor 500 index. One hundred dollars (\$100.00) invested in the SP500 in 2000, fluctuated as follows: $2000=100 ; 2001=88.12 ; 2002=68.64 ; 2003=88.33$; 2004 = 97.95; $2005=102.75$. From mid-1998 until April, 2006, the S\&P 500 index delivered total returns of $3 \%$ per year.

According to an article on CNN.com
[http://money.cnn.com/2005/05/12/real_estate/re2005_100markets_0506/index.htm](http://money.cnn.com/2005/05/12/real_estate/re2005_100markets_0506/index.htm), housing prices across the country increased 12.5\% from first quarter 2004 to first quarter 2005. In May 2005 Federal Reserve Chairman Alan Greenspan gave a speech in which he said he saw no nationwide housing bubble, but that he did see local housing bubbles. The following list reflects this view, but shows that Texas housing prices have shown more modest growth. Here is the median home price in the following communities, together with the percent change in value from 2000 to 2005, and the projected increase in value in 2006: New York City, \$435,000, 92\%, 12.6\%; Los Angeles, \$442,000, 122.3\%, 5\%; Washington, D.C., \$385,000, 107.4\%, 13.9\%; San Francisco, \$750,000, 67.7\%, 13.6\%; Miami, \$240,000, 106.1\%, 15.3\%; Philadelphia, \$160,000,71\%, 11.7\%; Phoenix/Mesa, \$190,000, 53.1\%, 17.7\%; Dallas, \$137,000, 23.1\%, N/A; Fort Worth/Arlington, N/A, 23.5\%; N/A; Houston, \$136,000, 25.2\%, N/A; San Antonio, \$123,000, 24.8\%, N/A; Austin, \$151,000, $24.7 \%$, N/A. However, in 2005, in Gillespie County (i.e. Fredericksburg), in the Texas Hill Country, land prices increased 37\%. Richard DeKaser, chief economist for National City Corp., did a study of housing markets around America. He assessed 2004 markets for being overvalued or undervalued, based on a 25-year review of fundamentals in that particular market, including the ratio of total family earnings to price of the house (a sort of price-to-earnings ratio). The Texas cities he listed are:

San Antonio is 3\% overvalued
Austin is $5 \%$ undervalued
Houston is $11 \%$ undervalued
Dallas is $11 \%$ undervalued
Beaumont is $16 \%$ undervalued
[http://money.cnn.com/pf/features/lists/home_valuations/](http://money.cnn.com/pf/features/lists/home_valuations/). (6/12/06)
Compare this performance of real estate to the performance of the stock market. The stock market has averaged $6.5 \%$ annual growth over the last century. However, it has been through lengthy downturns, as in the 1930s and 1969-1982. In October 1929, stock prices fell $24 \%$ in two days. On October 19, 1987, stock prices fell $22.6 \%$ in one day! Real estate in Texas has had downturns (such as in the late 1980s), but real estate doesn't exhibit the volatility of the stock market.
V. AGING OF AMERICA AND THE WORLD. The world population is growing older. People are living longer, and in many cultures the birth rate is declining. An increasing percentage of persons alive are or soon will become old. This demographic alignment is unprecedented in history, and it will have significant effects that are not well-understood at this time.

In the USA, the growth rate for the entire population since 1950 has been about $1 \%$ per year. The growth rate of the population over age 65 has been nearly double that. The population over age 75 has grown nearly three times as fast. From 1950 to 2000, the percent of population under age 18 fell from $31 \%$ to $26 \%$, while people aged 65-74 years increased from $6 \%$ to $7 \%$, and the percent aged $75+$ grew from $3 \%$ to $6 \%$. By 2050 , it is projected that persons 65-74 years of age will grow to $12 \%$ of the population. By year 2040, the number of persons over age 75 will exceed the number of persons 65-74 years of age. Health, United States, 2004 (published by the U.S. Department of Health and Human Services [DHSS]).
A. ACTUARIAL ARMAGEDDON. One effect of an aging population is the approaching prospect of insolvency of the government-based and private retirement programs in the industrialized countries. Just considering Social Security in the United States, the ratio of workers to retirees has fallen from 8-to-1 in 1955 to 3.3 -to-1 in 2004, and is projected to fall to 2.2 -to- 1 by 2030. Here is a table of the past and projected ratio of workers to retirees in six industrialized countries:

|  | RATIO OF NUMBER OF |  |
| :--- | :---: | ---: |
| WORKERS PER RETIREE |  |  |
|  | $\underline{1995}$ | $\underline{2050}$ |
| USA | 4.2 | 2.3 |
| U.K. | 2.7 | 2.1 |
| Canada | 3.6 | 1.6 |
| Japan | 2.6 | 1.5 |
| Germany | 2.3 | 1.2 |
| Italy | 1.3 | 0.7 |

