PRACTICING FAMILY LAW IN A DEPRESSED ECONOMY

PART II: THE ECONOMY

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CHAPTER 10

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CURRICULUM VITAE OF RICHARD R. ORSINGER

Education: Washington & Lee University, Lexington, Virginia (1968-70)
University of Texas (B.A., with Honors, 1972)
University of Texas School of Law (J.D., 1975)

Licensed: Texas Supreme Court (1975); U.S. District Court, Western District of Texas (1977-1992; 2000-present); U.S. District Court, Southern District of Texas (1979); U.S. Court of Appeals, Fifth Circuit (1979); U.S. Supreme Court (1981)

Board Certified: Texas Board of Legal Specialization Family Law (1980), Civil Appellate Law (1987)

Organizations and Committees:

Chair, Family Law Section, State Bar of Texas (1999-2000)
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 (1994-2011); 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 (2001-2005)
Tx. Bd. of Legal Specialization, Civil Appellate Law Advisory Commission (Member and Civil Appellate Law Exam Committee (1990-2006; Chair 1991-1995); Family Law Advisory Commission (1987-1993)
Member, Supreme Court Task Force on Jury Charges (1992-93)
Member, Supreme Court Advisory Committee on Child Support and Visitation Guidelines (1989, 1991; Co-Chair 1992-93; Chair 1994-98)
Member, Board of Directors, Texas Legal Resource Center on Child Abuse & Neglect, Inc. (1991-93)
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:

Listed as Texas' Top Family Lawyer, Texas Lawyer's *Go-To-Guide* (2007)
Listed as one of Texas' Top 100 Lawyers, and Top 50 Lawyers in South Texas, *Texas Monthly* Super Lawyers Survey(2003-2007)
Texas Academy of Family Law Specialists' *Sam Emison Award* (2003) for significant contributions to the practice of family law in Texas
Association for Continuing Legal Excellence Best Program Award for *Enron: The Legal Issues* (2002)
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: Family Law (1987-2009); Appellate Law (2007-2009)

Continuing Legal Education and Administration:

Course Director, State Bar of Texas:

- Practice Before the Supreme Court of Texas Course (2002 - 2005 & 2007)
- *Enron, The Legal Issues* (Co-director, March, 2002) [Won national ACLEA Award]
- Advanced Expert Witness Course (2001, 2002, 2003,

2004)
- 1999 Impact of the New Rules of Discovery
- 1998 Advanced Civil Appellate Practice Course
- 1991 Advanced Evidence and Discovery
- Computer Workshop at Advanced Family Law (1990-94) and Advanced Civil Trial (1990-91) courses
- 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:

—Editor-in-Chief 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'S L.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 Bancroft-Whitney'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 ARTICLES AND SPEECHES

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 21st 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); The Road Ahead: Long-Term Financial Planning in Connection With Divorce (2006); A New Approach to Distinguishing Enterprise Goodwill From Personal Goodwill (2007); The Law of Interpreting Contracts: How to Draft Contracts to Avoid or Win Litigation (2008); Effect of Choice of Entities: How Organizational Law, Accounting, and Tax Law for Entities Affect Marital Property Law (2008)

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 (1997-1998); Making and Meeting Objections (1998 & 1999); Evidentiary Issues Surrounding Expert Witnesses (1999); Predicates and Objections (2000 & 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); Hot Topics in Litigation: Restitution/Unjust Enrichment (2006); The Law of Interpreting Contracts (2007); Judicial Review of Arbitration Rulings: Problems and Possible Alternatives (2008)

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 High-Level Employees (2002); SBOT 19th 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 26th 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); AICPA-AAML National Conference on Divorce: Cutting Edge Issues–New Alimony Theories; Measuring Personal Goodwill (2006); New Frontiers` - Distinguishing Enterprise Goodwill from Personal Goodwill; Judicial Conference (2006); SBOT New Frontiers in Marital Property Law: Tracing, Reimbursement and Economic Contribution Claims In Brokerage Accounts (2007)

TABLE OF CONTENTS

I. INTRODUCTION.. -1-
- A. THE INTENT OF THE ARTICLE.. -1-
- B. TIPS ON USING THE ARTICLE.. -1-
- C. SOURCES OF INFORMATION.. -1-

II. UNDERSTANDING THE ECONOMY.. -2-
- A. LIKE THROUGH A GLASS DARKLY. -2-
- B. ECONOMISTS YOU SHOULD KNOW. -3-
  - 1. Mercantilism.. -3-
  - 2 Turgot.. -3-
  - 3. Smith.. -4-
  - 4. Ricardo. -5-
  - 5. Marx.. -6-
  - 6. Keynes. -8-
  - 7. Austrian School/Mises/Hayek. -9-
  - 8. Friedman. -10-
- C. RECENT ECONOMISTS OF NOTE. -11-
  - 1. William McChesney Martin.. -11-
  - 2. Paul Volcker.. -11-
  - 3. Alan Greenspan. -11-
  - 4. Robert Rubin. -12-
  - 5. Ben S. Bernanke.. -12-
  - 6. Lawrence Summers.. -13-
  - 7. Timothy Geithner.. -14-
  - 8. Christina Romer.. -15-
- D. IMPORTANT ECONOMIC CONCEPTS AND TERMS.. -15-
- E. CONSUMER SPENDING.. -26-
- F. THE BUSINESS CYCLE.. -27-
  - 1. U.S. Business Cycles.. -27-
  - 2. Why Are There Business Cycles?. -28-
  - 3. What is a Recession?. -28-
  - 4. What is a Depression.. -29-
  - 5. Dating Peaks and Troughs.. -29-
  - 6. Where Are We in the Cycle?. -29-
  - 7. Government's Countercyclical Efforts.. -29-
  - 8. A Moses Sector.. -30-
- G. THE GREAT DEPRESSION.. -30-
  - 1. From When to When?. -30-
  - 2. Theories on the Causes of the Great Depression.. -30-
  - 3. Comparing Then to Now.. -31-
    - a. Stock Market Collapse.. -32-

b. Banking Collapse and Shrinking Money Supply.. -32-
c. The FED's Response... -33-
d. The Interest Rate.. -34-
e. De Facto Nationalization.. -35-
f. Fiscal Stimulus.. -35-
g. Tax Law.. -35-
h. Tariffs.. -36-
i. Results... -36-
j. An Interesting Parallel.. -37-
H. THE CURRENT ECONOMIC DOWNTURN... -37-

III. MONEY AND CREDIT. -38-
A. BARTER... -39-
B. CURRENCY... -39-
C. COINS... -39-
D. BULLION.. -40-
E. THE GOLD AND SILVER STANDARDS.. -40-
F. FIAT MONEY.. -41-
G. MONEY SUPPLY. -42-
H. PERSONAL SAVING. -43-
I. GOVERNMENT DEBT. -45-
J. PERSONAL DEBT. -45-
K. BANKS AND BANKING.. -46-
1. What is a Bank?. -46-
2. A Short History of Banking In America.. -46-
3. Financial Intermediaries.. -48-
4. Illiquidity Versus Insolvency.. -48-
5. Fractional Reserve Banking.. -49-
6. The Reserve Requirement... -49-
7. Bank Run.. -49-
8. Banking Crisis... -50-
9. Bank Holiday.. -50-
10 Deposit Insurance.. -50-
11. F.D.I.C... -51-
12. Capitalization of Banks... -52-
13. Too Big to Fail.. -53-
14. Changes in the Banking Industry.. -54-
15. The Privatization of Financial Intermediation.. -54-
L. INFLATION AND DEFLATION. -55-
1. Inflation... -55-
a. Effects of Inflation.. -56-
b. Signs of Inflation... -57-
c. Measuring Inflation... -57-

d. Increasing Prices of Goods and Services Versus Increasing Prices of Investments.. -58-
e. Phillips Curve.. -60-
f. Causes of Inflation. -60-
g. The Relationship Between Debt and Inflation.. -61-
h. Effect of Inflation on the Federal Budget.. -61-
i. Stagflation.. -61-
j. Restraining Inflation.. -62-
k. Has Inflation Been Tamed?. -62-
l. Things to do in an Inflation.. -62-
m. Hyperinflation.. -63-
n. Things to do in a Hyperinflation.. -63-
2. Deflation. -63-
a. Effects of Deflation.. -64-
b. The Signs of Deflation.. -64-
c. Measuring Deflation.. -65-
d. Causes of Deflation.. -65-
e. Reversing Deflation.. -65-
f. Things to do in a Deflation.. -66-

IV. U.S. GOVERNMENT ECONOMICS. -66-
A. THE ANNUAL BUDGET. -66-
B. GOVERNMENT REVENUES AND EXPENSES; SURPLUS AND DEFICIT. -67-
1. Annual Surplus/Deficit.. -67-
C. GOVERNMENT LIABILITIES; THE NATIONAL DEBT... -67-
1. U.S. Treasury Negotiable Instruments. -68-
a. The Negotiable Instruments. -68-
b. The Sale/Purchase Process.. -68-
c. Borrowing Versus Investment. -68-
d. The National Debt. -69-
D. THE FEDERAL RESERVE SYSTEM.. -70-
1. History of the FED.. -70-
2. The Creation of Money. -71-
3. Structure of the FED. -71-
4. The FED Board of Governors.. -71-
5. The FED Open Market Committee. -71-
6. The Regional Federal Reserve Banks. -72-
7. Member Banks.. -72-
8. Current Politics.. -73-
E. GOVERNMENT-SPONSORED ENTITIES; GOVERNMENT GUARANTEES -73-
1. Fannie Mae.. -73-

2. Freddie Mac.. -73-
3. Ginnie Mae.. -73-
4. PBGC.. -74-
F. INTERNATIONAL COMMERCE.. -74-
1. Balance of Trade.. -74-
2. Balance of Payments.. -74-
3. Net Capital Outflow. -74-
4. Current Account Balance.. -74-
5. Immigration... -75-
6. Oil.. -75-
7. International Organizations... -76-
8. Carry Trade.. -78-
9. Protectionism vs. Free Trade.. -78-
10. Exchange Rate.. -78-
11. Asian Financial Crisis.. -79-

V. THE GOVERNMENT'S ECONOMIC TOOLS: MONETARY POLICY; FISCAL POLICY; BAILOUTS; REGULATION. -79-
A. MONETARY POLICY... -80-
1. Money Supply.. -80-
2. Reserve Requirement. -81-
3. Federal Funds Rate.. -82-
4. Liquidity Trap. -82-
5. Discount Window Lending.. -83-
6. Inflation Targeting. -83-
7. A Desirable Rate of Inflation.. -84-
8. Lending Outside FED Control.. -84-
9. The FED's Balance Sheet.. -85-
B. FISCAL POLICY.. -85-
1. Government Spending.. -85-
2. Taxation.. -86-
3. Government Spending During a Recession.. -87-
4. Tax Rebates During a Recession.. -88-
5. Fiscal Stimulus Bill... -88-
C. BAILOUTS.. -89-
D. REGULATION.. -91-

VI. U.S. ECONOMIC DATA AND INDICATORS. -93-
A. ECONOMIC DATA. -93-
1. Gross Domestic Product. -94-
2. Industrial Production and Capacity Utilization... -94-
3. Inventories... -95-
4. Employment Statistics. -95-

5. Housing and Construction. . . . . . -97-
6. Productivity... . . . . . -97-
8. Real Earnings. . . . . . -98-
9. Personal Income and Spending. . . . . . -98-
10. Retail Sales.. . . . . . -98-
11. Consumer Debt. . . . . . -98-
12. Yield Curve... . . . . . -98-
13. Inflation Measures. . . . . . -99-
a. Consumer Price Index... . . . . . -99-
b. PCE Price Index.. . . . . . -100-
c. Producer Price Index. . . . . . -101-
d. GDP Implicit Price Deflator.. . . . . . -101-
e. Yield on TIPS.. . . . . . -101-
14. Federal Reserve Beige Books. . . . . . -101-
15. Other Indexes. . . . . . -102-
B. SURVEYS OF SENTIMENT ABOUT THE ECONOMY. . . . . . -102-
1. Surveys of Economists, Businessmen, and Investors.. . . . . . -102-
a. The Fed. . . . . . -102-
b. Survey of Professional Forecasters. . . . . . -102-
c. The Blue Chip Survey... . . . . . -103-
d. The Livingston Survey.. . . . . . -103-
e. The CEO Confidence Survey.. . . . . . -104-
f. Index of Investor Optimism.. . . . . . -104-
2. Surveys of Consumer Sentiment... . . . . . -104-
a. Consumer Confidence Index... . . . . . -104-
b. Survey of Consumer Sentiment.. . . . . . -105-
c. Consumer Comfort Index.. . . . . . -105-
d. Comparing the Consumer Surveys.. . . . . . -105-
C. CYCLICAL INDICATORS.. . . . . . -105-
1. Leading Indicators... . . . . . -106-
2. Coincident Indicators.. . . . . . -106-
3. Lagging Indicators... . . . . . -106-
D. GOVERNMENTAL RESEARCH BODIES. . . . . . -107-
E. NON-GOVERNMENTAL RESEARCH ORGANIZATIONS. . . . . . -107-
1. National Bureau of Economic Research. . . . . . -107-
2. The Conference Board. . . . . . -107-
3. National Association for Business Economics. . . . . . -108-
F. OTHER INDICATORS.. . . . . . -108-
G. POPULATION DATA.. . . . . . -108-

VII. STATE AND LOCAL GOVERNMENT ECONOMICS... . . . . . -109-
A. DIMINISHING REVENUES.. . . . . . -109-
B. REDUCING EXPENDITURES.. . . . . . -109-

C. DECLINING PUBLIC WELFARE SPENDING.. -110-
D. SELLING ASSETS... -110-
E. FEDERAL STIMULUS LAWS.. -110-
F. THE 366 MICRO ECONOMIES.. -111-
G. TEXAS.. -111-
H. TEXAS CITIES.. -111-

VIII. THE MIDDLE CLASS.. -112-

IX. HEALTHCARE COVERAGE AND COST.. -114-
A. WHO PAYS WHAT?. -115-
B. EMPLOYER-BASED HEALTH INSURANCE.. -115-
C. RETIREE MEDICAL BENEFIT PLANS.. -115-
D. GOVERNMENT EMPLOYEE MEDICAL PLANS.. -116-
E. MEDICARE. -116-
F. MEDICAID... -117-
G. SCHIP.. -118-
H. THE UNINSURED... -118-
I. FAILURE TO PREVENT DISEASE.. -118-
J. FUTURE DEMOGRAPHICS... -118-

X. OLD AGE AND RETIREMENT.. -119-
A. DEFINED BENEFIT RETIREMENT PLANS (PRIVATE).. -119-
B. DEFINED CONTRIBUTION PLANS.. -121-
C. SOCIAL SECURITY.. -122-
D. MAINTAINING STANDARD OF LIVING DURING RETIREMENT.. -124-
E. POOR FINANCIAL LITERACY... -126-
F. WORSENING FINANCIAL CONDITION OF THE ELDERLY.. -127-

XI. INVESTMENT STRATEGIES. -128-
A. INVESTMENT RISKS... -128-
1. Systematic Risk... -128-
a. Country Risk. -128-
b. Currency Risk. -128-
c. Foreign Investment Risk.. -128-
c. Inflation Risk. -128-
d. Interest Rate Risk.. -129-
e. Legal Remedies Risk.. -129-
f. Legislative Risk. -129-
g. Sociopolitical Risk. -129-
2. Unsystematic Risk... -129-
a. Call Risk.. -129-
b. Competitive Risk.. -129-

c. Credit Risk.. -129-
d. High Yield Risk.. -130-
e. Industry Risk.. -130-
f. Legal Remedies Risk.. -130-
h. Management Risk.. -130-
i. Operational Risk.. -130-
j. Project Risk. -130-
3. Leveraging Risk.. -130-
4. Risks Connected to Bonds.. -131-
B. BUBBLES, CRASHES, AND BOOM/BUST CYCLES.. -131-
C. DIVERSIFICATION. -134-
D. PORTFOLIO MANAGEMENT THEORY.. -134-
E. THE STOCK MARKET... -135-
1. Bull Market.. -135-
2. Bear Market... -136-
3. Dow Jones Industrial Average.. -136-
4. S & P 500.. -136-
5. Famous Stock Market Crashes.. -137-
6. Short Selling.. -137-
7. FINRA... -138-
8. Brokerage House Failures.. -138-
F. LEVERAGED INVESTING... -139-
G. SELF-GUIDED INVESTING: STOCKS.. -140-
1. Quality Investing... -140-
2. Value Investing.. -141-
3. Growth Investing. -142-
4. Dividend-Paying Stocks.. -142-
5. Fundamental Analysis... -142-
6. Technical Analysis.. -142-
7. Insider Transactions.. -143-
8. Follow the Winners... -143-
9. Talking Heads.. -144-
10. Web Pundits; Emails. -144-
11. Timing the Market.. -144-
12. Dollar Cost Averaging.. -144-
13. Some Other Resources.. -144-
14. Random Walk Hypothesis.. -144-
H. SELF-GUIDED INVESTING: BONDS. -145-
1. Yields; Premiums.. -145-
2. Federal Government Securities. -146-
3. State, Municipal, and Utility Bonds.. -147-
4. Corporate Bonds.. -147-
5. Foreign Bonds.. -147-

6. Rating Agencies.. -147-
7. Diversification... -147-
I. MONEY MARKET FUNDS.. -148-
J. MUTUAL FUNDS. -148-
K. ETFs.. -149-
L. COMMODITIES. -149-
M. DERIVATIVES. -150-
1. Futures Contract.. -150-
2. Swap Agreements.. -150-
N. REAL ESTATE. -151-
O. PRECIOUS METALS. -151-
P. HEDGE FUNDS. -153-

XII. FINANCIAL FRAUDS AND OTHER CAUSES FOR CONCERN.. -154-
1. Insider Trading.. -154-
2. Stock Price Manipulation.. -154-
3. Freddie Mac and Fannie Mae.. -154-
4. Accounting Fraud.. -154-
5. Crooked Investment Reports. -155-
6. Mutual Fund Fraud.. -155-
7. Back-Dated Options.. -155-
8. Ponzi Schemes.. -155-
9. Conflicts of Interest for Government Employees.. -156-

XIII. ECONOMIC RISKS.. -157-
A. ANNUAL BUDGET DEFICIT; NATIONAL DEBT; FEDERAL INSOLVENCY. -157-
B. AMERICAN TRADE DEFICIT.. -159-
C. CHINA.. -159-
D. OVERINVESTMENT IN STOCKS; UNDERINVESTMENT IN FIXED INCOME. -160-
E. LEVERAGED INVESTING. -160-
F. INCREASED GOVERNMENTAL PRESENCE IN THE ECONOMY.. -160-

XIV. SOURCES.. -161-

Practicing Family Law in a Depressed Economy

Part II: The Economy

by

Richard R. Orsinger
Board Certified in Family Law,
and Civil Appellate Law
by the Texas Board of Legal Specialization

I. INTRODUCTION.

A. THE INTENT OF THE ARTICLE. We are in the worst recession in seventy years, and it has the potential to become an economic depression. As family lawyers, this impacts us in three ways: it affects our clients, who have less wealth and more debt; it affects our law practices, which are threatened with declining income; and it affects our personal lives, where we have to increase our work hours to maintain old income levels, adjust to reduced personal expenditures and diminished retirement security, and deal with spare time resulting from lack of work. Part I of this article discusses these three domains.

We can empower ourselves, and do a better job of representing our clients, if we take steps to understand our current economic environment and what the future might hold. This requires a different skill set from what we normally use as lawyers. Part II of this article examines the way our economy operates, in an effort to understand what has happened, and what might happen next.

B. TIPS ON USING THE ARTICLE. This Article deals with the general and with the specific. You can read it from start to finish. You can skip sections that don't interest you and read the ones that do. Or, you can use it as a reference work, to explore specific issues and find useful references to other sources of information. A glossary of important economic concepts and terms is included at Section II.D. Whenever a term is used in the Article that is explained or defined in the glossary, the term is marked with an asterisk. Other terms and topic are presented in detail throughout the Article, in which event there is a cross-reference. Citations to papers and chapters of books are given in social science format. The full reference for such citations are listed at the end of the Article.