Note that in 2050 Italy is projected to have more retirees than workers. See Congressional Testimony by James B. Lockhart III, Deputy Commissioner, Social Security Administration, May 18, 2004, [http://www.ssa.gov/legislation/testimony_051804.html](http://www.ssa.gov/legislation/testimony_051804.html).
B. HEALTH CARE COSTS. Another effect of societal aging is increased expenditures on health care,
particularly for treatment of chronic and acute health conditions. The DHHS says that "[p]roviding health care services needed by Americans of all ages will be a major challenge in the $21^{\text {st }}$ century." Health, United States, 2004, p. 21. See the discussion of health care in Section IX. below.
C. GUARDIANSHIPS, DECEDENT'S ESTATES AND ELDER LAW. As our population ages, legal problems of the elderly will come to the fore. If the Federal Estate Tax expires, estate planning can shed itself of the complicated pre-death arrangements designed to artificially depress fair market value, but if the gift tax remains in place then older people will retain control of their wealth until they die. Trusts will be used to perpetuate the dying person's control over the wealth after death (through a chosen representative, the trustee). So we can expect a lot of litigation involving trusts. We can also expect will contests and, when the wealthy person starts to lose mental faculties, we can expect contested guardianships of the estate, to get control of the money. There is a natural affinity between family law and probate and elder law, but the focus will be children's control of their parents, and not parent's control of their children. Family lawyers' skills in dealing with psychologists and M.D.s, developed in connection with child custody issues, could be very useful but we will have to learn competency tests rather than personality tests. A good family lawyer is a better litigator than many probate and guardianship lawyers, because family lawyers have litigated so much.
VI. DEFERRED COMPENSATION. Retirement benefits and other forms of deferred compensation are an important part of medium and long term financial planning at divorce. How can they be valued?
A. DEFINED BENEFIT RETIREMENT PLANS. The financial community, including family lawyers, is familiar with discounting future retirement benefits to present value based on the time value of money. Until now, we have ignored additional discounting for risk of non-payment. We can no longer continue to ignore the risk of non-payment of retirement benefits.

The defined benefit plan system is in a state of crisis.
Testimony of attorney Peter Kelly, before a U.S. Chamber of Commerce Committee, on July 24, 2003.
Due to rules permitting overly-optimistic projections of stock growth and future interest rates, many private retirement and benefit plans are not actuarially sound. At a Senate Finance Committee hearing on June 7, 2005, the Executive Director of the Pension Benefit Guaranty Corporation (PBGC) testified that the large underfunded pension plans reported as of April 15, 2005, a record shortfall of $\$ 353.7$ billion, which translates to just $69 \%$ coverage of obligations. That is a $27 \%$ increase in underfunding from 2004. This statistic relates to plans with $\$ 50$ million or more in obligations. If all defined benefit pension plans are considered, PBGC estimates that, as of September 30, 2004, the total shortfall in all insured pension plans exceeded $\$ 450$ billion. [http://www.pbgc.gov/media/news-archive/2005/pr05-48.htm](http://www.pbgc.gov/media/news-archive/2005/pr05-48.htm) (6/13/06) The PBGC is a federal corporation created under ERISA, which is supposed to guarantee the solvency of private pension plans. However, there was testimony at the same hearing that PBGC has a $\$ 23.3$ billion deficit due to insolvent private pension plans. Since PBGC is funded solely by insurance premiums paid by participating corporations, to cover its growing insolvency PBGC will have to increase premiums radically and perhaps even attempt to get underwriting from the U.S. government, which has severe actuarial problems of its own regarding Social Security and Medicare, and a budget deficit that may restrict the government's ability to bail out private retirement plans.