C. SOURCES OF INFORMATION. The best entré to on any economic issue is Wikipedia, which contains anonymously-written articles that explain basic concepts and give references to other information sources that are authoritative and provide greater depth to the analysis. Day in and day out, the least biased and most reliable source of government analysis of macroeconomic (i.e., economy-wide) issues is the Congressional Budget Office, which seems to resist political pressure more successfully than Executive Department economists. The web sites of the individual Federal Reserve Banks contain much helpful information, including research papers (skip the formulas and read the introductions and conclusions). In particular, the speeches of Richard W. Fisher, President and CEO of the

Federal Reserve Bank of Dallas, are always entertaining and insightful. Additionally, several economic-oriented web sites directed towards the lay reader contain short articles written by well-qualified and sometimes famous economists. Some of these articles are cited throughout this Article. The Nobel Prize website gives excellent overviews of the work of Nobel Laureate economists, also cited in various places in this Article. Least authoritative but sometimes the most interesting are the blogs and posts of various foundations and politically-oriented web sites that offer a diversity of views and strong doses of skepticism as to the hidden agendas behind governmental actions and shortcomings in the currently-prevailing economic theories.

II. UNDERSTANDING THE ECONOMY.

A. LIKE THROUGH A GLASS DARKLY.

Somewhere between the Presidential primaries in May 2008 and the Presidential election in November 2008, America's primary concern ceased to be the war in Iraq and became instead the economy. The economy is the biggest thing we do in this country, but it gets little of our attention – until we are personally affected by some negative aspect of the economy. How do we learn about the economy? The U.S. Government gathers lots of information, and releases lots of statistics. Over the past forty years the U.S. Government has been modifying certain financial definitions and statistical measures, government economists say to make them more accurate and more useful, skeptics say to make them look better. Realistically, you would hardly expect, and probably would not want, our government to say things about our economy that spread pessimism or sow the seeds of panic. So some of the numbers we use to discuss the economy are themselves controversial, before we even get to interpreting the numbers.

Let's look at theories about the economy. Viewed historically, economic theories that held sway at one time are now ignored or discredited. Economists who once were revered are now disparaged. Current theories about the economy are often over simplified, and conflict with each other, and none can explain all the facts. As we study more, we are drawn toward the conclusion that the theories economists are using are hypotheses that have yet to be validated.

So let's move past economic theories. Let's look at the people who have made money – big money. People like Bill Gates (worth $40 billion), Warren Buffett ($37 billion), Carlos Slim ($35 billion), Lawrence Ellison ($22.5 billion), Michael Bloomberg ($16 billion - even has a financial news network), and George Soros ($11 billion), to name a few who have become wealthy beyond all contemporary or historical measure. You can buy their books, and read their speeches, but each of their paths to success was unique and cannot be duplicated.

Then let's turn to the politicians – the people who pass the laws that govern our economy. Let's see, there's the current Chairman of the Senate Banking Committee, whose oversight responsibilities some claim are compromised by special treatment from financial interests. And there's the current Chairman of the House Financial Services Committee, whose personal ties to upper management of Fannie Mae have raised suspicions. And there's the Speaker of the House of Representatives who, well, whose statements speak for themselves. For all the money we have spent educating them, for all the witnesses that have testified before them, for all the fact-finding missions we have paid them to take, it appears that they understand politics better than our economy.

Let's turn to the managers – the men and women who run our economy. They are surely among the smartest people alive today. There's the head of the Federal Reserve System, Ben Bernanke. Mr. Bernanke has a Ph.D. in economics from MIT and taught economics at Princeton University, and specialized in studying recessions, including the

Great Depression. And then there's the Secretary of the Treasury, Timothy Geithner, who has an M.A. in international economics from Johns Hopkins University's School of Advanced International Studies. And there's the President's Chief Economic Advisor, Lawrence Summers, who has a Ph.D. from Harvard University, became one of the youngest tenured professors in Harvard's history, and later was President of Harvard and is a recipient of several prestigious awards. These men are truly smart (although Geithner is not smart enough to fill out his tax return correctly), but do they understand the American economy? Only time will tell. The last Federal Reserve System Chair, Alan Greenspan, revered in his day as a truly wise economist, is now blamed for the worst post-World War II recession, which we are currently experiencing. Because these economists' jobs are so political and their comments can trigger movement in world markets, we must assume that once these managers of the economy enter the political world they start to say things to achieve a certain effect.

In light of the foregoing, and since we are in the economy, and dependent on the economy, and help make the economy, maybe we should improve our ability to draw our own conclusions about the economy, and thereby improve our place and our clients' place in the economy.

B. ECONOMISTS YOU SHOULD KNOW. We can probably agree that the greatest names in history are people who founded religions. Next is a rogues gallery of political and military leaders who are remembered for the excessive death and suffering they caused. Close behind them are the economists.

> The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist.
>
> John Maynard Keynes.

What did these economic giants say and do that impacts our lives today?

1. Mercantilism. "Mercantilism" was an economic theory that held sway in Europe in the 1500-1800s, that said a country's prosperity was dependent upon its supply of capital, measured by the bullion held by the state. The accumulation of capital was the result of a positive balance of trade, which the government encouraged by granting monopolies and enacting protective tariffs, by looting, and by establishing and then exploiting colonies. A prominent exponent of mercantilism was Jean-Baptiste Colbert, finance minister of France for 22 years under Louis XIV, who attempted unsuccessfully to build the French economy into a unitary whole, but who did succeed in encouraging the development of manufacturing in France. While mercantilism was the first modern economic theory, mercantilism had no intellectual father. Writings on the topic were predominantly from merchants, such as Thomas Mun, whose piece, *England's Treasure by Forraign Trade*, was published by his son 1664 after Thomas's death. Under mercantilism, industry and commerce was seen as the primary source of wealth, and agriculture only fed the workers and provided commodities to trade to foreign countries. The age of mercantilism saw the rise of standing armies, military navies, and merchant marines. Mercantilism gave way to "classical economics" expounded by philosophers and academics, such as Turgot, Smith, Ricardo, Montesque, and others, beginning in the late 1700s. The mercantilist view was replaced by the idea that free international trade benefitted everyone, although cheap imports did result in unemployment in certain sectors of the local economy. The decline of the American clothing manufacturing industry reflects this view.

2 Turgot. Anne Robert Jacques Turgot was born in Paris in 1727 to a well-connected but not wealthy Norman family with several generations of government administrators. He received a bachelor of theology and finished his education at the Sorbonne, but instead of entering the Church he followed a life of judicial and administrative service. In 1774, Louis XVI appointed Turgot as minister of finance for France, for a controversial two-year term in which he attempted to reform taxation, abolish guilds, and implement free trade policies. Opposition from the nobility and from government administrators, which reached a climax over a memo he wrote opposing French military spending, got Turgot fired, and his edicts rescinded. Turgot retired to literary pursuits, and died in 1781. Turgot wrote on a variety of subjects, including the course of human progress, free market economics, the role of labor and capital in commerce, the inflationary tendencies of paper money, the evils of deficit spending to finance war, etc. In 1759, Turgot published an elegy to his mentor Marquis de Gournay, in which Turgot attacked mercantilism as a system of cartels and special privileges conferred by the state that impaired buyers who seek the best product for the best price and sellers who seek a price sufficient to encourage further production. Turgot preferred free domestic and foreign trade. Attacking mercantilism, Turgot commented that all commercial transactions are reciprocal, and that it was absurd to try to sell to foreigners without buying anything in return. He suggested that self-interest was the prime mover in trade, and that individual interest in a free market always coincided with the greater good. He suggested that government's proper role was to protect individuals against great injustice and the nation from invasion. He believed that buyers would punish the cheating merchant by refusing to trade with him. He suggested that regulations and inspections involve expense, which is a tax on merchandise that raises the price of domestic products and discourages exports. Turgot mentioned Gournay's laissez-faire doctrine, based on the impracticality of government trying to perform continuous inspection of a multitude of transactions too immense to know, and trying to manage a multitude of ever-changing circumstances that cannot even be foreseen. Turgot pointed out that most people favor commercial freedom, but with exceptions that are generally based on self-interest. Turgot's most famous work on economics was prepared as a simplified explanation of economics to two Chinese students who were returning to China after an education in France. The work, *Reflections on the Formation and the Distribution of Riches,* was written in 1766 and published serially in 1770. Although it predates the industrial revolution, it is as clear an economic text as you will ever find, and it foreshadows (perhaps is the first to understand and reveal) economic theories that later made Adams Smith and Karl Marx famous. A copy of this work is at <http://files.libertyfund.org/files/122/0530_Bk.pdf>. Thomas Jefferson placed a bust of Turgot in the entryway at Monticello.

3. Smith. Adam Smith was born in 1723 in Scotland. He was raised by a widowed mother. He received a scholarship to the University of Glasgow, and then studied at Oxford. He returned to the University of Glasgow where he became a professor of logic and then moral philosophy. After 14 years, he retired and became a tutor to a young duke. Smith and the young duke toured France and Switzerland, where Smith came into contact with Voltaire, Rousseau, Quesnay, and Turgot. Smith retired to his native home on a pension from the duke, where he wrote his monumental work, *An Inquiry Into the Nature and Causes of the Wealth of Nations*, published in 1776. Smith died in Edinburgh, in 1790.

The Wealth of Nations brought about a profound change in economic thought, and even wider thought. Smith argued that persons acting in their self-interest had a beneficial impact on others, because the competitive market required a worker to produce something of value to others. In his most famous passage, Smith (who was a Deist)

wrote:

> By directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it.

Smith saw prosperity as a result of the increasing division of labor, where workers specialized in one part of the manufacturing process and thereby increased their productivity. His example of specialization in a pin factory is famous. In America, Henry Ford applied this principle to automobile manufacturing, in the process changing the world. Smith believed that in an economy free of governmental restrictions, resources would be applied to generate the greatest rate of return. Smith suggested that wages would be higher for trades that are more difficult to learn; otherwise people would not spend the time, money, and foregone income, to learn the trade. Today, the practice of medicine, and medical specialization, reflects this principle, as does the practice of law and legal specialization. (Note that, in both fields, higher earnings are facilitated by licensing requirements that restrict competition).

In keeping with these principles, Smith endorsed free trade between nations, and argued that attempts to perpetuate colonialism in America, in order to maintain a nation of captive customers, cost more than the benefits. Recall that *The Wealth of Nations* was published in the same year that American colonists declared independence.

The principles that Smith expounded are very much a part of our modern economic life. While he did not invent all of these ideas, he happened to write in English, and live in a country that rode the rising tide of expanding world trade to international prominence. Smith is therefore recognized as the most significant economic thinker in modern times. You might say that he is the Isaac Newton of economic theory ("If I have seen further that others it is because I stood on the shoulders of giants").

4. Ricardo. David Ricardo was born in London in 1772. Starting at age 14, he assisted his father–a stock broker--in the London stock exchange. During the stock collapse around the time of the Battle of Waterloo, Ricardo invested in British stocks, and with Napoleon's defeat he made a handsome profit. In his writing on economics, Ricardo divided the economy into landowners, workers, and capitalists. In his book *On the Principles of Political Economy and Taxation*, published in 1817, Ricardo elaborated on an old concept, the "labor theory of value,*" whereby the relative "natural" prices of commodities can be compared by the relative hours of labor expended in production, which later became a tenet of Marxist economics. Ricardo opposed protectionism, and wrote that free trade was good for all countries, for each country would develop a "comparative advantage" that it could specialize in for purposes of international trade. Ricardo also explained an important "theory of rent" (where landowners receive profit in excess of social utility), and the "law of diminishing returns" (from which one could escape only through technical progress and foreign trade). He believed that technical progress would lead to investment of capital in labor-saving machinery, which would lead to laying off workers, resulting in a pool of unemployed that would put downward pressure on wages and impoverish the working classes, another idea that resonated later with Karl Marx. However, Ricardo also believed that, if growth from reinvestment of capital exceeded the growth in population, wages would rise due to demand exceeding supply. Ricardo saw a trade off between wages and profits, because the revenue from selling manufactured items was split between wages and profits. In modern economics

the trade-off is complicated by the fact that workers can, and many do, own stock in their corporate employer and receive some profits in the form of dividends. Ricardo was very rich by age 41. His work was highly acclaimed in the 19th Century, but his ideas were subsumed by later writers and his contributions to economic theory are not much talked about today. Particularly not remembered today is Ricardo's origination of the theory of the business cycle which dominates economic thinking today. Ricardo explained that industrialization was accompanied by the rise of banks as a source of lending. Banks issued notes and credits in excess of their actual deposits, thus expanding the money supply. The extra money in circulation caused expenditures to increase, which increased prices. The increase in prices caused businesses to expand in an inflationary boom. As prices in England rose, the products of other countries was cheaper, depressing exports and increasing imports. England's balance of trade turned negative and gold flowed out of the country to redeem English currency in the hands of foreign producers. This shrank the capital based of English banks, causing them to reduce credit in order to return their loans to a healthier ratio with their capital. This restriction of credit started the economic downturn. If banks did not act soon enough, and quick enough, the public would eventually lose confidence in the banks, which would start a run on banks, leading to a fast reduction in money supply. This caused prices to fall, businesses to close, and unemployment to rise. The downturn would continue until natural pricing was restored, which led to economic recovery. Thus, Ricardo believed that excessive expansion of the money supply resulted in inflationary overpricing that ultimately collapsed in a deflationary adjustment which leads to the next inflationary overpricing, and the cycle is thus completed, only to start afresh.

5. Marx. Karl Marx was born in Prussia in 1818. He studied in Bonn and later Berlin, and received his doctorate at age 23. He was a devotee of the German philosopher Gerog Hegel, and was considered to be a political radical, which closed off a path to academia and led to his exile in Paris in 1843. There he met Frederich Engels. In 1848, Marx and Engels co-authored *The Communist Manifesto*. In 1849, Marx moved to London, where he studied David Ricardo and Adam Smith and wrote his magnum opus, *Das Kapital* (1867). Marx was not a practical man, and had to be supported by his friend Engels. Marx died in poverty.

Marx's economic ideas are a synthesis and extension of writings dating back to Aristotle, in many languages, which are reflected in copious footnotes in *Das Kapital*. Marx's views are centered on Ricardo's "labor theory of value,"* which holds that the value of all commodities can be objectively measured in relative terms, based on the number of hours used to produce each commodity. Following from his premise that all value derives from labor, Marx theorized that the industrialist, capitalist, or business owner could only make a profit from selling goods by paying workers less than they were worth. Marx differentiated the value imparted by labor from the "surplus value" introduced by capitalists, who bought commodities at one price and sold them for a higher price. This surplus value was reinvested by capitalists over-and-over again, until it gave rise to capital, which in turn was loaned out at interest, at which point money was begetting money. Nowadays, at least in America, value derives from the buyer's wants, and profits are seen to result from the labor input plus the rewards for the businessman's risking his time and capital, and employing his management skills. In today's economy, capital has the upper hand over labor.

Marx saw the market economy as forcing undesirable choices on people, stripping them of the ability to be free and creative. This in turn leads to alienation of the worker. This principle can be seen in action, where people work all week long at a job they dislike just to have enough money to enjoy themselves on the weekends and

holidays. Marx's solution was to allow people to be happy, by eliminating private property and with it the stress of competition, profit-making, and the like. Later Marxist thinking, as notably manifested in the U.S.S.R. and Peoples' Republic of China, replaced the market mechanism with a "command economy," controlled by government planners. Unfortunately, the modern economy is too complex for central planners to control, and inevitably unanticipated problems arise that create bottlenecks that lead to inefficiencies – and at times in the U.S.S.R., China, and North Korea, mass starvation. Additionally, history shows that government employment evolves into bureaucracy, with its aversion to risk-taking, which stifles innovation and economic growth, and its suppression of initiative, since no greater reward comes from working harder or longer. Add to that the detrimental effects of having government officials (especially elected ones) deciding who receives what economic benefits, which leads to cronyism, corruption, and in a democracy to vote-buying. Free market proponents believe that politicians, and the people they hire, are less likely to be good businessmen, good warriors, or good artists, than the ones that would rise to the top in a competitive environment, and that the market mechanism does not play favorites.

Marx also noticed that boom-bust cycles did not exist in agrarian economies, and he attributed that phenomenon to industrialization and the development of capitalism. Marx believed that boom-bust cycles would get progressively worse until things got so bad for the working class that they would revolt and destroy the capitalist system. The view that boom-bust cycles are inherent in the modern market economy is now widely accepted. Pro-free-market theorists say that markets tend toward equilibrium, and the fact that markets overadjusts is inescapable. Cycles of growth and decline, as distinguished from straight-line-growth, in the economy are tolerable as long as the swings are not too severe. The prevailing view is that government should intervene in the economy to act countercyclically, so as to smooth out the extremes, and the primary debate is what tools to use at what times to achieve that purpose. Free-market theorists say that government intervention always makes things worse. People repeatedly forget that many booms are amplified by speculators using cheap and excessive credit to drive asset values too high and, when asset values turn downward, the downturn is accelerated and exacerbated by the lenders calling the speculative loans due, which requires the speculators to sell those assets in a declining market in order to pay off the debt used to buy them.

His writings reflect that Marx saw post-agrarian history as a struggle between capital and labor, or capitalists and workers. Marx predicted that wealth would concentrate among the rich, to the point that the exploited workers would revolt, depose the ruling class, then become the next ruling class which would in turn exploit its workers, be deposed, ad infinitum. Marx had a suggestion for ending this repetitive dialectical process. He envisioned a final revolution, the establishment of a "dictatorship of the proletariat" that would outlaw private ownership of property, and lead to a classless society and the withering away of the state. The only notable revolutions under this ideology proved to be revolutions of peasants, not industrial laborers, and they occurred in the exploitative agrarian societies of Russia and China, not the industrial countries. The Communist government of Russia, which through imperial expansion grew into the U.S.S.R., eradicated private ownership and replaced the marketplace with a centrally-planned and autocratically-run economy, which proved to be a failure and collapsed after 60+ years. The Communist Party in China also attempted to eradicate private ownership of property, but beginning with Den Xaioping (who said "It is glorious to be rich") the Communist Party in China has managed to perpetuate its political control by becoming quasi-capitalistic and allowing private ownership of some property and

allowing people to accumulate wealth. Marx's prescription for an idyllic socialist future has not borne out. However, his perspective that capitalism has fatal structural flaws still has devotees, although dwindling in number, and even today there are indications that systemic problems with free markets and free trade may lead to undesirable outcomes that may require a rethinking of our economic philosophy.

In the United States, government regulations reigned in the worst abuses of workers' time and safety, and the labor movement of the 20th Century forced business owners to share more of the profits with workers. In professional sports, labor (i.e., talent) is paid fabulous sums of money. However, in recent decades, wealth has become more polarized, with the rich getting richer and the workers getting poorer. Interestingly, it appears that now the management elite is exploiting both capitalist owners and workers by awarding themselves extravagant levels of compensation. But parts of America's middle class are either stagnating or slipping down the economic scale, suggesting that systemic problems exist in the capitalist model. A likely culprit for this circumstance is two conditions that Marx did not live to see: the proclivity for governments to run perennial and ever-increasing deficits, and for central banks to engineer inflation in order to keep up with the national debt. Chronic inflation reduces the purchasing power of the currency, and if wages don't keep pace with inflation, then workers get poorer and poorer. Many economists have likened inflation to a hidden tax, and it falls particularly upon lenders, workers, and retirees on fixed incomes.

6. Keynes. John Maynard Keynes was born in Cambridge, England in 1883. His father was an economics professor and his mother the first female mayor of Cambridge. Keynes studied at Eton and then Cambridge, where he received a BA degree in mathematics. He was persuaded by legendary British economist Alfred Marshall to become an economist, but he was self-taught in the field. Keynes held various economic positions with the British government, most notably Great Britain's economic representative to the 1919 Versailles Peace Conference that concluded WWI. At this conference, using statistics provided by the German government, Keynes argued that requiring excessive reparations would bankrupt the German government, and Keynes resigned in protest when the conference went that direction. Keynes shortly thereafter published his book, *The Economic Consequences of the Peace*. He followed up with an important book on probability theory and several more economics books. Keynes published his most famous book, *General Theory of Employment, Interest and Money*, in 1936, during the Great Depression. Keynes had previously been a monetarist, but in the *General Theory* Keynes suggested that the driving force of the economy is not the dynamics of the free market but rather aggregate (total) demand for goods and services created by households (consumption), businesses (investment), and the government (i.e., welfare transfers, spending on public works and hiring the unemployed). Keynes rejected the classical economics view that free markets had self-correcting mechanisms that lead to full employment and instead suggested that governments should enter in the economy to achieve full employment and price stability. Keynes' theories fell out of favor during the 1980s stagflation, which saw both high unemployment and high inflation. Many people credit the taming of inflation to the FED's* raising interest rates, albeit at the expense of recession and high unemployment. Since that recession, the FED has used monetary tools to closely control inflation, and the economy has not required government spending to stimulate the economy. Former Treasury Secretary Lawrence Summers said of Keynes:

> Keynes was a profoundly important economic thinker, and his notion that the right public policies created the environment in which markets could work and markets could flourish remains a valid one and a

> powerful one to this day. The particular concerns that Keynes focused on as he wrote the general theory of a demand-short economy with very low interest rates are not the dominant economic conditions that prevail anymore. For that reason, many of his specific policy prescripts in terms of large budget deficits to chronically increase demand appear much less relevant today. But there's no question that Keynes was in all likelihood the most important economist of the 20th century, though in part he was important because of the ideas that he stimulated in others and the reactions that he stimulated as much because of his own policy prescriptions.