In February 2005, PBGC took over US Airways pension plans, which were only $40 \%$ funded. PBGC will cover all but $\$ 200$ million of the shortfall. US Air was the second largest default in PBGC history, costing

PBGC \$3 billion, second only to the Bethlehem Steel default which cost $\$ 3.7$ billion. [http://www.pbgc.gov/media/news-archive/2005/pr05-22.htm](http://www.pbgc.gov/media/news-archive/2005/pr05-22.htm) (6/13/06) In May, 2005, a federal bankruptcy judge approved an agreement between United Airlines and PBGC for PBGC to assume United Airlines’ obligations under its four pension plans, on the condition that PBGC would pay only $\$ 6.6$ billion of the $\$ 9.8$ billion in pension obligations. In this way, United Airlines shifted to the PBGC the responsibility for paying pension benefits for 120,000 current and former airline workers, but payments will amount to only two-thirds of benefits owed. [http://www.pbgc.gov/news/press_releases/2005/pr05_36.htm](http://www.pbgc.gov/news/press_releases/2005/pr05_36.htm). If United Airlines gains a competitive advantage by eliminating this pension cost from its operating budget, other airlines may be forced to, or may choose to, enter bankruptcy to eliminate or reduce pension costs.

If you become involved in a divorce with a defined benefit pension plan, you may wish to investigate the financial soundness of the plan. If the plan is a single-employer plan insured by PBGC that has been less than $80 \%$ funded for the past year or two and less than $90 \%$ funded for several years, the plan administrator is required to give annual written notice of the plan's funded percentage and the limitations on PBGC's insurance guarantees. An employee can also obtain information about the plan's funding by requesting the information in writing from the plan administrator. If the plan is under-funded, then retirement benefits may be worth less than the present value of projected benefits assuming full payment.

To value defined benefit plan payments, determine what the future stream of payments is likely to be, on a monthly basis. Determine when payments will start. Assume they will continue until the retiree's expected date of death. This stream of future payments is an "annuity" which can be valued using tables or formulas for the present value of an annuity. If the stream of future payments will not start for a period of time, then you must first reduce the payment stream to a present value as of the start date of the payment stream, and then reduce that lump sum to present value using tables or formulas for the present value of a lump sum paid on the start date. Don't forget to tax-effect the retirement payments, which are taxed as income in the year they are received.
B. DEFINED CONTRIBUTION RETIREMENT PLANS. Defined contribution plans usually maintain an account for the employee that carries an account balance. The pre-tax value of the account can be determined from such statements.

Any discount for delay in receiving the contents of the plan is approximately offset by the rate of return earned on the plan contents. The employee's contributions to a defined contribution plan are tax deductible to the employee. The employer's contributions to a defined contribution plan are not taxable to the employee until they are withdrawn. Appreciation of the assets in the plan, and income earned on plan contents, are not taxable to the employee until they are withdrawn. When the benefits are paid from the plan to the employee, then the full amount or full value of the distributions is taxed to the employee at the time of distribution.
C. EMPLOYEE STOCK OPTIONS. There is much controversy over how to value nonvested employee stock options. As noted by the Tenth Circuit Court of Appeals: "The value of an option is inherently fluid because it equals the difference in the exercise price and the market price." Greene $v$. Safeway Stores, Inc., 210 F.3d 1237, 1243 ( $10^{\text {th }}$ Cir. 2000). "[T]he true value of the stock option to its owner is the potential for appreciation in stock price without investment risk. If the stock price were to drop, the owner of the option simply would not exercise it, because he could instead buy the stock more cheaply on the market. As stated by Treas.Reg. 1.83-7(b)(3), the value of this type of stock option is risk-free appreciation." Rice v. Montgomery, 663 N.E.2d 389, 392 (Ohio Ct. App. 1995).

The Financial Accounting Standards Board requires large corporations to show the liability of stock option obligations given by corporations to their high-level employees. Companies can choose from a number of methods such as the pervasive Black-Scholes model or the binomial model to value stock options.

According to Mathias v. Jacobs, 238 F.Supp.2d 556, 574 n. 12 (U.S. Dist. Ct. S. D. N. Y 2002):
The [Black-Scholes] model was developed in 1971 by economists Fisher Black and Myron Scholes, for which they were awarded the Nobel Prize in 1997. The essential factors the formula takes into account driving the value of an option to purchase common stock are: (1) the stock price on the date of valuation; (2) the exercise price at which the option holder can purchase the stock; (3) the amount of time over which the option will be valid and outstanding; (4) the volatility of the underlying common stock; and (5) the risk-free rate of interest rates at the time the option is being valued.

See F. Black and M. Scholes, The Pricing of Options and Corporate Liabilities, 81 Jour. of PoL. Econ. 637-659 (1972).

The Black-Scholes Model, the Binomial Pricing Model, and other such models are challenged when applied to nonvested employee stock options. Detractors say that these models do not fit employee stock options:
" 1 . There is usually a vesting period of during which the options cannot be exercised. This vesting period can be as long as four years.
2. When employees leave their jobs (voluntarily or involuntarily) during the vesting period they forfeit unvested options.
3. When employees leave (voluntarily or involuntarily) after the vesting period they forfeit options that are out of the money and they have to exercise vested options that are in the money immediately.
4. Employees are not permitted to sell their employee stock options. They must exercise the options and sell the underlying shares in order to realize a cash benefit or diversify their portfolios. This tends to lead to employee stock options being exercised earlier than similar regular options.
5. There is some dilution arising from the issue of employee stock options because if they are exercised new Treasury stock is issued."

John Hull and Alan White, How to Value Employee Stock Options (2002),
[http://www.rotman.utoronto.ca/~hull/DownloadablePublications/esoppaper.pdf](http://www.rotman.utoronto.ca/~hull/DownloadablePublications/esoppaper.pdf).
In Xilinx Inc. and Subsidiaries v. C.I.R., 125 T.C. 37, 45-46 (2005), the United States Tax Court said:
The B[lack-]S[scholes] model was originally designed to measure publicly traded options and, as a result, fails to adequately take into account numerous differences between ESOs and publicly traded options. For example, ESOs [employee stock options] are nontransferable and have terms to maturity that are usually longer than those of publicly
traded options. The extended term of an ESO complicates the task of estimating the volatility of the stock price, which is an essential input in the pricing of any option. Furthermore, ESOs cannot be traded, so they must be discounted to account for the difference in value between tradeable and nontradeable options (i.e., tradeable options are worth more than nontradeable options). Yet, the appropriate discount is difficult to determine with reasonable accuracy because the discount is based on the value of the ESO to an employee. Moreover, an ESO's value is affected by whether an employee forfeits the option by failing to exercise it or exercises the option prior to the expiration of the ESO's maximum life. These employee decisions cannot be reliably modeled. Thus, FAS 123 requires companies to make certain adjustments to take into account the differences between ESOs and publicly traded options. For example, to account for option forfeiture, SFAS 123 requires that an ESO's value be discounted to reflect the amount of forfeitures expected annually. With respect to early exercise, the expected life of the option is used instead of the ESO's actual or maximum life.

A summary of FAS 123 (October 1995) is at [http://www.fasb.org/st/summary/stsum123.shtml](http://www.fasb.org/st/summary/stsum123.shtml). FAS 123 (Revised 2004) was issued in December 2004. FAS 123(R) "allows companies to choose among lattice models, the Black- Scholes model, and Monte Carlo simulation models to put a dollar value on their unvested equity awards." [http://www.nceo.org/library/fasb-final-accounting-rules.html](http://www.nceo.org/library/fasb-final-accounting-rules.html).

Here are some criticisms of using the Black-Scholes model to value employee stock options. These quotations are taken from [https://sia-online.org/downloads/FASB_Quotes.pdf](https://sia-online.org/downloads/FASB_Quotes.pdf).

Burton G. Malkiel, Professor of Economics, Princeton University, and William J. Baumol, Professor of Economics, New York University, "Stock Options Keep the Economy Afloat," The Wall Street Journal, April 4, 2002:

The Nobel Prize winning Black-Scholes model does an excellent job of predicting the prices at which short-term options trade in the market. But the Black-Scholes formula does not provide reliable estimates for longer-term options, such as those lasting six months to one year, and market prices often differ substantially from predicted values.

John F. Gifford, Chairman, President and Chief Executive Officer, Maxim Integrated Products, Inc., August 13, 2002 press release:

We believe that the Black-Scholes option pricing model, while a useful tool for the pricing of short-term freely tradable options (the purpose for which it was developed), is severely flawed in valuing the long-term, illiquid employee options.

Statement of Procter \& Gamble," Global News: Expensing Stock Options," August 29, 2002:
[Procter \& Gamble] has concerns about the use of the Black-Scholes model, which is currently broadly used to value employee stock options. This model was designed to value short duration exchange traded options. Employee stock options, which have a longer term and are not transferable, are also subject to forfeiture by the employee, and therefore represent a very different kind of financial instrument. As such, Black-Scholes can provide misleading results when applied to employee stock options.