<www.pbs.org/wgbh/commandingheights/shared/minitextlo/int_lawrencesummers.html#2>. Since Summers' comment was written, our economy has entered a demand-short economy with very low interest rates, giving Keynesian prescriptions renewed relevance. For the most part, however, the Keynesian revival has occurred among policymakers and not in the economics departments of universities.

7. Austrian School/Mises/Hayek. The Austrian school of economics began with Carl Menger. Menger was born in 1840 in Poland (then part of the Austro-Hungarian Empire), where he acquired a law degree. After graduating, he worked as a journalist, reporting and analyzing market news. Menger noticed that classical economic theory on how prices are determined did not match what people actually did in the marketplace. In 1871 he published his famous book, *Principles of Economics*, in which he replaced the labor-based theories of value promulgated by Adam Smith and David Ricardo with his theory of marginality. Menger reasoned that the proper focus of economics is on the individual, and his or her choices. Menger believed that decisions were made by individuals at the margin, rather than at an aggregate or average level. The year after his book was published, at age 32, Menger became a professor of law at the University of Vienna, and the next year the University's principle professor of economics. Menger became close to members of the royal family, and was elevated to high positions in the government. Ludwig von Mises was a student at the University of Vienna, where he earned a doctorate in law and economics in 1906. Mises was influenced by Menger's ideas. Mises published his book, *The Theory of Money and Credit*, in 1912, in which he applied Menger's marginal utility theory to money, which Mises said, is valued for its usefulness in purchasing goods rather than for its own sake. In his book, Mises also suggested that business cycles are caused by the uncontrolled expansion of bank credit. Mises was a critic of socialism, saying that a socialist government could not make the economic calculations necessary to efficiently organize a complex economy. Mises's student, Friedrich Hayek, further extended Mises's view of the business cycle. Hayek, like Adam Smith, believed that the market did a remarkably good job of coordinating wants, but that the market occasionally broke down resulting in wide-spread unemployment. One contributing factor to the breakdown was excessive growth in the money supply, which drove down interest rates, making credit artificially cheap, thus enabling businessmen to make capital investments they should not have made. This overcapacity led to a "bust," which was the process of digesting the over-investment until capacity matched demand. Hayek's work on the business cycle gained him the Nobel Prize in Economics. Hayek continued Menger and Mises' attacks on socialism (harking back to Gournay and Turgot), saying that the human mind did not have the data or capacity necessary to allocate resources in a complex economy; only the market, which is made up of many minds, can bring all that data to bear. Having viewed the development of National Socialism in pre-war Germany up close, Hayek was disturbed by advocates of British socialism whom he saw as advocating greater government controls over people's economic lives. From 1950

to 1962, Hayek worked at the University of Chicago, then moved back to Germany and later Austria. In 1974 he received the Nobel Prize in economics. Milton Friedman is on record as saying that the Austrian theory of the business cycle theory is not supported by empirical evidence. The theory was also rejected by Nobel Prize-winning economist Paul Krugman, who suggested that recessions are cause by a large part of the private sector trying to increase its cash reserves at the same time. <www.slate.com/id/9593>. See the "Paradox of Thrift," Section III.H below. Of Hayek, Treasury Secretary Lawrence Summers said: "Hayek's ideas that the price system is a consolidator of information and a distributor of knowledge, as well as simply a way of assuring efficiency and exchange, is probably as penetrating and original an idea as microeconomics produced in the 20th century. He is a man who is very much ahead of his time in his warnings with respect to totalitarianism, and he is a person who, through his disciples, has probably influenced far, far more people than have ever read his book." <http://www.pbs.org/wgbh/commandingheights/shared/minitextlo/int_lawrencesummers.html#16>.

8. Friedman. Milton Friedman was a first generation American, born in 1912 and raised in Brooklyn, New York. He worked his way through college at Rutgers, where he met Arthur F. Burns (the future FED* Chairman who was teaching at Rutgers while working on his Ph.D. at Columbia). Friedman went to the University of Chicago for post-graduate work. Friedman later worked in Roosevelt's New Deal bureaucracy, then for the National Bureau of Economic Research. Friedman co-authored, with future Nobel Prize Winner Simon Kuznets, a 1940 book on the income of professionals, which served as Friedman's Ph.D. dissertation. Publication was delayed for some years due to its conclusion that the monopoly power of the medical profession had raised physicians' income relative to that of dentists. During World War II, Friedman worked at the U.S. Treasury and later at Columbia University where he was involved in the mathematics of weapons design, military tactics, and metallurgy. After the war, Friedman returned to teach at the University of Chicago. Arthur Burns induced Friedman to rejoin the National Bureau of Economic Research to study the role of money in the business cycle. Friedman led a revival of statistically-based monetary studies at the University of Chicago, involving among others, economic historian Anna Schwartz (mentioned below). Friedman went to Paris in 1950 to help administer the Marshall Plan, which led Friedman to propose free floating exchange rates in support of a European common market. Friedman spent a year at Cambridge University, where he claims to have had friends among both the Keynesians and the anti-Keynesians. Friedman was an economic adviser to Republican Presidential candidate Barry Goldwater and later candidate Richard M. Nixon. Friedman alternated writing a Newsweek magazine column with economists Paul Samuelson and Henry Wallich. In the 1970's, Friedman moved to San Francisco, California and recorded ten 1-hour programs for PBS entitled *Free to Choose*, where Friedman extemporized on economic matters with a tilt toward the free market and minimal government regulation. In 1976, Friedman received the Nobel Prize in Economics. Friedman died at age 94 in 2006. <nobelprize.org/nobel-prizes/economics/laureates/1976/friedman-autobio.html>. Friedman gave us many memorable quotations, but for the purposes of this paper the most relevant is that "inflation is always and everywhere a monetary phenomenon."

After Keynes but prior to Friedman, economists ignored money and monetary policy and their effects on the business cycle and inflation. Friedman established that "money matters." Friedman also studied time lags of economic policies, which the Nobel Committee considered to be one of his most fruitful contributions. Friedman concluded that, given the time lags, many governmental policies kick in at times that actually destabilize the economy, and Friedman

advocated that monetary policy be limited to the simple goal of increasing the money supply at a stable rate. Friedman also wrote on the causes of inflation, and the diffusion of wage and price increases.

Friedman believed that a market economy works better with minimal governmental involvement. Friedman supported free international currency exchange rates, and predicted that the post-World War II Bretton Woods regime of currencies, which were pegged to the U.S. dollar which was in turn pegged to gold, would break down, which occurred in 1971 when President Nixon took America off of the gold standard.

Scholastically Friedman is most famous for co-authoring, with Dr. Anna Schwartz, *A Monetary History of the United States 1867-1960*, which among other things blamed the U.S. Federal Reserve System for setting up the 1929 financial crisis and turning the ensuing recession into the Great Depression. <nobelprize.org/nobel-prizes/economics/laureates/1976/presentation-speech.html>. Friedman said: "The Great Depression, like most other periods of severe unemployment, was produced by government mismanagement rather than by any inherent instability of the private economy." Our current FED Chairman Ben Bernanke is an admirer of Friedman's work, which is evident in Bernanke's writings, speeches, and actions at the FED. President Obama's principal economic advisor, Lawrence Summers, also is a fan of Friedman's work. Friedman's monetarist views have been discredited by some economists. See Paul Krugman, *Who Was Milton Friedman* (Feb. 15, 2007) <www.nybooks.com/articles/19857>. Because Friedman's economic ideas touched the core of political beliefs, he was greatly disliked by those holding a more statist view. See, for example, Naomi Klein's speech at the University of Chicago at <www.democracynow.org/2008/10/6/naomi_klein>.

C. RECENT ECONOMISTS OF NOTE.

1. William McChesney Martin. William McChesney Martin was from Missouri. His father helped to draft the Federal Reserve Act and served on the Board of the St. Louis Federal Reserve Bank. Martin was a banker who obtained a B.A. in English and Latin from Yale, attended law school but did not finish. He was a stockbroker and in 1935, at age 31, he became president of the New York Stock Exchange. He served as President of the Export-Import Banks and as assistant secretary of the Treasury. He was non-partisan Democrat. Romer and Romer (2003). Martin was selected by President Truman as Chairman of the Board of Governors of the Federal Reserve System (FED), in hopes that he would bring the FED under executive control, but Martin did just the opposite. Martin has the longest tenure of all FED Chairmen, serving from 1951 through 1970, under Presidents Truman, Eisenhower, Kennedy, Johnson, and Nixon. Martin is often remembered for saying that it is the FED's job "to take away the punchbowl just as the party gets going." Martin also said: "A perpetual deficit is the road to undermining any currency." "Martin also said: "The market's objective measures of the forces of supply and demand give business and government alike a more reliable guide to policy and action than the subjective judgment of any man in government." Martin was committed to keeping inflation low. *Id.* p. 135. Martin believe that the FED's monetary policy could limit expansions and stimulate recovery during recessions. *Id.* He testified to the Senate: "Our purpose is to lean against the winds of deflation or inflation." *Id.*

2. Paul Volcker. Paul Volcker was Chairman of the FED Board of Governors from 1979 through 1987, appointed by Jimmy Carter and reappointed by Ronald Reagan. Volcker was born in 1927 in New Jersey. Volcker has an A.B. in Economics summa cum laude from Princeton and an M.A. in Political Economy and Government from Harvard. Volcker was a researcher at the New York Federal Reserve Bank, later under-secretary for monetary affairs at the Treasury, and eventually president of the New York Federal

Reserve Bank. He was a non-partisan Democrat. Romer and Romer (2003) p. 149. Volcker decided to attack the high inflation rate by decreasing the rate of growth of the money supply, by increasing the reserve requirement, thus breaking the inflation side of the stagflation then gripping America. The period of time this policy was in place, November 1979 through November of 1982, is called the "Monetarist Experiment." Barnett and Chauvet (Nov. 28, 2009) p. 17. The policy reduced inflation significantly, but it led to a severe recession. Candidate Obama drew Volcker's endorsement and prominently included Volcker as an economic advisor to his presidential campaign, but after his inauguration Volcker was sidelined. Although Volcker was appointed to head an economic advisory council to the President, so far it has met publicly only once, for an hour-and-a-half, at a meeting that was largely perfunctory. It appears that Volcker's appointment was for show and not substance. Volcker gave a good speech on the current economic crisis. Volcker (April 18, 2008).

3. Alan Greenspan. Alan Greenspan was Chairman of the FED Board of Governors from 1987 through 2006, serving under Presidents Reagan, Bush, Clinton and Bush. He was born in 1926 in New York City. After high school, he studied clarinet at Julliard School of Music and played in a jazz band. Greenspan received a B.S. summa cum laude and M.A. in economics from NYU. He began a doctoral program at Columbia, where he studied under future FED Chair Arthur Burns. In 1977 he received his Doctorate from NYU. He worked for five years as an economic analyst at The Conference Board (see Section VI.E.2). Greenspan spent the rest of his pre-FED career as a self-employed business consultant, where he pioneered the role of the economist who would evaluate economic data for businesses for a fee. Greenspan served at the head of President Ford's Council of Economic Advisors, and served on a number of special commissions of the federal government, such as the National Commission on Social Security Reform. Greenspan is a Republican, was active in presidential campaigns, and has strong libertarian beliefs. Romer and Romer (2003) p. 149. According to economist Marvin Goodfriend, Greenspan's approach as FED Chair was colored by his background in data analysis, as opposed to economic theory, and he was more likely to come to a meeting with data than a model. See Goodfriend, *Contrasting the Federal Reserve Chairmen* [URL for video commentary listed at end of this Article]. Greenspan recently wrote an autobiography, *The Age of Turbulence*, which details his life as an economist, including his close relationship with philosopher-author Ayn Rand. Greenspan is married to television journalist Andrea Mitchell, and their wedding was performed by U.S. Supreme Court Justice Ruth Bader Ginsberg. In 1986, Friedman wrote a paper favorable to the gold standard, *Gold and Economic Freedom* <www.constitution.org/mon/greenspan_gold.htm>. In 1996, Greenspan sagely suggested that investors were susceptible to bouts of "irrational exhuberance," referring to the dot.com "bubble." <www.federalreserve.gov/boarddocs/speeches/1996/19961205.htm>. However, he did not see the run-up in real estate prices in the 2000s as a bubble; instead he saw "froth in some local markets." He did, however, in May of 2005, say that the overall national issue of real estate prices was "an unsustainable underlying pattern." Greenspan is now faulted for reducing short-term interest rates and keeping them depressed for too long in the 1990s, thus contributing to the recent real estate bubble and stock market bubble, both of which have now burst. Greenspan was given too much credit for the good times, and too much blame for the current bad times.

4. Robert Rubin. Robert Rubin was born in New York in 1938 but grew up in Miami Beach, Florida. He holds a B.A. degree in Economics, summa cum laude, from Harvard College in 1960. After graduation, he attended Harvard Law School for 3 days. He later attended the London School of Economics. He received a L.L.B. degree from Yale Law School in 1964. He worked for two

years at an international law firm in New York. Rubin then went to work in investment bank Goldman Sachs' risk arbitrage department, and he stayed with Goldman Sachs for 26 years. From 1993 to 1995, Rubin served as an Assistant to President Clinton for Economic Policy and headed the National Economic Council. Rubin served as Clinton's Treasury Secretary from January 10, 1995 to 1999, where he played a central role in dealing with financial crises in Mexico, Russia and Asia. Rubin left the Treasury Department days after Congress repealed portions of the Glass-Steagall Act that separated commercial and investment banks, and immediately took a high-paying job with Citibank, the prime beneficiary of the change in the law. In 2003, Mr. Rubin was named the Vice Chairman of the Council on Foreign Relations and in 2007, he was named the Co-Chairman. Rubin has served as a Director of Ford Motor Co. since 2000. He was also a director at Citigroup for eight years, ending in January of 2009, where he earned $126 million in cash and stocks.

5. Ben S. Bernanke. Ben Bernanke (age 55) has served as Chairman of the FED Board of Governors since February 1, 2006. His term expires in 2010. Bernanke grew up in Dillon, South Carolina. He won the South Carolina state spelling bee in the sixth grade. He earned the highest SAT scores (1590 out of 1600) of any South Carolina student. During his summer breaks from college, he worked as a waiter at South of the Border restaurant. He received a B.A. in economics in 1975 from Harvard University (summa cum laude) and a Ph.D. in economics in 1979 from MIT. From 1979 to 1985, Bernanke was an assistant and then an associate professor at Stanford. From 1985 to 1996, Bernanke was a professor of economics at Princeton University, where he headed the Economics Department. Bernanke served on the FED Board from 2002-2005, then served for six months as Chairman of the President's Council of Economic Advisers, when he became Chairman of the FED. Bernanke has been described by economist Marvin Goodfriend as being trained in theory and modeling, which distinguishes Bernanke from Greenspan, who came to the FED from a background of data analysis. See Goodfriend, *Contrasting the Federal Reserve Chairmen* [URL for video commentary listed at end of the Article]. At Milton Friedman's 90th birthday party, Bernanke (then a FED Governor) said: "I would like to say to Milton and Anna: Regarding the Great Depression - you're right, we did it. We're very sorry. But thanks to you, we won't do it again." Bernanke has written many papers on monetary policy; so many, in fact, that it appears he may have been advertising himself for the position of Chairman of the Federal Reserve Board for several decades. Whatever the reason, Bernanke's thinking on most monetary topics is there for all to read, so it's not hard to figure out what he's thinking, and his prescriptions on how to keep a recession from becoming a depression are evidenced in actions of the FED. It is fortunate that he has spent much of his adult life researching, thinking, and writing on what the FED should do to keep a recession from turning into a depression, since he, more than any one other individual, has the power to do what is necessary to avoid a depression.

6. Lawrence Summers. Lawrence Summers (age 54), is Director of the National Economic Council and is President Obama's principal economic advisor. He is responsible for the "Daily Economic Briefing" that President Obama receives each day. Summers is the son of two economics professors who taught at the University of Pennsylvania, and the nephew of two recipients of the Nobel Prize in Economics: Paul Samuelson and Kenneth Arrow. (Summers changed his name from Samuelson, reportedly to avoid the anti-Semitism that affected his famous uncle.) Summers said later that he grew up in a household of Keynesian economists. Summers applied to Harvard at age 16 but was turned down, so he entered MIT to study engineering. As a student, he was a national champion debater, and switched from engineering to economics. He earned a Ph.D.

from Harvard in 1982, where he studied under economist Martin Feldstein. In 1983, at age 28, Summers became the youngest tenured professor in Harvard's history.

Summers was on the staff of the Council of Economic Advisors from 1982-1983 during Ronald Reagan's presidency. In 1987 Summers received the John Bates Clark Medal (for the leading economist under 40), considered to be a precursor to a Nobel Prize. Summers served as an economic advisor (along with Robert Reich) in the presidential campaign of Michael Dukakis in 1988, where he met Robert Rubin and Governor Bill Clinton. Summers taught at Harvard from 1983 to 1991, when he left to work as the chief economist of the World Bank, through 1993. He then went to Washington and served in various roles in the Clinton administration. While in Washington he had dinner ever week with Robert Rubin and Alan Greenspan, and reportedly he played tennis regularly with Greenspan. Summers was involved in the Clinton administration's bail-out of Mexico in 1995 and Russia during their currency crises, and was involved in crafting the international response to the Asian financial crisis of 1997. Summers was also instrumental in the introduction of indexed Treasury securities (TIPS) and the $250,000 capital gain exclusion for family residences. Summers also testified in opposition to regulation of over-the-counter derivatives, as proposed by the head of the Commodity Futures Trading Corporation, Brooksley Born. <www.us treas.gov/press/ releases/rr2616.html>. In 1999, Summers succeeded Robert Rubin as President Clinton's Secretary of the Treasury. President Clinton called Summer "a critical part of our economic team during the entire life of this administration." During his tenure as Secretary, the U.S. government used surpluses to repurchase Treasury debt (i.e., to reduce the national debt) for the first time since the 1920s. Summers strongly supported the partial repeal of the Glass-Steagall Act that had segregated commercial banking, insurance, and investment services (now criticized as allowing the creation of "too big to fail" banking). Summers left Treasury with the regime change and passed up lucrative employment opportunities on Wall Street to become President of Harvard University in 2001. At Harvard, Summers stirred up controversy by criticizing African-American Professor Cornel West for missing class, causing grad e inflation, and embarrassing Harvard by recording a rap album. In 2005, Summers drew heat for suggesting that the preponderance of men in high-end science and engineering was attributable in part to differences in intrinsic abilities between men and women at the statistical extremes. ("It does appear that on many, many different human attributes--height, weight, propensity for criminality, overall IQ, mathematical ability, scientific ability--there is relatively clear evidence that whatever the difference in means--which can be debated--there is a difference in the standard deviation, and variability of a male and a female population.") In the ensuing furor, the faculty of the School of Art and Sciences voted "no confidence" by 218-185, but the Harvard Corporation backed Summers and he kept his job. In one poll, 57% of the students polled opposed Summers' resigning. Summers nonetheless left the Harvard presidency on June 30, 2006, and took a one year sabbatical, then became a Professor at Harvard's government and business schools. He also joined management at hedge fund D.E. Shaw. In 2009, Summers was criticized for taking free rides on Citigroup's corporate jet, earning $5 million from D.E. Shaw, and receiving $2.7 million in speaking fees from Wall Street firms, part of which he donated to charity.

Intellectually, Summers made research contributions to public finance, labor economics, financial economics, and macroeconomics. He focused on analyzing empirical data to answer specific questions. For his work he won awards from the American Economic Association and National Science Foundation. His studies indicated that cutting the capital gains tax rate would cause the economy to grow, and he lobbied

for corporate and capital gains tax cuts during both the Reagan and Clinton administrations. Summers also wrote that unemployment insurance and welfare payments contribute to unemployment, and should be scaled back. Summers was an admirer of Milton Friedman, and upon Friedman's death Summers wrote that "Not so long ago, we were all Keynesians [the statement was originally attributed to Friedman in the December 31, 1965, issue of Time Magazine]. Equally, any honest Democrat will admit that we are now all Friedmanites." <http://www.nytimes.com/2006/11/19/opinion/19summers.html?_r=1>. Summers described Friedman's greatest contribution not his focus on monetary policy but convincing people that the government should allow free markets to operate. Because of his politics, Summers has many detractors, which can be found by searching the Internet. An interesting interview with Dr. Summers, from 2001, is at the PBS website <www.pbs.org/wgbh/commandingheights/shared/pdf/int_lawrencesummers.pdf>. For more details of Summers' earlier career see Richard Bradley's book, *Harvard Rules: The Struggle for the Soul of the World's Most Powerful University* (2005).