In Fisher v. Fisher, 769 A.2d 1165, 1168 (Pa. 2001), the Pennsylvania Supreme Court said:
We agree with the trial court and Superior Court that it is impossible to ascribe a meaningful value to the unvested stock options, primarily because it is absolutely impossible to predict with reliability what any stock will be worth on any future date. Ascription of a value to a stock option before it vests is impermissibly speculative.

The controversy suggests that an estimate, of the value of nonvested employee stock options that are subject to forfeiture, is not likely to be reliable.
D. TAX ASPECTS OF RETIREMENT FUNDS. Deferred compensation will be taxed as ordinary income in the year that the benefits are received. For example, money taken from an Individual Retirement Account (IRA) or $401(\mathrm{k})$ plan will be taxed as ordinary income in the year of withdrawal. If the IRA or 401(k) withdrawal occurs before age $59-1 / 2$, a $10 \%$ penalty will also be due to the IRS unless certain exceptions apply. The $10 \%$ early withdrawal penalty will not apply if:

You had a "direct rollover" to your new retirement account, You received a lump-sum payment but rolled over the money to a qualified retirement account,
You were permanently or totally disabled,
You were unemployed and paid for health insurance premiums,
You paid for college expenses for yourself or a dependent,
You bought a house, provided you did not own a home in the previous two-years, and only
$\$ 10,0000$ of the retirement distribution qualifies to avoid the tax penalty.
You were age 55 or over and you retired or left your job.
You paid for medical expenses exceeding 7.5\% of your adjusted gross income, You received the distribution as part of "substantially equal payments" over your lifetime, The IRS levied your retirement account, The distributions were required by a divorce decree or separation agreement ("qualified domestic relations court order").
[http://taxes.about.com/od/preparingyourtaxes/a/1040line59.htm](http://taxes.about.com/od/preparingyourtaxes/a/1040line59.htm). See Pension and Annuity Income, IRS Publication 575, [http://www.irs.gov/pub/irs-pdf/p575.pdf](http://www.irs.gov/pub/irs-pdf/p575.pdf). As to the substantially equal payments exception, see [http://www.rwbaird.com/indiv/fr3_ii_ps_early_retirement.aspx\#item1](http://www.rwbaird.com/indiv/fr3_ii_ps_early_retirement.aspx%5C#item1).
VII. SOCIAL SECURITY AND MEDICARE. The Social Security Act was signed by President Roosevelt in 1935. Monthly benefits began in January 1940. Congress provided for cost of living adjustments (COLAs) in 1950. Congress adopted automatic COLAs tied to inflation in 1975.

In 2002, 46.5 million people received Social Security benefits, of which 32.4 million were retirees and their dependents, 6.9 million were survivors, and 7.2 million were disabled and their dependants. 190 million workers were fully insured for Social Security retirement and/or survivor benefits, of which approximately half were baby boomers.

In 2002, $12 \%$ of the population was age 65 and over. In 2030, $20 \%$ of the population is expected to be age 65 and over.
A. LEGAL ASPECTS OF SOCIAL SECURITY. Social Security is a benefit flowing from a federal statute. As such, a court in a divorce cannot divest a spouse of his/her social security benefit. However, the divorced spouse of a worker who paid Social Security taxes may be entitled to Social Security benefits by virtue of the marriage. See Section VII.B. 1 below.
B. FINANCIAL ASPECTS OF SOCIAL SECURITY. Social Security can be examined at the level of an individual, or in the aggregate of all individuals.

1. Individual Level. You can estimate your client's Social Security benefit by going to the Benefits Calculator page of the Social Security Administration, <http://www.ssa.gov/planners/calculat ors.htm>(6/14/06). Here is an example of one such calculation. For a worker born on January 1, 1950, who had taxable income in 2004 of $\$ 100,000$ or more, Social Security Retirement benefits would be as follows, if she/he retires in the given year: in 2012 (at age 62 and 1 month) $\$ 1,449.00$ per month; in 2015 (at age 66) $\$ 1,921.00$; in 2019 (at age 70) $\$ 2,536.00$. These numbers are stated in 2006 dollars. If this person qualified for Disability Insurance today, the monthly benefit would be $\$ 1,983$. If this person died today, a minor child would receive $\$ 1,487.00$, and the spouse caring for the child would receive $\$ 1,487.00$. There is a family maximum of $\$ 3,471.00$ per month.

You can also request an individualized Social Security Statement on-line, if you provide the name, social security number, and address where the statement should be mailed, together with information regarding current year's income and projected future income. The statement will come in about 4 weeks.

The following table sets out the earliest retirement ages to receive Social Security retirement payments, based on current law:

| Year of Birth |  | Full Retirement Age |
| :--- | :--- | :--- |
| 1937 or earlier |  | 65 years |
| 1938 |  | 65 and 2 months |
| 1939 |  | 65 and 4 months |
| 1940 |  | 65 and 6 months |
| 1941 |  | 65 and 8 months |
| 1942 |  | 65 and 10 months |
| $1943-1954$ |  | 66 |
| 1955 |  | 66 and 2 months |
| 1956 |  | 66 and 4 months |
| 1957 | 66 and 6 months |  |
| 1958 | 66 and 8 months |  |
| 1959 | 66 and 10 months |  |
| 1960 and later | 67 |  |

A divorced spouse is entitled to claim benefits based on the contributions made by his/her former spouse, if the marriage lasted at least ten years. The claiming ex-spouse must be at least age 62 and the other ex-spouse must be eligible for benefits, but not necessarily receiving them. The maximum benefit the claiming exspouse can receive in this situation is $50 \%$ of the benefit the ex-spouse would receive at full retirement age. The claiming ex-spouse can instead apply for benefits under his/her own Social Security record, if that would be advantageous.
2. Aggregate Level. The official Summary of the 2005 Annual Report of the Social Security and Medicare Boards of Trustees states:

The fundamentals of the financial status of Social Security and Medicare remain problematic under the intermediate economic and demographic assumptions.

This is grim news from the Trustees running the Social Security and Medicare Trust Funds. The Summary states that the Social Security Trust Fund reserves will be exhausted in 2041. To bring the Fund into balance, if we act right now, would require a $15 \%$ increase in payroll tax or an immediate reduction in benefits of $13 \%$, or some combination of the two.

Many Americans will need Social Security benefits to help pay bills during retirement. Disabled Americans (30\% of Social Security beneficiaries are disabled or survivors) will need the disability benefit to help deal with their disabilities. President Bush attempted to make the viability of Social Security a political issue, unfortunately with little success.

According to the 2005 Social Security Trustees Report ("Trustees Report"), in 13 years (2018) the Old Age and Survivors Insurance Fund (OASI) will start paying out more than it is taking in. If interest (which accrues but is not actually paid by the U.S. government) is included, cash flow becomes negative in 2028. Outgo exceeded income for the Disability Insurance (DI) Trust Fund beginning in 2005. If interest to be paid by the U.S. government is included, the DI Trust Fund's cash flow goes negative in 2014. The Trustees Report projects that the Social Security Administration will be able to meet $100 \%$ of its obligations based on a combination of incoming payroll taxes and liquidation of assets (i.e., U.S. government bonds) for OASI until 2043 and for DI until 2027. The combined OASIDI Trust Fund becomes insolvent in 2041. At that point, to use President Bush's words, Social Security will be "bankrupt."

There is a problem even prior to 2041. The Social Security Trust Fund assets consist of non-negotiable U.S. government bonds, not cash. When the Trustees go to cash out the bonds, the federal government will have to pay off the bonds out its general fund. Since the government operates at a deficit, and that deficit is funded by borrowing, to pay off Social Security bonds the federal government will have to borrow from Peter to pay Paul, or the federal government will have to increase its revenues, such as through an increase in the income tax.

Social Security is funded by the payroll tax. Currently payroll taxes are $12.4 \%$ of wages up to $\$ 90,000.00$, half paid by the employee and half paid by the employer. This tax is separate from the income tax that flow into the U.S. government's General Fund.

We can expect two things to happen at some point: (i) taxes to fund Social Security will increase; (ii) Social Security benefits will be delayed or reduced.
C. FINANCIAL ASPECTS OF MEDICARE. The Medicare situation is much worse than the Social Security situation. The Hospital Insurance (HI) Trust Fund pays for in-patient hospital and related care. The HI trust is funded by a $2.9 \%$ payroll tax, half paid by the employee and half paid by the employer. According to the 2005 Trustee's Report, the HI Fund will become insolvent in nine years (2014).

The Supplemental Medical Insurance (SMI) Trust Fund pays for physician and outpatient services (Part B) and a prescription drug benefit (Part D) that began in 2006. The SMI obligation is funded $75 \%$ by the federal
government (from its General Fund) and the rest by premiums paid by beneficiaries and, as to Part D, some payments from States. The SMI Trust Fund is by definition solvent because federal law requires that it be funded out of the federal government's budget and premiums paid by beneficiaries.