7. Timothy Geithner. Timothy Geithner (age 48), the current Secretary of the Treasury, was born in New York. His father worked in government as an international development official, so Geitner was raised in the United States, Asia and Africa, and he speaks several languages. He graduated from Dartmouth College and Johns Hopkins, where he received a master's degree in international economics and East Asian studies. He joined the Treasury Department as a career staff official in 1988, during Ronald Reagan's presidency. Mr. Geithner rose from being an ordinary civil servant to under secretary for international affairs under President Clinton, then became a director of the International Monetary Fund, and then in 2003 president of the New York Federal Reserve Bank. On January 28, 2009, Geithner became Secretary of the Treasury. According to news reports, Mr. Geithner has been an ally of Wall Street in the current financial crisis, opposing efforts by other Obama Administration officials to place more restrictions and conditions on banks and businesses.

8. Christina Romer. Christina Romer is the head of President Obama's Council of Economic Advisors. Dr. Romer graduated from the College of William & Mary in Williamsburg, Virginia, in 1981, and received her Ph.D. in economics from M.I.T. in 1985. She took a job as an assistant professor at Princeton, then moved to the University of California at Berkley where she became a full professor in 1993. Dr. Romer is married to economist David Romer. Dr. Romer has written extensively on macroeconomic issues, in both technical articles and in articles addressed to lay readers. In her scholastic work, Dr. Romer studied the causes of the Great Depression in the United States. She is considered to be a foremost expert on the Great Depression. She demonstrated that the Great Depression was more severe in the United States than in Europe, and had somewhat different causes than Europe's depression. Dr. Romer believes that fiscal policy played a small role in the United States' recovery from the Great Depression, since taxes were raised almost as quickly as government spending increased. More recently, she has written articles on the history and effect of tax policies in the United States. In April 2009 she co-authored an article with her husband, in which they studied the effect of tax increases in the United States and concluded that "a tax increase of 1% of GDP lowers real GDP by almost 3%." <http://emlab.berkeley.edu/users/dromer/papers/RomerandRomer.pdf>.

D. IMPORTANT ECONOMIC CONCEPTS AND TERMS.

•**Arbitrage.** Arbitrage is the simultaneous buying and selling of an asset in different markets to profit from the difference between prices.

•**Capitalism.** "Capitalism" is an economic and social system in which land, industrial capacity,

and labor are privately owned and economic resources are allocated in free market transactions. The "capital" part of capitalism is accumulated wealth, often saved but also often inherited, that results from prior work or other successful economic activities, and which is available for investment. Prior to the Twentieth Century, those with wealth often economically exploited those without wealth, giving rise to movements to replace capitalism. In the Twentieth Century, however, governments intervened to curtail such abuses, and wealth became more widely distributed, so that the "middle class" became both laborers and capitalists. From a political perspective, capitalism is in theory based on individual autonomy and "democracy." History reveals, however, a tendency for certain individuals and interest groups to use democratic government to give themselves special advantages not enjoyed by other members of society. British Prime Minister Winston Churchill famously said: "Many forms of Government have been tried and will be tried in this world of sin and woe. No one pretends that democracy is perfect or all-wise. Indeed, it has been said that democracy is the worst form of government except all those other forms that have been tried from time to time." "Laissez-faire capitalism" is the concept that government generally should not intervene in economic transactions. While different aspects of laissez-faire capitalism are defended by economists as varied as Adam Smith and Milton Friedman, true laissez-faire capitalism exists hardly anywhere, and laws and regulations abound which direct economic decisions. In this sense "laissez-faire" capitalism is more like a goal than a reality.

•**Central Bank.** A "central bank" is a country's primary monetary authority, with the ability to influence the money supply and interest rates, and is the lender of last resort* for banks suffering a liquidity crisis. A central bank often hold member banks' deposits, and performs other functions to facilitate the nation's banking industry, including regulation of private banking. In the U.S.A., the central bank is the Federal Reserve System. <www.federalreserve.gov>. In the European Union, the central bank is the European Central Bank. <www.ecb.int/ ecb/html/index.en.html>. In China, the central bank is the People's Bank of China. <www.pbc.gov.cn/english>.

•**Commercial Paper.** "Commercial paper" is an unsecured non-interest-bearing promissory note that is issued at a discount from face value by a corporation or bank, to finance short-term credit needs, such as accounts receivable or inventory. Maturities on commercial paper typically range from 2 to 270 days, with an average maturity of 30-35 days. The average investment in commercial paper is $100,000, but can exceed $1 million. Because the companies issuing commercial paper are considered to be reliable, commercial paper is considered safe, although it is rated by the private rating agencies. The principal investors in commercial paper are money market mutual funds and commercial bank trust departments. The commercial paper market froze after the Penn-Central Railroad bankruptcy in June of 1970. The New York FED, acting as lender of last resort, opened a discount window for banks to borrow against the commercial paper they held, and disruption was avoided. Mishkin and White (2002) p. 33-34. In October, 2008, money market mutual funds and other investors, facing liquidity pressures, became reluctant to purchase commercial paper, especially at longer-dated maturities. Companies were unable to sell their commercial paper to finance short term cash flow needs, or they had to face increasingly high interest rates. On October 7, 2008, the FED announced the creation of a new Commercial Paper Funding Facility, pursuant to which is purchased asset-backed three-month notes from highly rated companies, ensuring that those companies would have cash to make payroll and meet day-to-day needs. In this way the FED provided liquidity directly to corporations, skipping over the financial intermediaries like banks.

•**Cost of Living Index.** A "cost of living index" measures differences in the price of goods and services. This Index allows for substitutions of other items as prices change, which distinguishes it from a consumer price index (CPI) in that a CPI measures a price change for a constant market basket of goods and services from one period to the next, within the same city (or Nation). <www. bls.gov/bls/glossary.htm>. A "market basket" is "a package of goods and services that consumers purchase for day-to-day living. The weight of each item is based on the amount of expenditure reported by a sample of households." *Id.*

•**Credit Crunch.** Bernanke and Lown (1991) defined a "credit crunch" as a decline in the supply of credit that is abnormally large for a given stage of the business cycle. Credit normally contracts during a recession, but an unusually large contraction could be a credit crunch. <dallasfed.org/research/er/1993/er9303a.pdf>. Stated differently, a credit crunch exists when credit-worthy borrowers cannot obtain credit at all, or cannot get it on reasonable terms, and lenders show excessive caution, leaving would-be borrowers unable to fund their investment projects or consumption expenditures. <www.bankofcan ada.ca/en/res/wp/1999/yuanzimm-final.pdf>. A credit crunch started in the summer of 2007 in the U.S.A., when a number of credit markets froze up. A fall in real estate prices boosted mortgage defaults, which frightened investors in mortgage-backed paper who sought liquidity by selling their investments and withdrawing funds from investment banks and money market funds, locking up the commercial paper market.

•**Debt Financing/Equity Financing.** "Debt financing means when a firm raises money for working capital or capital expenditures by selling bonds, bills, or notes to individual and/or institutional investors. In return for lending the money, the individuals or institutions become creditors and receive a promise to repay principal and interest on the debt. . . . Equity financing is a term used for company's issuance of shares of common or preferred stock to raise money. Equity financing is commonly done when its per share prices are high--the most money that can be raised for the smallest number of shares." <www.venture choice.com/ glossary>.

•**Deflator.** A "deflator " is a number that allows data to be measured over time in terms of some base period. Stated differently, a deflator is an implicit or explicit price index used to distinguish between those changes in the money value of Gross Domestic Product which result from a change in prices and those changes which result from a change in physical output. The overall measure of U.S. GDP has a price deflator that is a measure of economy-wide inflation. See GDP Implicit Price Deflator, Section VI.A.13.C.

•**Economics (Mainstream).** Mainstream economics, as it is practiced today, proceeds through the construction of models that are subjected to mathematical processes in order to demonstrate cause-and-effect relationships and make predictions. The modeling-and-mathematics approach to economics was initiated by British economist Alfred Marshall in 1890, brought to prominence by British economist John Maynard Keynes in the 1930s, and widely popularized by American economist Paul Samuelson in the late 1940s through the 1970s, to the point that it dominates economic theory as it is taught and practiced today in the Western world. As in any field, modeling is only an approximation of the real world. Because "the economic world is extremely complex," Backhouse (2000) p. 37-38, economic models must be constructed upon simplifying assumptions to allow the models to be workable. The most fundamental assumption for such modeling is *ceteris paribus*, which is the assumption that all variable factors not studied in the model are held constant. In the real world, of course, other variable factors in the economy do not remain constant. There are other simplifying assumptions that underlie most economic models. These include: maximizing behavior (that individuals act so as to maximize their welfare);

stable preferences (that individuals' preferences do not change); market equilibrium (that the economy in the long run always returns to equilibrium); perfect competition (that the market consists of many small firms, none of which can influence the price of what it sells); perfect knowledge (that everyone in the market has perfect knowledge of all relevant information); and Pareto efficiency (a change that results in some individuals being better off and none being worse off). Backhouse (2000) p. 35 & 41. More recently, economists have tried to develop models that rely less on such simplifying assumptions, but progress has been limited. One advantage of modeling and mathematics is that they have introduced an intellectual rigor to economic thinking. One disadvantage is that this technical approach acts as a barrier to lay persons who can understand economic principles better when they are expressed in natural language and not calculus. Another problem is that these models cannot be tested in the scientific sense because it is not possible to conduct controlled experiments where "all relevant variables are held constant." Backhouse (2000) pp. 35-36. Additionally, there is a problem that in some instances the act of making a prediction can change the forces at work, *Id*. p. 36 (as implied by the famous Heisenberg Uncertainty Principle of nuclear physics). And perhaps most significant, mathematics alone is not adequate to explain "social processes that defy determinate solutions." Backhouse (2000) p. 40 (citing earlier work). An unfortunate problem, not limited to economics, is that "economists believe their models." *Id.* p. 41. This has led to a disregard of other approaches to economic issues, and in some instances a condescending attitude to other approaches. This has resulted in a narrowing of "the range of issues that [can] be explored," *Id.* p. 34, calling to mind psychologist Abraham Maslow's famous observation that "if the only tool you have is a hammer, you tend to see every problem as a nail." As F.A. von Hayek commented: "[N]obody can be a great economist who is only an economist - and I am even tempted to add that the economist who is only an economist is likely to become a nuisance if not a positive danger." An insightful statement on the inability of economic theories to embrace the complexities of economic life is Hayek's Nobel Prize acceptance speech at <http: //nobelprize.org/nobel_prizes/economics/laureates/1974/hayek-lecture.html>. The problem was stated by former FED Chairman Paul Volcker: "[m]athematical modeling simply cannot deal with markets where it is not random or physically determined events but human instincts that cause self-perpetuating waves of unwarranted optimism or pessimism." Volcker (April 8, 2008) p. 6.

•**Equity Risk Premium.** The expected "equity risk premium" is the additional return an investor expects to receive to compensate for the additional risk associated with investing in equities as opposed to investing in riskless assets. It is the excess return of stocks over bonds. A recent article on the Internet commented: "If we do a little data picking, we can see that long-term Treasury bonds have outperformed stocks since the summer of 1987, and come in just behind stocks since late 1980. Reasonable people can disagree but that certainly sounds like the long-term to me. This means that you could have sat out the entire stock market over the last 28 years, parked your money in long-term T-bonds and done just as well as the stock market, which we know beats the vast majority of fund managers." <http://seekingalpha.com/article/98784-what-equity-risk-premium>.

•**Fallacy of Composition.** A "fallacy of composition" occurs when someone makes the unwarranted inference that something is true of the whole because it is true for some part of the whole. In economics, what works for an individual or a family may not work for society as a whole. John Maynard Keynes posited a fallacy of composition he called the Paradox of Thrift, that while saving may be good for one individual in an economic downturn, if everyone increases saving it will lead to reduced sales, and higher unemployment, and everyone will be worse off.

Others dispute Keynes's view, and argue that any downward pressure on expenditures that comes from saving is more than offset when those savings are loaned to businesses to expand capacity, hire more employees, etc.

•**FASB**. The Financial Accounting Standards Board (FASB) is a private, not-for-profit committee of seven members, with a support staff, with the responsibility of promulgating generally accepted accounting principles (GAAP). FASB normally proceeds slowly based on input from the accounting profession and other concerned communities. See this list, "FAS 157-4."

•**FAS 157-4.** "Mark-to-market" accounting is the accounting standard requiring the assignment of a value to a company's position in a financial instrument based on the current fair market value of the instrument. In May of 1993, the Financial Accounting Standards Board (FASB) established a requirement that companies report debt and equity securities at fair value, unless they were being held with both the intent and the ability to hold to maturity. The FASB issued FAS 157, Fair Value Measurements, in September 2006, prescribing a methodology for measuring fair value of these financial instruments where generally accepted accounting principles require that the fair value be used. FAS 157 established a hierarchy, preferring Level 1 inputs that are price quotations of identical assets in an active market; next are Level 2 inputs that are price quotations for similar assets or liabilities in inactive markets; and least desirable are Level 3 inputs that are the evaluator's assumptions of how market participants would go about pricing the asset or liability. With the emergence of the subprime mortgage crisis in 2007, when it came time for many financial institutions to report fair value on mortgage-backed securities (MBS), the only price quotations available were distress liquidations at a fraction of the pre-crisis values. This caused some leveraged holders of MBS to drop below margin requirements, triggering margin calls that forced the holders to liquidate the MBS at sacrifice prices. Some financial institutions were suddenly faced with insolvency. On April 9, 2009, the FASB issued FAS 157-4, which provides that, in the case of an inactive market, the goal is to arrive at a price that would be received in an orderly transaction in that market on the date of the financial statements, using whatever information the evaluator thinks is best. FAS 157-4 . FAS 157-4 was issued after a 15-day comment period, exceedingly short compared to normal FASB procedures, and under the threat of members of Congress to pass a law altering mark-to-market accounting requirements, which would impair FASB's prestige as the promulgator of GAAP. Apart from the politics that raised its head, the whole affair raises the question of whether it is necessary or even appropriate to require companies to value investments at a liquidation price ("exit value") when the assets are not held for immediate sale. The accounting profession decided some time ago that marking-to-market was more desirable than a reporting of historical cost, but the requirement of marking-to-market can establish a negative feedback loop in a panicked or dysfunctional market, where a few bad price movements spawn more bad price movements that in turn spawn more bad price movements, so that the market price reflects panic and not underlying value. Marking -to-market has the appeal of being an objective way to determine value, but this objectivity is of little relevance when it requires a company to report a liquidation price for a financial instrument that is not in fact being liquidated and will eventually be liquidated in a far different market and often without a sale (i.e., upon maturity).

•**FED.** The Federal Reserve System is America's central bank, responsible for U.S. monetary policy and the regulation of commercial banks. See Section IV.D below.

•**Federal Reserve Note.** Federal Reserve notes are the paper currency of the United States of America. Each federal reserve note represents a liability of the Federal Reserve System. Since

1933 Federal Reserve notes are not redeemable in gold, silver or any other commodity. The U.S. Treasury observed: "The notes have no value for themselves, but for what they will buy. In another sense, because they are legal tender, Federal Reserve notes are 'backed' by all the goods and services in the economy." <www.treas.gov/education/faq/currency/legal-tender.shtml>. Stated differently, U.S. currency is only worth what you can buy with it. Historically, that purchasing power declines over time due to inflation.

•Greenspan Put. The "Greenspan Put" describes a view that, while Alan Greenspan was FED Chairman, the FED was willing to take steps to support stock prices when corporate stock has fallen too far in value. In *Market Bailouts and the "FED Put,"* the President of the St. Louis Federal Reserve Bank attempts to corelate the FED's reductions in interest rates to 10% drops in the S&P 500 stock index and concludes that the FED has not altered interest rates in connection with stock market prices. See Poole (2008).

•House Financial Services Committee. The United States House of Representatives Committee on Financial Services (a/k/a House Banking Committee) oversees the entire financial services industry, including the securities, insurance, banking, and housing. The Chairman is Democratic Congressman Barney Frank, from Massachusetts. The Ranking Republican is Spencer Bachus, from Alabama.

•Index. An "index" is a "statistical device which summarizes a collection of data (usually related to the price or quantity of a 'basket' of goods and services) in a single base figure. This composite figure serves as a benchmark for measuring changes in the price or quantity data over a period (month, quarter, year). Usually, the base is assigned an arbitrary value of 100 and all subsequent data is expressed in relation to this base. For example, the consumer price index (CPI) of a year might stand at 95 (to indicate a fall of 5 percent in the prices) or 105 (to indicate an increase of 5 percent in the prices). Indexes (indices) also measure up and down movement of industrial production, and of the market prices of bonds, commodities, shares, etc." <www.businessdictionary.com/definition/index. html>. A "stock market index" is a composit measure of a section of the stock market. Stock market indexes include: Dow Jones Industrial Average (computed from the stock prices of 30 of the largest and most widely-held public companies in the USA); S&P 500 (a value-weighted index of the prices of 500 large-cap common stocks actively traded in the USA); Russell Indexes (a family of indexes); Wilshire 5000 Total Market Index (a market capitalization-weighted index of the market value of all stocks actively traded in the USA). The Russell Indexes collectively are used by more index funds than all the other indexes combined.

•Inflection Point. As used in differential calculus, an "inflection point" is a point on a curve at which the curvature changes sign. A curve changes from being concave upwards (positive curvature) to being concave downwards (negative curvature) at an inflection point. Viewed differently, an inflection point is where the tangent of a curve crosses the curve. In the business cycle, the inflection point after a peak is where the rate of decline starts to slow, and the curve starts to take a U-shape. After a trough, the inflection point is where the rate of growth starts to slow, and the curve starts to take an upside-down U-shape. On May 11, 2009, Jean-Claude Trichet, President of the European Central Bank, said: "We are, as far as growth is concerned, around the inflection point in the cycle." That doesn't mean we've reached a trough. It means that the rate of decline has diminished, indicating that we are starting to move toward the bottom.

•Insolvency. "Insolvency" is when a person or business is unable to pay its debts when they come due. A person or business can have an excess of assets over liabilities and still be insolvent if it is unable to liquidate the assets into cash in time to meet financial obligations. Governments that

cannot pay their bills when due are not said to be insolvent. Instead they are "in default."

•Labor Theory of Value. The "labor theory of value" is an economic theory holding that the values of commodities can be compared based on the labor needed to produce them. The labor theory of value dates back to Aristotle, and resurfaced in the writings of Adam Smith and David Ricardo, and later Karl Marx. The theory was supplanted in the late 1800s by the Marginal Productivity Theory of Distribution, which held that capital and labor will both be sought until the marginal revenue from employing either is equal to its marginal cost. The labor theory of value approaches value from the supply side, while the marginal productivity theory approaches value from the demand side.

•**Lender of Last Resort.** A "lender of last resort" is the central bank of a country that has the authority and resources to act as the ultimate source of credit when banks are unable to meet demands for liquidity. The FED is the lender of last resort in America. Analogously, the U.S. Treasury Department has recently become an investor of last resort, when it provided huge capital infusions into AIG, General Motors, Chrysler, and banks that are too big to fail, in exchange for ownership interests, rather than in the form of loans. These capital infusions improved the companies' balance sheets, whereas loans would offset the new cash with offsetting liabilities, leaving net worth unchanged. Of course, the government paid more than market price for its stock, and if it is unable to sell the stock later for what it paid, then the government will take a huge loss.

•**Liquidity Crisis.** A liquidity crisis occurs when a business suffers a lack of cash to pay for day-to-day operations, or meet its debt obligations when they come due, causing the business to default. Applied to the economy as a whole, liquidity crisis means that liquidity crises are affecting major businesses or industries, or large segments of the credit or investment markets. America was in a liquidity crisis in 2007 and 2008. On April 27, 2009, FDIC Chair Sheila Bair said "We've moved beyond the liquidity crisis of last year. . . . As I see it, we are now in the clean up phase." <www.fdic.gov/news/ speeches/chair man/spapr2709.html>.

•**Liquidity Shock.** A "liquidity shock" is an unanticipated change in the demand for liquidity. Such a shock can occur at the individual level or across a market or even an economy.

•Long-Term Interest Rate. The "long term interest rate" is the rate of interest on interest-bearing financial assets with a relatively long period to maturity. Government bonds with a maturity of ten years are often used as a benchmark to determine the long term interest rate. <www.ecb.europa.eu>.

•Lost Decade. In post-World War II Japan, strong exports coupled with a protective tariff structure that kept imports out of Japan led to an accumulation of Yen in the Japanese economy that created bubbles in real estate and securities prices. Interest rates were low, and regulators allowed banks to take increased risk by lending on real estate and to medium-sized companies. Tax policy rewarded purchasing land with borrowed money. Bankers came to rely on increases in real estate prices as collateral for risky loans. Ergungor and Thompson (2009), pp. 708. Much of the excess capital was invested in the Japanese stock market. In late 1989, land was selling for $139,000 per square foot in one part of Tokyo. The Nikkei 225 stock index reached 38,915.87 Yen on December 29, 1989. The real estate and stock bubbles popped in 1990, and ushered in a period of stagnation that continued through 2003. Residential properties fell to 1/10 of peak value, and commercial properties fell to 1/100 of peak value. The Nikkei 225 stock index bottomed at 7,830 Yen in April 2003. This 13-year period economic downturn is called "the Lost Decade." Japan tried lowering its central bank interest rate

to near zero, with no effect. The government made significant expenditures to stimulate the economy, driving Japan's national debt up to 175% of GDP. It barely helped. Many economists are looking at the lessons from Japan's Lost Decade in deciding how to deal with the current situation in the USA and Western Europe.

•**Misery Index.** The "Misery Index," created by Arthur Okun, an adviser to President Lyndon Johnson, is simply the unemployment rate added to the inflation rate. <www.miseryindex.us>. It has no economic utility but it does permit comparison of different economic downturns in a non-technical way.

•**Monetarism.** "Monetarism" is an economic theory that economic variations within an economy, such as changing rates of inflation, are caused by increases or decreases in the money supply. Monetarism indicates that the central bank should expand the money supply to increase inflation, and shrink the money supply to decrease inflation. Monetarism either denies the effectiveness of fiscal policy (government spending) in moderating the economy, or argues that fiscal policy cannot be timed and is therefore an undesirable tool for guiding the economy.

•**Monetizing the Debt.** "Monetizing the debt" is paying off government debt by printing dollars. This is done by buying government bonds for cash printed for the purpose.

•**Mortgage.** A "mortgage" is a transfer of an interest in land in order to secure a debt. In common parlance, however, the term "mortgage" is used to apply to any debt that is secured by a lien in land. Mortgages are usually 15 or 30 years in length, requiring monthly payments of accrued interest and some principal. A "fixed-rate mortgage" has a set interest rate for the life of the loan. Fixed-rate mortgages make up 70% of the total mortgage market in the U.S. An "adjustable-rate mortgage" (ARM) has an interest rate that resets periodically, usually annually. ARMs sometimes have an introductory interest rate that is less than market rate ("teaser rate"), which results in the initial monthly payment (used to qualify for the loan) being less than the accruing interest. The portion of the interest that is not paid every month is added to the loan balance. This "negative amortization" continues until the interest rate resets to the economically appropriate rate. Years ago, the lender (like a savings and loan) held the mortgage to maturity. Nowadays, the mortgage is immediately resold on the secondary mortgage market. Fannie Mae and Freddie Mac (called "GSE"s because they are government sponsored enterprises) were established by Congress in the 1970s to create a secondary mortgage market. These GSEs sell shares and bonds to investors and use that money to buy home mortgages. The GSEs increased their share of the secondary mortgage market from about 20% in 2000 to 70% in 2003, but fell back to 30% as private investors entered the secondary mortgage market through the purchase of newly-invented "mortgage backed securities."* Fannie Mae and Freddie Mac will buy only "conforming loans," meaning loans that comply with restrictions, such as a loan-to-value ratio of 80% or less, and a maximum loan of $417,000 ($625,500 in a "high cost area"). A borrower can purchase "private mortgage insurance" to reduce the loan-to-value ratio to 80%. Loans over the maximum limit are called "jumbo loans," and they require a higher interest rate. Since March 18, 2009, the FED, through purchasing long term U.S. Treasury bonds, has artificially driven long term mortgage rates to a historical low of below 5% (for a conforming 30-yr. mortgage) and 4.79% (for a conforming 15-year mortgage). This has caused many people to refinance their mortgages, by taking out a new low interest rate loan to pay off an older high interest rate loan. It pays to refinance if you will recover the costs of financing before you sell the house. A "home equity loan" is a loan, secured by an inferior lien on the home, that is used to monetize the "equity" in the home (the difference between the value of the home and the mortgage balance). A "reverse mortgage" is a

special type of mortgage that allows persons age 62 or older to borrow against the equity in their home without having to repay the loan until they die or sell the house. A "subprime mortgage" is made to a borrower with a bad credit rating (below 640), who cannot qualify for a conventional mortgage. Subprime mortgages have a higher interest rate, but the borrowers are those least able to pay high rates, which led to the "subprime mortgage crisis." See Daniel J. McDonald and Daniel L. Thornton, *A Primer on the Mortgage Market and Mortgage Finance,* Federal Reserve Bank of St. Louis *Review* (Jan./Feb. 2008) pp. 31-46 <research. stlouisfed.org/publications/review/08/01/McDonald.pdf>.

•**Mortgage-Backed Security.** A "mortgage-backed security" (MBS) is a financial instrument that is backed by a mortgage, or a group of mortgages that are packaged together. The MBS is then sold in financial markets worldwide. A MBS can be backed either by residential real estate loans (RMBS) or commercial real estate loans (CMBS). <www. financialstability.gov/roadtostability/ decoder.htm>.

•**National Debt.** The "national debt" is the cumulative total of outstanding debt instruments issued by the U.S. Treasury, combined with the outstanding currency ("federal reserve notes"). See Section IV.C.1.d.

•**Nominal Dollars.** Dollars spent today, at today's prices, are "nominal dollars." When trying to compare today's prices to prices last year, you cannot use "nominal dollar" prices because prices may have risen due to inflation (i.e., the decline in value of the currency). For some purposes, economists and the government want to be able to compare the price of items in terms of last year's dollars. Last year's dollars are called "real dollars." To convert nominal dollars to real dollars, you use this formula: Real Price = Current Price x (base year price index ÷ current year price index).

•**Office of Thrift Supervision.** The Office of Thrift Supervision is the agency of the United States Department of the Treasury that is the primary regulator of federal savings associations ("thrifts"). It supervised AIG, Citicorp, Countrywide Bank, IndyMac Bank, and Washington Mutual FSB, all of whom are broke or gone under, putting extreme systemic stress on the financial system. On March 26, 2009, the acting director was suspended and on June 17, 2009 he retired. No doubt due to the wretched job they have done in managing thrifts, President Obama has proposed to eliminate the agency.

•**Poverty Line.** The poverty line (a/k/a poverty threshold), is the minimum level of annual income considered necessary for a person or family to achieve an adequate standard of living. In the United States, the U.S. Census Bureau collects information on poverty each year. The poverty threshold for 2008 is at <www.census.gov/hhes/ www/ poverty/threshld/thresh08.html>. In 2008, the poverty threshold for one person under age 65 was $11,201; age 65 or older it was $10,326. The poverty rate is the percentage of people that are below the poverty threshold. In 2007 (the most recent figures), the official poverty rate was 12.5%, which was unchanged from 2006. Using a quantitative test for poverty has been criticized because 1) the lifestyles of persons slightly over the poverty line are not much different and yet they are excluded from the poor; and 2) other human development-indicators like health and education are ignored in determining poverty. The World Bank defines poverty as consumption of less than $1.08 per day, measured in 1993 dollars.

•**Pushing on a String.** Dwight D. Eisenhower said: "Pull the string, and it will follow wherever you wish. Push it, and it will go nowhere at all." In economic circles, the phrase "pushing on a string" applies to efforts by the FED to induce lending activity by giving cash to banks in exchange for investments held by the banks. If

banks are in a liquidity crisis, providing cash to banks will restart loan activity. However, if banks are in a solvency crisis, the banks will hoard the money they receive from the FED in order to replenish their capital in anticipation of further loan losses, and the FED will be "pushing on a string."

•**Rationing.** Rationing is the government control over the distribution of scarce goods or services, in America implemented only during wartime or other emergency. Rationing artificially restricts demand for commodities or manufactures. The United States government imposed rationing on December 27, 1941, that extended to rubber tires, and later automobiles, sugar, typewriters, gasoline, coffee, shoes, stoves, meats, processed foods, and bicycles. Some items, such as sugar, were distributed equally to everyone. Other items, like rubber tires or gasoline, were rationed based on need. The current "cap and trade" legislation introduced in Congress is the rationing of carbon usage.

•**Real Dollars.** See "nominal dollars," in this list.

•**Risk-Free Rate.** In theory, there is an investment that has no risk of default, and the rate of return on that investment is the "risk free rate." For most purposes, the risk free rate in the U.S. is the interest rate on a three-month U.S. Treasury bill. However, for longer-term investments, a longer government security would be considered the risk free rate.

•**Seasonal Adjustments.** "Seasonal Adjustment" are statistical adjustments to economic data to correct for seasonal variations. Examples of seasonal effects would include a July drop in automobile production as factories retool for new models, or increases in heating oil production during September in anticipation of the winter. The government makes seasonal adjustments because seasonal variations can hide other characteristics of the data that are needed to analyze current economic trends.

•**Securitization.** "Securitization" is the process of issuing negotiable securities backed by existing credit obligations such as loans, mortgages, credit card debt, accounts receivable, or other similar assets. An example would be taking a number of home mortgages and combining them into a financial product that can then be traded like a bond. See this list, "Mortgage-Backed Security."

•**Senate Finance Committee.** The Senate Committee on Finance is responsible for examining issues of: U.S. government revenue and public debt; customs duties; the deposit of public moneys.; general revenue sharing; Social Security, Medicare, Medicaid, and SSI; welfare payments; reciprocal trade agreements; tax measures; tariffs and import quotas, and the transportation of dutiable goods. Past committee chairs include Henry Clay, John Calhoun, Daniel Webster, Robert LaFollette, and Robert A. Taft. A host of dignitaries have served on the Committee, including four later presidents, a number of vice-presidents, a number of cabinet members, and the like. <http://finance.senate.gov/ history.pdf>. The current chair is Democratic Senator Max Baucus from Montana; the ranking member is Republican Senator Charles Grassley from Iowa.

•**Shock.** In economics, a "shock" is an event outside the economy that has a significant effect on the economy. Two main shocks are demand shocks and supply shocks. A demand shock is a surprise event that temporarily alters demand for goods or services (a positive shock increases demand while a negative shock decreases demand). A supply shock alters the supply of something in the economy. Hypothetically, the Iranian navy sinking an oil freighter in the Persian Gulf would be an economic shock–not a supply shock, but a demand shock, as the loss of oil would be trivial but the world-wide fear of interruption of oil flow would drive buyers to quickly purchase what oil is available, thus driving up the price of oil. On the other hand, extensive bad weather can be a negative supply shock that affects the availability of a commodity,

like wheat.

•Socialism. Socialism is an economic and political condition where the government owns the means of production (natural resources, industry, utilities and labor) and administers the distribution of goods (through a government bureaucracy in lieu of a market mechanism). In extreme form, there is no private ownership of property. There were three great socialist states of the Twentieth Century: Germany under Adolph Hitler; the USSR; and the Peoples' Republic of China. Taken individually or taken collectively, these three governments were the greatest scourges since the Mongol Empire of the 1200s. Under these three governments, millions of people died as a result of the wars, genocide, and starvation associated with these extreme forms of socialism. Viewed more broadly, socialist parties in quasi-democratic societies advocate greater governmental control over economic activities, but fall far short of banning private property or substituting government-dictated allocation of resources in lieu of a market mechanism. At a philosophical level, socialism is based on cooperation, while capitalism is based on competition. History proves that cooperation can be sustained in small groups for short times, but when socialism is tried for an entire country, coercion must be brought against the members of society who won't cooperate, at which point the cooperative foundation for the economy or government is lost, and eventually ends up in autocracy.

•Sovereign Default. Sovereign default occurs when a government fails to pay interest or principal when due on a government debt. France defaulted on its sovereign debt 8 times between 1500 and 1800, while Spain defaulted 13 times from 1500 to 1900. De Paoli, Hoggarth and Saporta (2006) pp. 2-3. Several U.S. states (including Texas) defaulted on bonds issued for canals, internal improvements, and other purposes, in the 1840s. In the 1980s, a number of Latin American countries defaulted on sovereign bonds. Russia also defaulted on internal sovereign bonds in 1998. Indonesia, Pakistan and Ukraine also defaulted in 1998. From 1975 to 1995, there were 69 cases of sovereign defaults on either bonds or bank debt. Standard & Poor (1998) p. 51. These countries restructured their debt through an exchange offer substituting new bonds for old ones. In a restructuring of debt, if some bondholders refuse the exchange offer, it creates a "holdout problem." A web site with technical articles on sovereign default is on the WWW at <www.defaultrisk.com/ps_sovereign.htm>. Since 2008, the credit default swap market has reflected a significant premium for the risk of U.S. default on Treasury bonds. See Abigail Moses, *U.S. Treasury Credit-Default Swaps Increase to Record, CMA Says* (Sept. 9, 2008) <www.bloomberg.com/apps/news?pid=20601087&sid=aTuV9vbFtYu4&refer=home#>. More thought needs to be put into the process and consequences of the U.S. government's sovereign default on its debt.

•Sub-Prime Mortgages. A "sub-prime mortgage" is a home loan extended to a borrower with a FICO credit rating below 640. Because of the increased credit risk with such a borrower, the mortgage requires a higher interest rate compared to a conventional mortgage. Many sub-prime mortgages were hybrid adjustable-rate mortgages with a low down payment or no down payment, and a low "teaser" interest rate that would remain fixed for several years before increasing. The borrower's expectation was that, by the time the interest rate reset, the mortgage could be refinanced, or the house could be sold for a profit in a rising real estate market .While real estate prices were surging, these mortgages seemed to work fine. When real estate prices turned down, many borrowers had homes with negative equity (loans exceeding value), and they could not qualify for refinancing, so they quit paying the mortgage and allowed the house to be foreclosed on by the lender. Looking at the secondary market for mortgages, many of these subprime mortgages were grouped into bundles, packaged as mortgage-

backed securities* (MBS), and sold to investors, sometimes in tiers that separated good mortgages from Alt-A mortgages from sub-prime mortgages. The riskier the tier, the more interest it paid. Once the real estate market turned down, and mortgages went into default, investors became afraid to buy MBSs, which could not be valued because they had undetermined amounts of bad loans in them. Investors (like banks), who had to sell their interest in MBSs to raise liquidity, could get only a small part of their worth due to the illiquid market. When sales were made at steeply discounted values, mark-to-market accounting forced all holders of MBSs to mark the value of their MBSs down to the liquidation prices reflected in the liquidating transactions, and a banking crisis ensued. See FAS 157-4, in this list.

•**Sub-Prime Borrower.** A sub-prime borrower is a borrower with a poor credit history and/or insufficient collateral who does not, as a consequence thereof, qualify for a conventional loan and can borrow only from lenders that specialize in dealing with such borrowers. The interest rates charged on loans to such borrowers include a risk premium, so that it is offered at an interest rate above the rate offered to qualified borrowers. <www.ecb.europa.eu>.

•**Swap.** A "swap" is an exchange of securities between two parties.

•**Systemic Risk.** Systemic risk is the risk that a single event, such as one financial institution's failure, may trigger broad dislocations or a series of defaults that affect the financial system so significantly that the real economy is adversely affected. <www.treas.gov/press/releases/hp486.htm>. Various definitions of "systemic risk" are discussed in Schwarcz (2009). While it is widely accepted that bank failure is the worst of all systemic risks, one wonders if that view prevails because the government's financial officials all have banking backgrounds or banking ties. For a view that the systemic risk from banking failure is no greater than other failures, see Kaufman (1996).

•**Traders.** "Traders" are market participants who purchase an investment with a focus on the price of the investment rather than the underlying fundamentals of the investment. Traders hold assets for shorter periods of time in order to capitalize on short-term trends. Traders are distinguished from investors. "Investors" make investments for the long term because they believe that the investment has a good rate of return or strong future prospects of increased value.

•**Unemployment Benefits.** Unemployment benefits, called "unemployment insurance" (UI), are an insurance program that provides temporary financial payments to workers who are unemployed through no fault of their own. The benefits are based on previous earnings. The program is a joint Federal/state effort, and the cost of the benefits is paid by federal-state program jointly financed through federal and state employer payroll taxes (the Federal tax, or FUTA, is 6.2% of taxable wages). The recent fiscal stimulus bill, the 2009American Recovery and Reinvestment Act (ARRA), made a total of $7 billion in unemployment insurance "modernization incentive payments" available to states that expand UI eligibility coverage in certain prescribed ways, such as coverage for part time workers, extending benefits to beneficiaries in training, and allowing workers to use their more recent earnings to qualify for benefits. Unemployment benefits are subject to federal income tax, but the has temporarily suspended income tax on the first $2,400 in unemployment benefits received.

•**Wealth Effect.** The "wealth effect" is the tendency of consumers to spend more when they believe they are wealthier, and less if they believe their wealth has diminished. The wealth effect can result from people being richer, or just believing they are richer.

•**Yield.** "Yield" is the annual rate of return on an

investment, expressed as a percentage. For corporate stock, the yield is the annual dividends divided by the market price of the stock. For stocks, "yield" is not the same as total return on investment, since stocks can also increase in value (i.e., capital gain). For bonds, the yield is the interest rate divided by the market price of the bond. In theory, the yield on a 30-year bond equals the average of expected yields on 1-year bonds for each of the next 30 years, plus a premium to compensate the bondholder for lack of liquidity and other long-term risks, principally inflation.

E. CONSUMER SPENDING. Consumer spending is 70% of America's GDP. Consumer spending is the 800 pound gorilla of the American economy. In fact, it is the King Kong of the world economy. Americans are the greatest consumers in the world, and consumption drives sales, imports, factory output, business investment, job growth, and more. Baumohl (2008) p. 63. For purposes of national accounting, consumer spending is called "personal consumption expenditures" (PCE). PCE are divided into three categories: durable goods, nondurable goods, and services. Baumohl (2008) p. 64. A "consumer durable" is a consumer items that is expected to remain in use for 3 years or more. Examples would include kitchen appliances, furniture, and automobiles. Consumer durables make up approximately 10% of CPE. *Id.* Consumer nondurables last less than 3 years, and would include food, clothing, books, etc. Consumer nondurables account for 30% of CPE. *Id.* Services, including medical care, haircuts, legal fees, movies, air travel, etc., account for 60% of CPE. *Id.* Consumer spending on durables is very important, because these items are discretionary in nature and are affected by consumer income and attitudes. Bauhohl (2008) p. 111. They are the first expenditures to fall in an economic downturn. Since they are expensive and frequently purchased on credit, expenditures on consumer durables are also interest rate sensitive. *Id.*

Trends in Consumer Spending. Many writers have expressed concern about "the new consumerism," "luxury fever," and "the urge to splurge." Warren (2007) p. 42. But consumers now spend 32% less today on clothing than they did in the early 1970s. *Id.* p. 42. They buy fewer suits and leather shoes, more T-shirts and shorts, shop at discount stores, and buy clothes that are less expensive since they are manufactured overseas. *Id.* p. 42. Today's family of four spends 18% less on food (including eating out) than in the early 1970s. *Id.* pp. 42-43. But they eat less meat and more pasta. They shop at discount supercenters and less at corner grocery stores, and agribusiness has improved the efficiency of food production. *Id.* p. 43. Consumers today have microwaves, espresso machines, and fancy appliances, but they spend 52% less than in the 1970s, because appliances are better made, last longer, and cost less to buy. *Id.* p. 43. Consumers pay 24% less per car (purchase, repairs, insurance, and gasoline) than they did in the 1970s. But more families have two cars than in the 1970s, so that overall transportation costs for a family of four have increased by 52%. *Id.* pp. 43-44. Median house size has increased from 5.8 rooms in the early 1970s to 6.1 rooms today, but the median house mortgage has increased 76%, from $485 per month to $854 per month. *Id.* p. 43. The cost of health insurance is up 74% since the 1970s. *Id.* pp. 43-44. Childcare expense has increased from zero in the 1970s (one parent stayed at home) to an average of $1,048 per month. *Id.* p. 44. With more two-earner households, the average tax rate has grown from 1972 to 2004 by 25%. *Id.* p. 44. The arguable decline of the financial condition of middle class families over the last forty years, considering earnings, spending, and debt, is a matter of controversy and concern. Consumer debt is discussed in Section III.J below. The financial condition of the middle class is discussed in Section VIII below.