While the looming insolvency of the HI Trust Fund is not much discussed, the insolvency will have to be handled no later than 2014 by (i) reducing benefits, (ii) increasing the Medicare payroll taxes or (iii) appropriating more of the federal budget to HI. The SMI Part D (prescription drugs) draws on the federal budget, which presents a problem, considering that large government deficits must be funded through bond sales and that there is practical limit on the federal government's ability to continue to convince investors (particularly foreign investors) to keep lending money to the United States government. That is a much larger issue that is too difficult to address here, if not anywhere.

Conclusion. Eventually, we are going to hit the wall on Social Security and Medicare. The sooner we act, the less it will hurt. Don't count on the politicians and their supporters to restrict current benefits or increase payroll taxes just to help our children and our grandchildren. (Our children and grandchildren don’t vote.) Keep an eye on projected insolvency dates, which are revised annually, and plan accordingly.
VIII. LIFE EXPECTANCY. Life expectancy in the U.S. has increased since 1950, due to a decline in infant mortality, and a decline in mortality from heart disease, stroke and accidents. However, the infant mortality rate increased in 2002 for the first time since 1958. Decreased cigarette smoking has caused mortality to decline. Still, in $200225 \%$ of men and $25 \%$ of women were cigarette smokers. Overweight, obesity and lack of exercise are a negative trend, especially among children. Still, overall life expectancy at birth in 2002 was 77.4 years. Here are the life expectancy figures for the indicated year, at birth, at age 65, and at age 75 , by race and gender:

Life Expectancy at Birth (in years)

| Year | White |  | Black |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Male | Female |
| 1900 | 46.6 | 48.7 | 32.5 | 33.5 |
| 1950 | 66.5 | 72.2 | 59.1 | 62.9 |
| 2002 | 75.1 | 80.3 | 68.8 | 75.6 |

Life Expectancy at Age 65

| 1950 | 12.8 | 15.1 | 12.9 | 14.9 |
| :--- | :--- | :--- | :--- | :--- |
| 2002 | 16.6 | 19.5 | 14.6 | 18.0 |

Life Expectancy at Age 75

| 2002 | 10.3 | 12.3 | 9.5 | 11.7 |
| :--- | :---: | :---: | :---: | :---: |

In settling a divorce, your client's life expectancy cannot be calculated by as subtracting your client's age from average life expectancy at birth for the current year. This is because year-of-birth life expectancies have been lengthening, and also because the longer you live the more death threats you have outlived, and the
greater your chances of exceeding the average life expectancy at birth. You can use the tables above to estimate your client's life expectancy.
IX. HEALTH CARE. According to the U.S. Department of Health and Human Services Report Health. Unites States, 2004, health care expenditures in the U.S. in 2002 totaled to $\$ 1.6$ trillion, an increase of $9.3 \%$ over 2001. The United States spends more per capita on health than any other country. Much of this spending is for health care to control or reduce the effects of chronic diseases and conditions that affect an aging population. In 1999-2000, approximately $8 \%$ of American over 20 years of age had diabetes, diagnosed or not, and the incidence of diabetes rises sharply with age. Id. at 9 . Healthcare expenses in the United States increased at the rate of $11 \%$ during the 1980 s, but dropped to $7.1 \%$ in $2000,8.5 \%$ in 2001 , and $9.3 \%$ in 2002. Id. at 14. In 2003, the rate of increase of the medical care component of the Consumer Price Index was $4 \%$, compared to an overall inflation rate of $2.3 \%$. Id. at 14 .

These trends do not reflect the impact of an unexpected worldwide pandemic like the 1918 influenza virus, which killed 50-100 million people (more than combat and civilian deaths in World War I). Viruses mutate constantly, and if one monkey virus or swine virus or bird flu virus crosses species it can present our immune systems with a threat they are not equipped to cope with. AIDS is one such example we are all familiar with. The recent outbreak of SARS was contained, but another avian virus from Asia could be spread worldwide in a matter of weeks, and if it's aggressively deadly we won't have time to find a cure, so a great number of us could get sick or die.
A. PRIVATE HEALTH INSURANCE. Health insurance is a critical aspect of our future welfare. The cost of health insurance for ourselves and our employees is an increasingly important part of our law practices, and our profitability. And it is an increasingly important factor in our clients' post-divorce welfare. This is particularly true of older divorcing spouses who have limited employment prospects, since the best and most affordable health insurance is obtained through employment.