F. THE BUSINESS CYCLE. "The business cycle is a recurring pattern in the economy consisting first of growth, followed by weakness

and recession, and finally by resumption of growth." Baumohl (2008) p. 11. Business cycles go through expansions and contractions, which can be measured from peak to trough and back to peak again. The peak occurs in the last month before key economic indicators, such as production, employment and new housing starts, begin a sustained and severe fall. Stated differently, the peak is the point at which economic activity, as measured by production or consumption, is its highest level before a downturn. The "trough" is the low point of a business cycle, which marks the end of a period of declining business activity and the transition to economic expansion.

1. U.S. Business Cycles. The U.S. has experienced 32 business cycles since 1854. As noted above a business cycle goes from a peak to a trough and back to a peak. The dates of U.S. business cycles are listed at <www.nber.org/cycles>. Since 1960, there have been eight business cycles, with the following number of months from peak to trough to peak again:

Peak	Peak to Trough	Trough to Peak
April 1960	10 mos.	106 mos.
December 1969	11 mos.	36 mos.
November 1973	16 mos.	58 mos.
January 1980	6 mos.	12 mos.
July 1981	16 mos.	92 mos.
July 1990	8 mos.	120 mos.
March 2001	8 mos.	73 mos.
December 2007	20+ mos.	???

One study found that , in the 27 recessions from 1875 to 2007, the average length of a recession (peak to trough) has been 15.4 months and the average expansion 39 months. Bordo (2009) p. 16. According to the National Bureau of Economic Research, the current recession started in December 2007, so in August of 2009 we are 20 months from the last peak (setting a new record for post-1959 recessions). We won't know when the trough occurs until after-the-fact. Indications are that we have not reached the trough yet, but the rate of decline appears to be slowing, so we may have transitioned from moving away from a peak to moving toward a trough (i.e., passed through an "inflection point*"). The Congressional Budget Office predicted on January 27, 2009, that the recession would last until the second half of 2009. Elmendorf (Jan. 27, 2009) p. 7.

A non-technical article about the business cycle, authored by Dr. Christina Romer, Chair of President Obama's Council of Economic Advisors, is at <www.econlib.org/library/Enc/BusinessCycles.html>. Dr. Romer published a study comparing pre-WWII and post-WWII recessions. See *Changes in Business Cycles: Evidence and Explanations*, 13 J. of Economic Perspectives 23 (1999). She found that, up to 1999, recessions after WWII have been less frequent and slightly less severe. *Id.* p. 32.

2. Why Are There Business Cycles? Finding the definitive explanation of why the economy operates in business cycles instead of straight-line growth is a puzzle that has eluded economists dating back to Karl Marx, and is still eludes the best minds of today. There are many structural explanations, some blaming government, some blaming banking, some blaming capitalism itself. A common sense explanation would be: predicting future economic events is filled with uncertainty, no matter where you may be positioned in the economy, no matter how much data you collect, and no matter how complicated your model may be (and most economic models are overly-simple, not complicated). Considering just the number and not the importance of economic decisions, most economic decisions are made by workers and consumers who have little understanding of the way the economy operates, and think mostly in terms of the immediate impact of their decision on themselves. Some business managers and investment managers, despite their greater knowledge and experience with financial projections, are motivated by their manner of

compensation (bonuses and stock option grants) to seek short term rewards with less regard for long run risk. And politicians are constantly tempted to do what gets them reelected, or gets them money to campaign for reelection, at the expense of what is in the long term best interest of the economy. For these reasons, many economic and financial decisions are made based on short-term considerations and not long-term ones.

Even bankers and businessmen and government officials who have a deeper knowledge of the way the economy works, and who have experience in making economic predictions, and who wish to make long-term decisions, are using data that is incomplete, contradictory, and old. The economy is world-wide, and too many things can happen that invalidate assumptions. Some people have to risk money and careers on making counter-intuitive decisions that are seemingly contrary to conventional wisdom. An example is a recent comment by Jeffrey Immelt, CEO of General Electric, who said: “My job at GE is to look 20 years ahead.” At a conference on June 15, 2009, Mr. Immelt said:

> Lots of stuff has happened in the last year. Some of it was 25 years in the making. . . . The fact of the matter is we wake up and capital markets have largely healed. . . . As a company you have to invest now. You have to invest when things are darkest,. . . . I hope this is a V-shaped recovery. I hope this is like 1982. That’s not what I’m counting on. If you are hunkering down, you are going to get crushed. It’s time to hunker up.

<www.bloomberg.com/apps/news?pid=20601082&sid=aLiba4IuAYE0>.

It is easy to see how someone can overinvest in a good economy and underinvest in a bad one. The economy simply builds too much momentum up, or down, and naturally overshoots turning points. With so many actors, acting in an uncoordinated fashion, swings may be unavoidable. The best we can do is to build damping mechanism to slow the swings, and put safeguards in place to catch us when we fall.

3. What is a Recession? The economy is normally either in expansion or contraction. A significant contraction is called a recession. In a famous paper in 1946, later FED chair Arthur Burns defined a recession as substantial prolonged decline in economic activity that occurs broadly across various sectors of the economy. Currently, economists look for the “three Ds”: for a slowdown to be a recession, it should be sufficiently long (duration), it should involve a substantial decline in economic activity (depth), and it should involve multiple sectors or all the sectors of the economy rather than simply reflecting an isolated decline in a single sector or region (diffusion). Stock and Watson (1993) p. 98.

4. What is a Depression. The is no widespread agreement on a precise definition for an economic depression. Some economists use the word “depression” to describe the portion of the cycle when economic activity is in a precipitous decline, while others include that plus the time it takes for economic activity to return to normal levels. There is also disagreement of how severe an economic downturn must be to qualify as a depression.

Some economists define an economic depression in terms of output of the economy, by comparing actual GDP to a trend line of GDP per working-age person over time. See <www.econ.umn.edu/~tkehoe>. The trend growth rate of the U.S. economy during the 20th Century has been 2% increase per year. Conesa (2007), p. 2. They say if output per working age-person is significantly above the trend line, the economy is in a boom, and if significantly below, the economy is in a depression. *Id.* Kehoe and Prescott say that a great depression exists when: (1) there is a large deviation (output at least 20% below trend); (2) the deviation occurs rapidly (a 15% fall in the first decade of the depression); and (3) the deviation is

sustained (output grows at less than the 2% trend rate during any decade of the depression). Kehoe and Prescott (2007), p. 6 *See* <www.econ.umn.edu/~tkehoe/papers/depressions.pdf>." See Section II.F.

5. Dating Peaks and Troughs. The Business Cycle Dating Committee of the National Bureau of Economic Research, a non-profit organization, has been tasked with officially determining the beginning and ending dates of U.S. recessions. According to the Committee, a "recession is a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in production, employment, real income, and other indicators. A recession begins when the economy reaches a peak of activity and ends when the economy reaches its trough. Between trough and peak, the economy is in an expansion." Stated differently: "[A] recession—the way we use the word—is a period of diminishing activity rather than diminished activity. We identify a month when the economy reached a peak of activity and a later month when the economy reached a trough. The time in between is a recession, a period when economic activity is contracting. The following period is an expansion." <http://www.nber.org/cycles/recessions_faq.html> The Committee determined that December 2007 was the start of the current recession. <www.nber.org/cycles/dec2008.html>. The Committee rejects the popular definition of a recession as being two consecutive quarters of decline in real GDP, because the Committee: does not identify economic activity solely with real GDP; emphasizes monthly indicators rather than quarterly indicators; considers the depth of decline in economic activity; and considers Gross Domestic Income as well as GDP. According to the NBER, since 1960, the U.S.A. has experienced seven recessions prior to this one, the shortest (January 1980) lasting 6 months and the longest (one beginning Nov. 1973 and another beginning July 1982) lasting16 months.

6. Where Are We in the Cycle? "Business cycles can vary considerably in duration, magnitude, and dynamics. . . . [A]t any given point, it is difficult to know the stage in the cycle of the general economy, or a given industrial sector. . . . Even general downturns vary in their dynamics, affecting industry sectors differently. . . . [P]urely cyclical factors are difficult to differentiate from coincident secular changes in industry fundamentals, such as the emergence of new competitors, changes in technology, or shifts in consumer preferences." Standard & Poor's (1998) pp. 106-107.

7. Government's Countercyclical Efforts. The government has two tools for moderating the business cycle: monetary policy (interest rates, money supply, and lending) and fiscal policy (government taxation, wealth transfers, and government spending). It was only with the establishment of the FED, in 1913, that it became possible for the Federal government to conduct monetary policy. The principles were not well understood in the early days, and sometimes the FED precipitated or exacerbated recessions, but monetary policy began to have an impact on the business cycle in the 1920s and 1930s. Romer (1999) p. 34. Using fiscal policy to increase aggregate demand in a counter-cyclical fashion started with the Employment Act of 1946, but it was in the 1960s that countercyclical fiscal measures designed to increase demand (called "aggregate demand management") became firmly established. Romer (1999) p. 35. Romer found that countercyclical policies kept the change in GDP from going below zero in 1956, 1970 and 1990, while it shaved two point off nearly every other decline in GDP. Romer (1990) p. 37. Bernanke believes that interest rate cuts and other actions by the FED avoided a recession after the stock market crash of 1987. Bernanke (1990). There were also instances where the FED intentionally induced a recession (and higher unemployment) in order to tame inflation, such as in 1981. Romer (1999) p. 38.

8. A Moses Sector. Recoveries from recession sometimes follow a "Moses sector," being the sector of the economy that leads the economy out of recession. This role was traditionally supplied by housing or the automobile industry. Staats (1975) p. 18. In most estimations, in the current economic downturn, the housing sector has further to fall, and the American automobile industry has collapsed, perhaps permanently, so unless Fiat, Ford and Toyota rise to the challenge some other sector will have to lead us out of the wilderness.

G. THE GREAT DEPRESSION. The Great Depression was a severe economic downturn that occurred throughout the 1930s. Although Americans tend to think of the Great Depression as an American experience, symbolized by one particular picture from the Great Depression, <www.americaslibrary.gov/cgi-bin/page.cgi/aa/writers/lange/power_2>, the Great Depression also affected Canada, France, Germany, and the United Kingdom. Argentina, Brazil, China, and Mexico had "great depressions" in the 1980s, and New Zealand from 1974 to 1992, and Switzerland for the last 25 years of the 20th Century. Finland and Japan suffered mild depressions in the 1990. Conesa, Kehoe & Ruhl (2007) p. 1.

The Great Depression is distinguished from recessions because of the severity of the downturn and its long duration. The Great Depression in the U.S. passed through three different stages. First came a severe downturn from 1929 to 1933, in which real GDP dropped by 27% and unemployment rose from 3% to 25%. The decline lasted for 43 months until a trough was reached. There was an economic recovery from 1934 to 1937 that restored GDP to its 1929 level. Then a second collapse occurred in 1937, when real GDP declined by 3.4% and the unemployment rates rose from 14% to 19%.

1. From When to When? The National Bureau of Economic Research determines peaks and troughs in economic activity in the U.S.A. The NBER has determined that the peak at the start of America's Great Depression occurred in August 1929 and troughed in March 1933, peaked again in May 1937 and troughed again in June 1938. Both contractions were severe, the first being the worst in American history. If the time frame of the Great Depression is extended to the point that normal activity was regained, then the Depression ended in 1940 or 1941. *Id.* <www.nber.org/cycles/dec2008.html>.

2. Theories on the Causes of the Great Depression. There has been vigorous and enduring disagreement about what caused the Great Depression, and why it lasted as long as it did. Various writers have suggested various conditions as contributing to the Great Depression: 1) a decline in prices of American farm products as European agriculture recovered from the devastating effects of World War I; 2) a low interest rate coupled with excessively-leveraged investments in stock market leading to a stock price bubble that popped in October 1929; 3) over-expansion of business in the 1920s resulting from diffusion of electricity, radio, and the internal combustion engine; 4) Great Britain's bad decisions regarding the gold standard for its currency, abetted by U.S. efforts to stem the flow of gold from the U.K. to the U.S.A.; 5) a loss of confidence in banks causing bank runs that led to bank failures and a credit crunch, both of which radically shrank the money supply; 6) people hoarding money in their homes, which reduced the money supply; 7) the FED's failure to expand the money supply in response to the developing crisis; 8) President Hoover's and Congress's decision to raise taxes in 1932 to balance the Federal budget; 9) President Hoover and President Roosevelt refusing to allow wage rates to adjust downward; 10) the FED's raising interest rates to stop the outflow of gold from the American treasury; 11) Congress's enactment of the protectionist Smoot-Hawley Tariff that provoked retaliatory tariffs that stifled international trade; and 12) Congress's restriction of immigration.

Not Enough Demand. John Maynard Keynes

believed the Great Depression resulted from a lack of aggregate demand. Keynes suggested that, during the economic emergency, governments should not try to balance their budgets by reducing expenditures or raising taxes, but should instead engage in deficit spending on public works projects to boost aggregate demand.

Too Much Credit. The "Austrian School" of economists, represented by Hayek and Mises, blamed the Great Depression on an unsustainable credit boom in the 1920s. The Austrians see a loss of faith in the banking system as the key factor that triggered collapse.

Insufficient Money Supply. Milton Friedman lists four main causes of the Great Depression. The first was the FED's decision to raise interest rates in 1928 to curtail speculative leveraged investment in the stock market. He believes that led to a recession in August 1929 the contributed to the stock market crash of 1929. The second error was raising interest rates in 1931 to stave off an outflow of gold as central banks and speculators converted their dollars into gold. The third problem was the FED's decision to shrink the money supply starting in July of 1932. The fourth was the FED's refusal to assist failing banks by lending money to them. See Bernanke (March 2, 2004) pp. 4-5. Christina Romer believes that the economic recovery after FDR was elected, from 1933 to 1936, alarmed the FED which doubled the banks' reserve requirement (see Section III.K.6) in 1936, resulting in the contraction in the money supply identified by Friedman and Schwartz, plunging America back into a severe recession. Romer (June 18, 2009).

3. Comparing Then to Now. A great deal of time is spent comparing the current recession to the Great Depression. A desire to avoid the mistakes that led to the Great Depression is a guiding principle of the current head of the FED, Ben Bernanke, who studied and wrote about American recessions and the Great Depression during much of his scholastic career. Mr. Bernanke is getting to "field test" his theories in the fight to keep this recession from turning into another Great Depression. The Keynesian fiscal stimulists are also having the chance to implement their theories, with the bailout legislation and fiscal stimulus bills. All these events, and the wide range of governmental responses, will generate skads of data which economists can crunch and analyze for years to come. Perhaps the current economic situation will vindicate some theories of the causes and remedies of depression while refuting others. More probable is that all the theories will be found to be invalid to some degree, and we'll get a new crop of theories that may garner Nobel Prizes in thirty years. However, as Presidential economic advisor Lawrence Summers commented: ". . . [T]he types of economic crisis that can happen are so diverse that there's no cookie-cutter recipe book that you can look to find the right response to any particular crisis." <http://www.pbs.org/wgbh/commanding heights/shared/minitextlo/int_lawrencesummers.html#2>.

a. Stock Market Collapse. In 1928 and 1929, investing borrowed funds in the stock market ("leveraged investment") had driven stock prices to disturbing heights. In February 1929, the FED instructed its member banks to limit loans to brokers. Mishkin and White (2002) p. 18. This did not suppress borrowing for speculative purposes, however, since other financial intermediaries picked up that demand. *Id.* Lenders did sua sponte begin to extract a 2-to-3% premium on brokers' loans and raised their margin requirements (the amount of cash the investor had to risk) from 25 to 50%. *Id.* The flow of money into brokers' loans was so great that it reduced the flow of funds to the commercial paper market and foreign bond market, creating a "credit crunch." *Id.* p. 19. On October 28, 1929, the Dow Jones Industrial Average (DJIA) dropped 12.8%, then the next day 11.7% more. Mishkin and White (2002) p. 6. The sudden stock price collapse caused lenders to call their brokers' loans. To keep the credit markets from freezing, the New York Federal Reserve

Bank offered loans to member banks to use in taking over called loans. In doing this the New York Federal Reserve Bank made open market purchases in excess of the FED's Open Market Committee's existing permissions. *Id.* p. 19. These actions averted a panic. However, the FED Board of Directors censured the New York Federal Reserve Bank's actions, and pursued a tight money policy into 1930. *Id.* The stock market had peaked in August of 1929 and lost one-third of its value by the trough in March of 1933. See Section XI.E.5.

The DJIA's most recent peak was at 14,164.53 on October 9, 2007. On June 23, 2009, the DJIA was at 8,320.72, representing a decline of 41.25%. The current decline has been greater, but stretched over a longer period. See Section XI.E.3.

b. Banking Collapse and Shrinking Money Supply. Defaults in agricultural loans led to bank failures in the South and the Midwest, (see Section III.K.6 & 7) leading to a bank panic in October of 1930 where depositors lined up outside of their banks, waiting to withdraw their deposits. Depositors were afraid that their bank would fail, wiping out their deposits. Because that fear was widespread, it actually brought many bank failures to pass. The ruinous effect of a bank panic is a consequence of fractional reserve banking. See Section III.K.4. In 1930, when depositors withdrew their deposits in droves, the withdrawals exceeded capital on hand, and banks had to recover capital by suspending the making of new loans and by calling existing loans due. Unable to recover capital fast enough to cover the withdrawals of deposits, the targeted banks failed. The next bank panic occurred in March 1931, when banks reduced lending to shore up reserves. Stratton and Roberts (2001) p. 1. Bank deposits shrank by 7%, contracting the money supply. In September, in response to the United Kingdom abandoning the gold standard, the FED made the largest increase in the discount rate (see Section V.A.5) in history. Banks responded by stopping their use of the discount window as a source of temporary funds and instead hoarded cash. *Id.* p. 2. By January of 1931, bank deposits had declined by 15%. However, bank reserves in cash and on deposit with the FED had jumped up, which the FED mistook as a sign of excess liquidity and so did nothing to combat the decrease in money supply that resulted from reduced lending. *Id.* By January of 1933, bank panic was spreading around America, banks were failing, and states were declaring "bank holidays." By March, banking activity had been suspended in half of the states. On March 4, all banks in America, including the Federal Reserve Banks, were closed by order of President Roosevelt, bringing the bank panic to an end. (See Section III.K.8). Between October 1930 and March 1933, when FDR became President, over 10,000 banks failed, wiping out many depositors, and shrinking the money supply by one-third. As part of the "New Deal," within days the new Congress established the FDIC, which stemmed future bank panics by making depositors feel secure that, if their bank failed, the FDIC would replace their deposits. While the FED dropped the ball on the money supply, FDR devalued the dollar against gold and required Americans to sell their gold to the U.S. Treasury, feeding a large amount of money into the economy. The economy started recovering.

In the current economic downturn, we have experienced no runs on banks. However, bad loans and bad investments have caused a number of banks to fail. Between January 1, 2008 and June 19, 2009, 65 banks failed, and 302 are on the "watch list." So far in this economic downturn, the FED and the FDIC have been able to seamlessly move depositors from failed banks to functioning banks, with no losses to depositors. In doing this, however, the FDIC has depleted its capital, requiring a special assessment on banks and an increase in borrowing authority from the U.S. Treasury. See Section III.K.10. Additionally, leading up to the present crisis, major banks in American had received new capital by allowing Chinese investors and oil sheiks to purchase large ownership interests in the bank in exchange for

massive capital infusions. These precautions proved to be insufficient, and in the past year the U.S. Treasury has begun to make loans to banks and acquire ownership positions in banks as a means of shoring up their capital and avoiding a banking collapse. The FED's and FDIC's success in shifting depositors from failed to functioning banks, coupled with raising the FDIC insurance cap from $100,000 per depositor per bank to $250,000, has so far avoided a bank panic, and will probably continue to do so until the public loses confidence in the FDIC, at which point the U.S. Treasury will have to "bail out" the FDIC. That should restore confidence in the banking system until depositors lose confidence in the U.S. Treasury's ability to cover all of its many new gargantuan guarantees. The FDIC has recently made a special assessment on member banks that is expected to raise $5.6 billion dollars for the Deposit Insurance Fund. This will help to shore up the FDIC's capital. Congress recently increased the FDIC's ability to borrow from the Treasury from $30 billion to $100 billion, and up to $500 billion in an emergency. See Section III.K.9. The present banking system is much more secure than the system that existed in the 1930s, but the size of the losses that need to be covered could overwhelm the system.

c. The FED's Response. The reaction of the New York Federal Reserve Bank to the 1929 stock market collapse was noted above, where it made loans to maintain liquidity in the brokers' loan call market. These actions were later condemned by the FED Board. Between June 1929 and June 1933 the money supply fell by 32%, but the FED did not attempt to expand the money supply. When FDR became President in 1933, the Federal government expanded the money supply through its gold purchase program and in other ways. In 1935, the American economy started a two-year economic expansion in which wholesale prices increased 50% and stock prices doubled, GDP grew 9%, and unemployment fell from 25% to 14%. Commercial banks built up large excess reserves. Mishkin and White (2002) p. 21. Fearful that these excess reserves might flow out into the economy, over the period of one year, beginning in July 1936, the FED doubled reserve requirements (see Section V.A.2), increased the margin requirements on stock loans (see Section XI.F), and increased the discount rate (see Section V.A.5). *Id.* p. 21. This contracted credit, which reduced the money supply, and starved growth of the economy. In 1937 Social Security taxes kicked in as an additional tax burden. The economy went into a tailspin. See Hetzel (2008) pp. 17-ff.

Current FED Chairman Ben Bernanke, like many other economists in ascendancy today, agree with Milton Friedman's assessment that, during the Great Depression, the FED failed to take action to offset a shrinking money supply. The FED's recent actions reflect this monetarist view. In the early days of the current crisis, the FED worked to restore liquidity to the finance system by expanding its loan programs to include a broader range of financial institutions and to downgrade the quality of the collateral needed to secure loans from the FED. So far, swapping cash for bad loans and bad investments has not had the desired effect of stimulating lending and expanding the money supply, because the banks are not using their increased capital to make new loans. Instead, the fears bank directors have about future defaults on existing loans, and the derivatives they hold as investments, have caused the banks to horde this new capital as a protection against further degradation of their loan portfolio. As a result, the FED is "pushing on a string."*This suggests that we are in a bank solvency crisis, rather than just a liquidity crisis, and that merely increasing liquidity will not solve the problem. Dr. Anna Schwartz said this in an interview with the Wall Street Journal: "The Fed," she argues, "has gone about as if the problem is a shortage of liquidity. That is not the basic problem. The basic problem for the markets is that [uncertainty] that the balance sheets of financial firms are credible." <http://online.wsj.com/article/SB122428279231046053.html#printMode>. Swapping cash for bad

loans and bad investments doesn't help the banks' balance sheets, since borrowing money doesn't improve net worth. If we are in a solvency crisis, banks really need to improve their balance sheets by adding new capital (i.e., selling new stock), waiting for the day that the mortgage-backed securities* market rebounds and the market value of the banks' investments in credit derivatives reflects their true worth. See "FAS 157-4" in Section II.D. Apart from providing liquidity to banks in the failed attempt to provoke loans and expand the money supply, since January of 2009, the FED has been feeding large sums of money directly into the economy by purchasing long-term mortgage backed securities* and long-term Treasury bonds, causing a significant increase in the money supply (M2). See <http:///michael.bordo.googlepages.com/The_Great_Contraction_and_the_Curren.pdf>.

Former FED Chairman Paul Volcker described the FED's actions in these words: "To meet the challenge, the Federal Reserve judged it necessary to take actions that extend to the very edge of its lawful and implied powers, transcending certain long embedded central banking principles and practices." Volcker (April 8, 2008) p. 2. He further commented that "[o]ut of perceived necessity, sweeping powers have been exercised in a manner that is neither natural nor comfortable for a central bank." *Id.* p. 8.

A list of the FED's extraordinary efforts to ameliorate the current crisis includes: reductions in the federal funds rate (the interest rate on overnight loans between banks) and the discount rate (interest rate on loans from the FED to banks); loans to primary security dealers; loans to re-liquify the commercial paper market; "swap lines" with 14 other central banks to alleviate dollar shortages; lending funds for JP Morgan-Chase's take-over of Bear Stearns and Citibank's take-over of Merrill Lynch; loans to insurance giant AIG; support for the issuance of asset-backed securities collateralized by auto, credit card, student, and SBA loans; loans to money market mutual funds; offering to purchase loans of Fannie Mae, Freddie Mac, Ginnie Mae, and the Federal Home Loan Banks; support for the mortgage market; support for consumer and small business lending; instituting interest payments on bank reserves deposited with the FED; and purchases of long-term treasury securities. See Fisher, *2008 Annual Report–Federal Reserve Bank of Dallas* <http://dallasfed.org/fed/annual/2008/ar08a.cfm>; Douglas Elmendorf, *U.S. Overview: When Will Growth Resume* (April 27, 2009) <www.cbo.gov/ftpdocs/101xx/doc10101/Milken1stPanel.pdf>. An excellent, succinct, and humorous overview of the FED's recent actions, and the reasons behind them, is the February 9, 2009 speech by Dallas Federal Reserve Bank President Richard W. Fisher, *The Fed's Responses to the Current Economic Challenge*. <www.dallasfed.org/news/speeches/fisher/2009/fs090209.cfm>.

d. The Interest Rate. Between May 1928 and August 1929, the New York Federal Reserve Bank raised its discount rate (the interest the FED charges on loans to banks) from 3.5% to 6%, in order to restrain what it felt was excessive leveraged investment in the stock market. See Section V.A.5. Ben Bernanke believes this led to the onset of a recession in August 1929, which was followed by the stock market crash in October. Bernanke (2004) p. 3. After the stock market crash in October of 1929, the FED lowered the discount rate from 6% to 5%, then 4.5%, then all the way down to 1.5%. In 1931, many people believed the American dollar was vulnerable to devaluation, so central banks and speculators started converting their dollars to gold. The FED moved to protect the nation's gold reserves by raising interest rates, to entice people to hold investments denominated in dollars. This successfully defended America's gold standard, but repressed economic activity. *Id.* p. 3. In complete contrast, in the recent past the FED has driven the short-term interest rate (the "federal funds rate," see Section V.A.3) down from 5.25% in September 2007 to between zero and 0.25% at

the present time. The short-term rate is so close to zero that it has become "zero bound," meaning that the FED can no longer use the short term interest rate to implement monetary policy. See Section V.A.4. Therefore other approaches must be used to stimulate lending, including inflating the money supply. Beginning March 18, 2009, the FED has attempted to artificially depress the long-term interest rate by buying long term U.S. government bonds and mortgage securities, using money printed by the Bureau of Engraving. This has reduced the interest burden on home owners who refinance their mortgages, and of late has prompted corporations to issue new long-term corporate bonds to shore up their capital positions. Moving corporations into long-term bonds as a source of capital is an improvement, since excessive reliance on short-term borrowing from commercial banks is one factor that has made corporations so vulnerable to the current "credit crunch."*

e. De Facto Nationalization. The recent "bailouts" of selected banks and corporations, where the U.S. Treasury has either loaned money to banks and corporations or has purchased ownership interests in banks and corporations, is another method of shoring up the capital of these institutions, which due to the recent financial crisis could not borrow either working capital or long-term debt which they needed to function, and due to depressed stock prices could not raise investment capital by issuing new shares without excessively diluting the ownership interests of current shareholders. Where the Federal government has taken stock in a company, put Federal representatives on the Board of Directors, replaced CEOs and imposed limitations on executive compensation, it is a form of socialism. In the words of FDIC Chair Sheila Bair: "The government is going into places where we don't want to be. We're doing things we'd rather not be doing, but had little choice not to undertake them – and they have worked so far." <www.fdic.gov/news/speeches/chairman/spapr2709.html>. The Federal government's intrusion into the business decision-making process has created a reaction on the part of banks and companies to move as quickly as possible to replace Federal money with private capital. If these efforts are successful, it will result in the U.S. Treasury receiving more of its capital sooner, which will help the U.S. government return to its pre-crisis position.

f. Fiscal Stimulus. As noted in Sections II.A.6 and II.F.2 of this Article, John Maynard Keynes believed that a lack of aggregate demand caused or contributed to the Great Depression. The Keynesian view, that reducing taxes and increasing government spending can avert a depression, is also being put to the test, from President Bush's 2008 tax rebates to President Obama's temporary tax reductions and his instigation of massive appropriations of federal money to fund federal, state, and local government expenditures on unemployment benefits, medical care for the indigent and uninsured, rebuilding the nation's infrastructure, and encouraging new "green" technologies.

g. Tax Law. In 1932, in an effort to reduce the Federal government's annual deficits, Congress sharply increased tax rates. This depressed economic activity. The Congress is doing the opposite now. According to the White House, the 2009American Recovery and Reinvestment Act (ARRA) reduced personal income taxes for 95% of working families, with 70% of the benefits going to the middle 60% of American workers. Individual taxpayer benefits are: a refundable tax credit of up to $400 per worker (phasing out at higher incomes); a child tax credit; a $2,500 college tax credit; raising the floor on the Alternative Minimum Tax; raising the first-time home buyer credit from $7,500 to $8,000; a tax deduction for state and local sales and excise taxes paid to purchase a new car, light truck or RV; and temporary suspension of income tax on the first $2,400 of unemployment benefits. There are a number of business-friendly tax provisions in ARRA, including: a one year extension of the 50% special depreciation allowance/tax credit; an

extension of the IRC § 179 ability to expense up to $250,000 of the cost of acquiring qualifying property; extending the net operating loss-carry back provision from 2 years to 5 years; and increasing the capital gain tax exclusion for investment in small companies from 50% to 75%; to name just a few. However, tax rates on personal earnings, dividends, and capital gains are slated to increase automatically on December 31, 2010, as the Bush tax cuts expire. President Obama is advocating new income tax increases in addition to the automatic ones, in order to pay for new programs relating to healthcare and the environment, and to help reduce the annual deficit.

h. Tariffs. It is often suggested that the Smoot-Hawley tariff bill of 1930 caused or contributed to making a recession into a depression, because it led to retaliatory tariffs in other countries that suppressed global trade. People who oppose current "free trade" policies disagree, as do some economists. They argue that the Smoot-Hawley increase in tariffs was small, and that U.S. international trade was a small portion of the overall economy. They argue that the Fordney-McCumber Tariff of 1922 raised tariffs without lasting negative effects. Right or wrong, free-traders are in the ascendancy and there appears to be no sentiment in America today to adopt protectionist tariffs. However, there is a "buy American" clause in the ARRA stimulus bill, and the implementation process is overtly anti-import, which appears to be echoed in the stimulus law of our trading partners. Also, preferential bailouts for American companies to the exclusion of foreign companies operating in America have a protectionist component to them. So far, a protectionist "trade war" is being publicly denounced around the world, even by governments who are surreptitiously implementing non-tariff trade barriers. See Section IV.F.9.

i. Results. Dallas Federal Reserve Board President Richard W. Fisher said: "There is evidence that our actions have succeeded in pulling the financial markets and the economy from the edge of the abyss." Fisher (May 28, 2009). But the FED's monetary tools have only been able to restore liquidity, not effect an economic turnaround. We are just beginning to implement the fiscal stimulus programs, and only time will tell if they can achieve the desired effect. Government spending is so slow to implement and slow to unwind, that some economists fear that its effects will be felt only after the economy has recovered. If this turns out to be true, the fiscal stimulus may serve only to overheat the recovery, setting up the next boom-bust cycle. Ninety-three year old Anna Schwartz, coauthor with Milton Friedman' of their famous and ground-breaking book on American recessions and the Great Depression, has not been pleased with the President's and the FED's response to the current crisis. She feels that the Bush and Obama administrations have been too soft on banks, and that the FED should only have helped banks that are solvent. She also believes that the FED has not been consistent, saving Bear Stearns but allowing Lehman Brothers to fail, which created confusion about what principles the FED was following. Given Ben Bernanke's background, she said she would have expected a more "tidy" series of steps by the FED. Regarding Alan Greenspan, Dr. Schwartz cryptically commented: "I think the verdict of history will be different with regard to his stature than it has been so far."

<http://marketplace.publicradio.org/display/web/2009/06/09/pm_taking_stock_q>. These views echo what Dr. Schwartz told the Wall Street Journal in October of 2008: "I think if you have some principles and know what you're doing, the market responds. They see that you have some structure to your actions, that it isn't just ad hoc -- you'll do this today but you'll do something different tomorrow. And the market respects people in supervisory positions who seem to be on top of what's going on. So I think if you're tough about firms that have invested unwisely, the market won't blame you."

<https://netfiles.uiuc.edu/lneal/www/EH412/Anna%20Schwartz%20Assessment.pdf>. Dr. Schwartz's views are further reflected in an October 2008 interview with Barrons. <http://online.barrons.com/article/SB122489726575668975.html?page=1>.

j. An Interesting Parallel. An interesting article comparing the 1920s–leading up to the Great Depression, and the 1990s–leading up to the dot.com stock collapse, is economist Robert J. Gordon's, *The 1920s and the 1990s in Mutual Reflection*, <faculty-web.at.northwestern.edu/economics/gordon/P367_PDF.pdf>. Dr. Gordon posits that the economic collapse in 1929 resulted from the acceleration of productivity growth attributable to diffusion of electricity and the internal combustion engine during the 1920s that led to overinvestment, just as overinvestment in computer-related technology (fiber-optic cable, telephone equipment, software) led to the dot.com bust in 2000. One important difference between the '30s and '90s is that, in the 1930s, bank failures and a nationwide run on the banks shrank the money supply without compensating action by the FED. Also, Congress raised taxes in 1932 in an effort to balance the budget. In contrast, during the early 2000s, the FED rapidly reduced interest rates and expanded the money supply, while the Congress significantly reduced income taxes. *Id.* at 38. Gordon also points to the lack of deposit insurance in the 1930s, and regulations allowing speculators to borrow 90% of the value of their equities to make margin investments, compared to a 50% margin limit in the 1990s. *Id.* at 40. Further, in the 1920 and 1930s, Congress increased tariffs and restricted immigration, while in the 1990s and early 2000s Congress expanded free trade and liberalized immigration. *Id.* at 29.

H. THE CURRENT ECONOMIC DOWNTURN. Some date the start of the current economic crisis to June 12, 2007, when two Bear Stearns hedge funds speculating in mortgage-backed securities collapsed. In actuality, the federal government took several fateful steps along the way, such as ignoring the recommendation made in 1998 by the head of the Commodity Futures Trading Commission to regulate over-the-counter derivatives (http://www.stanfordalumni.org/news/magazine/2009/marapr/features/born.html), and repealing in 1999 the portion of the Glass-Steagall Act of 1933 that separated commercial from investment banks. Other contributing causes had no specific actor, such as the willingness of foreign investors to purchase America's securitized loans, or the decision of millions of Americans to stop saving and instead go into debt and use up the equity in their homes to maintain lifestyles that exceeded their income. Events over the past two years have led to a remarkable reconfiguration of economic life in America, with preferential bailouts that are de facto nationalizations of banks and corporations, the extension of federal power in previously-autonomous areas of commerce, and stupefying increases in the annual deficit and the total figure of federal government guarantees of private obligations. While some actions taken by various federal entities have gone beyond their normal scope, and some may have exceeded legal limits, there are precedents for various of the actions taken. But the only precedent for so many such actions taken in response to one crisis is the Great Depression. Many of the actions of the Federal government have been taken with an expectation that the government will return to its normal status after the crisis has passed. However, the long-term effects of federal ownership of banks, insurance companies, finance companies, and industrial corporations, and of fiscal stimulus efforts designed to reorient the economy toward environmental goals, and of the expansion of government guarantees, and the long-term effect of current changes in monetary policy, and the shape of the new regulatory structure that will result from the current calamity, will play out over many years. Just as the Great Depression gave rise to fundamental changes in the government's role in people's lives, we should anticipate an extension of federal power in the current circumstance.

A paper analyzing the different factors that contributed to the current world-wide economic crisis was prepared by Jørgen Elmeskov, acting chief economist with Organization for Economic Co-Operation and Development, for a G20 conference held in Mumbai in May, 2009. The following observations are taken from his article. See Elmeskov (2009):

- The downturn was not caused by monetary policy tightening in response to rising inflation.
- The impetus for downturn was the unwinding of asset price hikes, financial leverage and risk appetite built up prior to the crisis.
- The economic crisis affected both developed and emerging economies, which is attributable to greater openness of economies and thereby greater international diffusion of idiosyncratic shocks.
- Ill-designed regulation and misguided incentives in financial markets were main factors contributing to excessive leverage and risk taking.
- Bond yields fell to unusually low levels in historical comparison, both in nominal and real terms, partly because of a reduced term premium (the extra component of interest extracted for long-term loans) attributable to lower inflation expectations.
- Real house prices increased in most developed countries, partly attributable to low interest rates and partly to expanded availability of credit.
- Price-earnings ratios on stocks were well below the peaks of the dot-com bubble and not out of line with historical averages.
- A general perception of less risk, partly attributable to a quick recovery from a succession of crises (LTCM collapse; Y2K; the bursting of the dot.com bubble; and the 9/11 attack).
- A shift of economic activity towards services and a correspondingly smaller role for the stockbuilding.

Another perspective is provided by 93-year old Dr. Anna Schwartz, co-author with Milton Friedman of a definitive study of American recessions and the Great Depression, who told the Wall Street Journal in October 2008: "If you investigate individually the manias that the market has so dubbed over the years, in every case, it was expansive monetary policy that generated the boom in an asset. The particular asset varied from one boom to another. But the basic underlying propagator was too-easy monetary policy and too-low interest rates that induced ordinary people to say, well, it's so cheap to acquire whatever is the object of desire in an asset boom, and go ahead and acquire that object. And then of course if monetary policy tightens, the boom collapses." <https://netfiles.uiuc.edu/lneal/www/EH412/Anna%20Schwartz%20Assessment.pdf>.

III. MONEY AND CREDIT. In the modern world, the economy is all about money and credit. Our second President, John Adams, wrote in a 1787 letter to our third President, Thomas Jefferson:

> All the perplexities, confusion and distress in America arise, not from defects in their Constitution or Confederation, not from want of honor or virtue, so much as from the downright ignorance of the nature of coin, credit and circulation.

Money is "[a]n asset accepted by general consent as a medium of exchange. It may take, for example, the form of coins or banknotes or units stored on a prepaid electronic chip-card. Short-term deposits with credit institutions also serve the purposes of money. In economic theory, money performs three different functions: (1) a unit of account; (2) a means of payment; and (3) a store of value. A central bank bears the responsibility for the optimum performance of these functions and does so by ensuring that price stability is maintained." <www.ecb.europa.eu>. An excellent overview of the history of money is at <www.federalreserve.gov/boarddocs/speeches/

2001/20011205/default.htm>. A thumbnail sketch of the development of money was given by FED Governor Laurence H. Meyer in a speech at Swarthmore College on December 5, 2001:

> Money and the payment system have evolved over time. The earliest forms of money were commodities, such as cattle and grain, that came to be used as means of payment and stores of value, two properties that effectively define money. Over time, precious metals, specifically silver and gold, became dominant forms of payment. From the 1870s to World War I and, in some cases, into the Great Depression, many nations backed their currencies with gold. Later, fiat money--currency and coin issued by the government but not backed by any commodity--became the dominant form of money, along with deposits issued by banks.

<www.federalreserve.gov/boarddocs/speeches/2001/20011205/default.htm>.

There are two ways to get money: to earn it and to borrow it. So work, investment, and credit are intertwined with money.

A. BARTER. Barter is a form of trading where goods or services are exchanged without the use of cash. Barter requires what has been called a "double coincidence of wants," in that each trader must be able and willing to give what the other trader wants, at the place of the trade and at the time of the trade, for the transaction to occur. Because of that inefficiency, money almost universally supplants barter in commercial trade, except where currency breaks down, such as in civil war, invasion, and hyperinflation.

B. CURRENCY. "Currency" is the cash issued by the government to be used in economic transactions and for the payment of taxes. In the United States, currency consists of paper Federal Reserve Notes.* Currency includes coinage. See Section III.C. Currency permits trade to occur without the requirement of barter that each trading partner want to acquire what the other trader is offering (i.e., the "double coincidence of wants"). Because the unit of currency can be held to make future purchases, it also represents a store of value – that is, it represents the potential to acquire future goods and services. Thus currency performs two functions: it is a medium of exchange and it is a store of value. The third function of currency is as a "unit of account measure." In this sense, currency allows people to translate the value of different goods and services into one common measure of value, which greatly facilitates commerce. Examples of currency include trade beads, wampum, pieces of eight, tobacco warehouse receipts, coins, paper money, bank checks, and ATM cards. When people lose confidence in currency as a store of value, they look to other assets as a store of value, such as precious metals, other currencies, real estate, stocks, bonds, commodities, paintings, guns, ammunition, etc. Fear of inflation, which diminishes the value of currency overtime, drives people out of money and into assets, which increases the demand for assets and increases their prices.

"Debasing the currency" is the practice of lowering the value of coinage, such as gold or silver coins, by reducing the content of precious metal while leaving the legally-prescribed value of the coin unchanged. The same effect is accomplished today with paper money by the process of printing excess currency.

C. COINS. Coins used for payment and as a store of wealth have mostly been of silver or gold, although some coins have contained nickel and some copper.