The major source of health insurance for American not covered by Medicare is private employer-sponsored group health insurance. Private health insurance can be purchased on an individual basis, but typically it costs more and covers less. In 2002, $70 \%$ of the population under age 65 had health insurance, $94 \%$ through the workplace. DHHS estimates that $6 \%$ of employees' total compensation is devoted to health insurance. Health, United Stated, 2004, p. 16. According to one study, in 2004 employer health insurance premiums increased by 11.2 percent, or nearly four times the rate of inflation. This was the fourth consecutive year of double-digit increases. The annual premium for an employer health plan covering a family of four averaged nearly $\$ 9,950$, or $\$ 829$ per month. The annual premium for single coverage averaged $\$ 3,695$. The Henry J. Kaiser Family Foundation, Employee Health Benefits: 2004 Annual Survey (September 2004). It is estimated that health insurance premiums will rise to an average of more than \$14,500 for family coverage in 2006. [http://www.nchc.org/facts/cost.shtml](http://www.nchc.org/facts/cost.shtml) (6/22/06). The cost of health insurance is affecting our economy. On June 7, 2005, GM Chair and CEO Rick Wagoner announced that GM would eliminate 25,000 manufacturing jobs in the next 2-1/2 years, due to financial pressures caused in part by the $\$ 5$ billion per year cost of health care benefits for the company's 1.1 million current employees and retirees and their families (according to Wagoner, $\$ 1,500$ of the cost of each new GM car is attributable to the company's health care expense).

In 2002, 17\% of Americans under age 65 had no health insurance. Health, United States, 2004, p. 26. That's nearly one out of every five persons. Texas, however, is higher than average, with an estimated $28.4 \%$ uninsured. Id. at 13; Table 153.

A good summary of health insurance for Texas residents is on the web at [http://www.healthinsuranceinfo.net/tx00.html](http://www.healthinsuranceinfo.net/tx00.html) (6/22/06), A Consumer's Guide to Getting and Keeping Health Insurance in Texas.
B. HIPAA. The Health Insurance Portability and Accountability Act of 1996 (HIPAA) contains "portability rules" that allow workers to change jobs and group health plans more easily without being denied benefits under the new health plan because they had a pre-existing health condition.
C. TEXAS' HIGH RISK HEALTH INSURANCE POOL. Texas has a high risk pool health insurance program, called the Texas Health Insurance Risk Pool. This plan offers health coverage for persons who are HIPAA eligible and for people with expensive health conditions who are unable to buy individual coverage. You qualify for the Risk Pool if you are HIPAA eligible. More explanation is set out at [http://www.healthinsuranceinfo.net/tx03.html](http://www.healthinsuranceinfo.net/tx03.html) (6/22/06), A Consumer's Guide to Getting and Keeping Health Insurance in Texas.
D. COBRA. The Consolidated Omnibus Budget Reconciliation Act of 1986 (COBRA) amended ERISA to require private employee benefits plans (for 20 or more employees) to permit employees and their dependents, at their own expense, to continue group health care benefits if they leave the group due to a "qualifying event." "Qualifying events" include loss of benefits coverage due to (1) the death of the covered employee, (2) a reduction in hours that causes the worker to lose eligibility for coverage, (3) divorce, which normally terminates the ex-spouse's eligibility for benefits, or (4) a dependent child reaching the age at which coverage terminates.
[http://www.dol.gov/dol/topic/health-plans/cobra.htm](http://www.dol.gov/dol/topic/health-plans/cobra.htm) (6/22/06). Where the qualifying event is divorce, coverage can be continued for up to 36 months. [http://www.dol.gov/ebsa/faqs/faq_consumer_cobra.html](http://www.dol.gov/ebsa/faqs/faq_consumer_cobra.html).
X. CURRENT AND FUTURE ECONOMIC CONDITIONS. The Federal Reserve publishes the Current Economic Conditions, commonly known as the Beige Book, eight times per year. Each Federal Reserve Bank gathers anecdotal information on current economic conditions in its District through reports from Bank and Branch directors and interviews with key business contacts, economists, market experts, and other sources. The Beige Book summarizes this information by District and sector. An overall summary of the twelve district reports is prepared by a designated Federal Reserve Bank on a rotating basis. The Beige Book is on-line at < http://www.federalreserve.gov/FOMC/BeigeBook/2006> (6/22/06).