<u>Silver Coins.</u> Silver is probably the first precious metal to be used as money in trade. Athens' silver tetra drachma coin, 538-510 BC, was the first silver coin internationally accepted in Mediterranean trade. Alexander the Great spread usage of the silver coin to Persia and India. The

Indian rupee was based on silver coinage. England used silver for currency dating back to before the Middle Ages, and even today British currency is called the "pound sterling." The American dime, quarter, and half dollar had silver content until 1965, when the rising price of silver caused people to melt those coins for their metallic value. The Coinage Act of 1965 eliminated silver from dimes and quarters and reduced the silver composition of half dollars to 40%. Silver was eliminated from the half dollar in 1970.

Gold Coins. Gold coins have been used as money since early civilization. King Croesus of Lydia issued gold coins of standardized purity, for general circulation, in about 550 BC. Gold coins served as currency up until the Twentieth Century. The use of gold coins as currency in the United States ended on May 1, 1933, when President Franklin Roosevelt, by Executive Order 6102, required Americans, under the penalty of severe fines and imprisonment, to surrender their gold (except coins held for numismatic purposes) to the Federal government at $20.67 per ounce, which represented a 69% devaluation of the dollar. <www.wellsfargonevadagold.com/confiscation-order.pdf>. The U.S. Congress, under President Gerald Ford, restored the right of citizens to own gold, effective December 31, 1974. However, gold is too valuable to use as currency in the United States today. Gold coins are now held either as collectibles, for personal adornment, or as bullion, (i.e., as a store of precious metal). Some people hold gold coins as a currency of last resort, in the event of hyperinflation or collapse of the normal currency.

American Coins. Today's American coins are manufactured by the United States Mint, part of the U.S. Department of Treasury. The one-cent coin in 1982 was changed from 95% copper and 5% zinc to copper-plated zinc. The five-cent coin is a homogeneous alloy of 75% copper and 25% nickel. The ten-cent coin, quarter-dollar coin, half-dollar coin and one-dollar coin, consist of three layers bonded together, the face being 75% copper and 25% nickel and the core being pure copper. The edges of dimes, quarters, half-dollars and dollars are marked with ridges, a process called "reeding." Reeding was originally designed to discourage illegal shaving or clipping of gold and silver coins. The practice is continued to honor a tradition which dates back to America's colonial period, and as an aid to the visually handicapped. The U.S. Mint ships finished coins to the Federal Reserve Banks for distribution through banks. <www.treas.gov/education/fact-sheets/currency/manufacturing.shtml>.

D. BULLION. "Bullion" is a precious metal (gold, silver, platinum, or palladium) held in the form of bars or ingots. Fort Knox Bullion Depository is one of five gold bullion depositories for the U.S.A. (The other four are the Philadelphia Mint, the Denver Mint, the West Point Bullion Depository, and the San Francisco Assay Office). A bullion depository was necessitated by FDR's Executive Order 6102 outlawing private ownership of gold bullion in the United States and requiring citizens to surrender their gold to the government. Fort Knox was constructed in 1936, and received its first gold shipment in 1937. During WWII, Fort Knox also housed the reserves of some European countries, one of four copies of the Magna Carta, and the Hungarian crown jewels.

E. THE GOLD AND SILVER STANDARDS. The gold standard is a monetary system in which paper currency can be redeemed for quantities of physical gold. England adopted a gold standard in 1717, the Netherlands in 1818. The United States operated for many years under a bimetallic (silver and gold) standard created by Alexander Hamilton. The United States adopted a de facto gold standard in 1834, and a de jure gold standard with the Coinage Act of 1873. The gold standard was rescinded by President Nixon (not the U.S. Congress) in 1971. The gold standard goes with fiat currency; it is not the same as gold coins used as currency.

The silver standard is a monetary standard under which the currency's unit of account is a fixed amount of silver. Great Britain had a silver standard dating back to 750 A.D. To this day, the British currency is called "sterling," even though it is a paper currency. In Colonial times in America, the universal coin was the Spanish peso, a silver coin worth eight reales (thus "pieces of eight"), minted in the Spanish Empire after 1497. The coin had the value of one American dollar. The Spanish peso was legal tender in the United States until 1857. The Mint and Coinage Act of 1792 established an equivalence between silver and gold coins, introducing a system of bimetalism that lasted until the Fourth Coinage Act in 1873, which adopted the gold standard and de-monetized silver. The issue of requiring the Treasury to purchase silver for coinage was a major issue in the Presidential election of 1986, the silver position being favored by western state Democrats who supported William Jennings Bryan, and gold being favored by Republican easterners who supported William McKinley. Gold won when McKinley beat Bryan. Silver continued as legal tender however, and the U.S. government continued the practice, started in 1878, of issuing silver certificates that were redeemable in silver from the U.S. Treasury. As the price of silver rose above its legal value in the 1960s, and people started melting silver coins for their value, Treasury Secretary Douglas Dillon suspended the convertibility of silver certificates into silver, in March of 1964.

F. FIAT MONEY. "Fiat money" is money that has no intrinsic value and cannot be redeemed with the government for precious metal or any commodity, but is made legal tender through government decree (i.e., by fiat). American paper currency today (Federal Reserve notes) is fiat money. Since fiat money can be printed endlessly and at little cost, over history irresponsible governments have ruined the purchasing power of their currency by overprinting. For this reason, many people prefer that the currency be tied to a commodity, like gold or silver, that has a finite supply and serves as a check on the government inflating the currency.

Marco Polo wrote about encountering paper money in his travels to China. At the time, paper money was unknown to Europeans:

> The emperor's mint then is in this same city of Cambaluc, and the way it is wrought is such that you might say he has the secret of alchemy in perfection, and you would be right. For he makes his money after this fashion. He makes them take of the bark of a certain tree, in fact of the mulberry tree, the leaves of which are the food of the silkworms, these trees being so numerous that the whole districts are full of them. What they take is a certain fine white bast or skin which lies between the wood of the tree and the thick outer bark, and this they make into something resembling sheets of paper, but black. When these sheets have been prepared they are cut up into pieces of different sizes.
>
> All these pieces of paper are issued with as much solemnity and authority as if they were of pure gold or silver; and on every piece a variety of officials, whose duty it is, have to write their names, and to put their seals. And when all is prepared duly, the chief officer deputed by the Khan smears the seal entrusted to him with vermilion, and impresses it on the paper, so that the form of the seal remains imprinted upon it in red; the money is then authentic. Anyone forging it would be punished with death. And the Khan causes every year to be made such a vast quantity of this money, which costs him nothing, that it must equal in amount all the treasure of the world.
>
> Furthermore all merchants arriving from India or other countries, and bringing with them gold or silver or gems and pearls, are prohibited from selling to any one but the emperor. He has twelve experts chosen for

> this business, men of shrewdness and experience in such affairs; these appraise the articles, and the emperor then pays a liberal price for them in those pieces of paper. The merchants accept his price readily, for in the first place they would not get so good an one from anybody else, and secondly they are paid without any delay. And with this paper money they can buy what they like anywhere over the empire.

Polo's book was written in 1298. By 1309 the paper currency he wrote about had so depreciated that it was replaced with a new currency at a ratio of 5 old to 1 new bill. Each of China's forays into fiat currency ended in inflation that required the currency to be replaced, until the Chinese finally went back to precious metal currency.

G. MONEY SUPPLY. The money supply is the American currency (dollar bills and coins) issued by the Federal Reserve System (FED), plus deposits held by the public at commercial banks, thrifts, and credit unions, and other depositories. Schwartz, *Money Supply* p. 1.

Measuring the Money Supply. In 1985, former FED Chairman William McChesney Martin said: "They don't really know what the money supply is now, even today. They print some figures–I'm not trying to make fun of it–but a lot of it is just almost superstition." <http://www.nytimes.com/1998/07/29/business/william-mcchesney-martin-91-dies-defined-fed-s-role.html>. The FED has traditionally published data on three monetary aggregates: M1, M2 and M3. M1 is a "narrow" monetary aggregate made up of currency in circulation and checking account deposits. M2 is an "intermediate" monetary aggregate made up of M1 plus savings deposits, money market accounts, time deposits of under $100,000, and retail money market mutual fund balances. The components of M2 are held primarily by households. M3 is a "broad" monetary aggregate made up of M2 plus time deposits of $100,000 or more, institutional money market fund balances, repurchase agreements, and Eurodollars. See *The Federal Reserve System Purposes and Functions* (2005) p. 22. The FED stopped publishing its calculation of M3 on March 23, 2006, on the ground that it would save money and because M3 added little to M2, and M3 had not been used as a basis for monetary policy for many years. See <http://www.federalreserve.gov/releases/h6/discm3.htm>. Some writers have expressed skepticism about the rationale, on the ground that the cost saving is trivial in the scheme of things, and large increases in the money supply are captured in the $100,000+ time deposits that are included in M3 but not M2. These skeptics think that the FED is just trying to make it harder for people to see enlargement of the money supply. A chart of M2 since November of 1980 is at <http://research.stlouisfed.org/fred2/series/ M2>. The percent change in M2 from 12 month earlier is as <www.newyorkfed.org/research/directors_charts/pi_1.pdf>. Some economists have expressed concerns that the FED and other central banks have not been measuring the money supply in the most meaningful way. William Barnett, an economist at the University of Texas back in the 1980s, criticized monetary quantity aggregates that were nothing more than simple unweighted sums of component quantities. Simple arithmetic average were criticized by the famous economist Irving Fisher in 1922 as being unreliable. Barnett and Chauvet (Nov. 28, 2008) p. 7. Barnett suggested in 1983 that the changes in the quantity of money in its various forms (cash, demand accounts, CDs, etc.) should be weighted according to how liquid each form is. Using a weighting method proposed by a French statistician in 1925, Barnett arrives at quite different measures of the money supply. *Id*. Appendix A2. Barnett theorizes that for decades the FED's monetary policy was more expansionist than realized, inadvertently feeding financial bubbles. *Id*. pp. 37-38.

There are some difficulties with measuring the money supply. For example in a process called "retail sweeping," banks use automated computer programs that analyze customers' use of checkable

deposits (demand deposits, ATS, NOW, and other checkable deposits) and "sweep" such deposits at the end of the day into money market deposit accounts. Retail sweep programs have "substantially distorted the growth of M1, total reserves and the monetary base." <http://research.stlouisfed.org/aggreg/swdata.html>.

Monetary Policy. Monetary policy in the United States is run by the FED. The structure of the FED is discussed in Section IV.D. Monetary policy is discussed in Section V.A.

H. PERSONAL SAVING. In economics, personal saving is defined as personal disposable income minus personal consumption expenditures (PCE). If the savings are hoarded (like kept in a mattress), they make no further contribution to the economy. However, when people put their savings in financial institutions, or make investments with them, then the money ultimately becomes available to businesses in the form of loans or investment capital, which the companies use to increased fixed capital, such as factories and machinery, or to fund research and development, which increase productivity. From the individual's point-of-view, savings represent stored purchasing power. People are encouraged to forego consumption during their working years, to save money to spend during retirement when earnings are diminished. Savings are invested, either to earn interest, earn dividends, or earn capital gains. All investments entail risk, however, and the most lucrative investments are the most risky. See Laurence J. Koltikoff, *Saving* <www.econlib.org/library/Enc/Saving.html>.

A reduction in the rate of personal saving is a concern both at the aggregate level and at the individual level. National savings needs to be high enough to support the level of investment necessary to sustain economic growth. At the individual level, a low savings rate leaves the individual or the family more vulnerable to economic problems, like sickness, job loss, or general economic downturn. Also, personal savings, Social Security benefits, and private pensions, are the three legs to the retirement stool that will take care of Americans in their old age. Little or no savings leaves retirees more reliant on Social Security benefits and retirement benefits, each of which is in decline or in jeopardy as explained below. See Section X.

According to the Survey of Consumer Finances (SCF) conducted by the Federal Reserve Board and the U.S. Treasury Department, in 2007 the proportion of families that reported saving in the previous year stood at 56.5%. Bucks, Kennickell, Mach and Moore (February 2009) p. A9. This was similar to the previous three surveys: the percentage of families who saved in 1998 was 55.9%, in 2001 was 59.2% and in 2004 was 56.1%. *Id.* pp. A4-A5. These measures do not indicate whether the saving was substantial or slight. A comparison of net worth would show if families are getting ahead or falling behind. According to the SCF, median net worth has grown from $91,300 in 1998, to $101,200 in 1999, to $102,200 in 2004, to $120,300 in 2007. *Id.* p. A11. The mean net worth has grown from $359,700 in 1998, to $464,400 in 2001, to $492,000 in 2004, to $556,300 in 2007. *Id.* The mean growing so much more than the median suggests that the top half of families have increased their net worth much more than the bottom half of families. *Id.* p. A6. The increase in net worth reflected in the SCF seems to be at odds with the actual savings rate (earnings ÷ income) discussed in the next paragraph. This is partly explained by the fact that the NIPA (see below) measure of savings excludes both realized and unrealized capital gains, while capital gains are included in measures of net worth. *Id.* p. A9.

The personal saving rate in America is calculated by the Department of Commerce's Bureau of Economic Analysis (BEA), in connection with the National Income and Product Accounts (NIPA). BEA determines personal savings by subtracting personal outlays from disposable personal income. In the United States, from August of 1981 to

October 2001, the personal saving rate (personal savings ÷ disposable personal income) in America slowly declined from 12.5% to a negative 0.2%. In the early 1980s, the personal savings rate in Japan was around 13%, in Germany 12%, and in France 15%. Since 1987, however, the savings rate in Japan has declined to 5%, and the savings rate in Germany has declined, but at the same time the saving rate in the UK and France has increased. The trends are a puzzle. Why did American savings drop so much? Very likely the answer has something to do with the "wealth effect."* Personal saving may have dropped in the U.S. as the rise in the stock market in the mid-1990s caused Americans to feel more wealthy and therefore more financially secure. <www.frbsf.org/publications/economics/letter/2002/el2002-09.html#subhead1>. The stock market declined in 2000, and in 2001 savings in America peaked at over 3%, but then real estate and equities began to increase in value and, with the increased capital gains, personal savings declined to a negative rate in August of 2005. *Id.* Another possible factor in declining personal saving after 1981 was the strong economy, based on increasing productivity, that reduced fears of unemployment. Yet another possible factor was the increasing ease of borrowing money, which may have caused families to assume that they could meet emergency needs through borrowing instead of saving. *Id.*

With the significant loss of wealth due to the economic downturn in 2008 and 2009, including the 40+ percent drop in the stock market and the decline in housing values, the personal savings rate in the U.S.A. has increased to 6.9% in May 2009. However, an increase in the rate of personal savings at this time raises what followers of John Maynard Keynes call the "Paradox of Thrift." The paradox of thrift is the idea that if everyone saves more money during a recession, overall demand will fall and thus lower consumption and economic growth, resulting in job losses that reduce saving, causing demand to fall further, etc. Keynes believed that lack of spending was a chronic problem in industrialized economies, and that steps should be taken to reduce savings. Some took this argument as justification for, among other things, taking spending out of private hands and putting it in government hands, as well as using graduated income tax rates to take more money away from the wealthy (who have more money than they need, so they save that excess) and less money from the poor (who have less money than they need and so spend all of their untaxed income). Some economists disagree with the paradox, saying that if saving causes demand to slacken, then prices will fall which stimulates demand. They also argue that saving increases bank capital which is loaned out to businesses, and the extra supply of loanable funds reduces interest rates and stimulates business borrowing, which leads to business expansion and increased employment, and thus increased consumer spending.

Assuming saving is a good thing, how do we get people to save? Australia and Switzerland have mandatory contributions to pension accounts. The United States does not do this, but American tax policy does encourage saving for retirement, by offering deductions for 401(k) and IRA contributions. However, it is not clear whether this policy encourages saving that would not otherwise occur. It may be that other approaches to savings are advisable, such as automatic enrollment of employees in a 401(k) retirement plan.

The personal savings problem has implications for the world economy, as well. In a March 8, 2007 speech to the Senate Finance Committee, Lawrence Summers testified that the low rate of savings forces the United States government and businesses to rely on foreign capital to a historically unprecedented degree. <http://finance.senate.gov/hearings/testimony/2007test/030807lstest.pdf>. The flow of capital from the developing world to the U.S.A. was also financing consumer consumption rather than investment.

Summers, 3-8-2007, p. 2-3. Americans were shipping U.S. dollars overseas to buy oil and buy manufactured items, and the profits from these transactions were filling the coffers of those governments who were investing the cash back in the United States, buying our Treasury securities and corporate bonds, and buying ownership interests in our big and small banks, etc.

It is likely that a nation attuned to personal saving will be more alerted to the dangers of the Federal running chronic deficits and building up the national debt. A nation of savers could become a nation who saves.

I. GOVERNMENT DEBT. The national debt of the United State government is discussed in Section IV.C of this article.

J. PERSONAL DEBT. "Consumer debt" is debt incurred for consumption and not investment. It includes credit card debt, store-financed consumer purchases, car loans, student loans, and family loans. As of June, 2008, 37% of consumer debt was revolving credit (credit which is repeatedly available as repayments are made, such as credit cards). The other 63% of consumer debt is installment debt, like car loans, student loans, boat loans, etc. The average new car loan is $25,000, and the equity in the car is only 7%.

Debt Ratio. The Federal Reserve Board determines the Household Debt Service Ratio (DSR) and Financial Obligation Ratio (FOR). These ratios are published at <www.federal reserve.gov/releases/housedebt/default.htm>.

The DSR is the ratio of debt payments to disposable personal income. "Debt payments" consist of the estimated required payments on mortgage and consumer debt. The DSR fluctuated between 10% and 12% from 1980 to 1998. In 1998, the DSR started climbing to 14.29% in the third quarter of 2007. In the fourth quarter of 2008, the DSR stood at 13.9%. *Id.* The FOR adds to "debt payments" automobile lease payments, rent on tenant-occupied property, homeowners' insurance, and property taxes. Since 1980, FOR for home rents varied from a low of 22.2% in 1982 to a high of 31.26% in the fourth quarter of 2001. *Id.* In the fourth quarter of 2008, the home renter's FOR was 26.31%. The homeowners' FOR substitutes mortgage payments for rent. The combined figure for homeowners' mortgage and consumer debt payment have increased from 13.77% in 1980 to 17.97% in the first quarter of 2008. In the fourth quarter of 2008, the homeowners' combined mortgage and consumer debt FOR stood at 17.52%. *Id.*

The 2007 Survey of Consumer Finances measures the "leverage ratio" for families in America. The "leverage ratio" is the debt-to-equity ratio, or outstanding debt divided by total liabilities. The leverage ratio for all families was 14.2% in 1998, 12.1% in 2001, 15% in 2004, and 14.9% in 2007. Bucks, Kennickell, Mach and Moore (March 6, 2009) p. A37. The leverage ratio in 2007 for the youngest group (less than age 35) was highest (44.3%), dropped to 28.2% (age 35-44), then 16.3% (age 45-54), then 10.3% (age 55-64), then 6.5% (age 65-74), then 2.2% (age 75+). *Id.* p. A37.

Consuming Home Equity. Converting the equity in a house to cash, called "equity extraction," can be done three ways: by selling the their house outright; refinancing a mortgage; or borrow against the house by taking out a home equity loan. U.S. Congress Joint Economic Committee, *ECONOMIC NEWS: Inflation Risks Complicate Fed Actions* (July 21, 2008) <http://jec.senate.gov/index.cfm?FuseAction=Reports.ViewNewsletter&Newsletter_id=4b3013fc-b6a1-1e5e-f89c-a788d323a380&SuppressLayouts=True>. The balance left over after paying closing costs and mortgage debt is called "free cash flow." According to the U.S. Congress's Joint Economic Committee, from 1991 to 2005, Americans used free cash flow of $50 billion to pay non-mortgage consumer debt, and about $66 billion of to pay for personal consumption expenditures. According to

the Committee, including both repayment of consumer debt and the direct financing of consumption, equity extraction financed 1.1% of personal consumption expenditures during 1991-2000, and close to 3% of personal consumption during 2001-2005. The ratio peaked at 4.1% in the second quarter of 2006 and then declined along with house prices. *Id.* Now that house prices have fallen, many homeowners are left with no equity in their homes because they have "consumed" that equity to pay for living expenses.

A Debt Driven Economy. We cannot permanently base a national or world economy on expanding U.S. consumer debt, because at some point U.S. consumers will either 1) be unable to borrow more, or 2) reach the limit on the amount of monthly payments they can afford to pay out of current income. When real estate prices turned downward in 2007, coupled with the downturn of the stock market in 2008 consumers found themselves overextended with too much debt relative to income and wealth, and credit-based consumer spending plummeted, shrinking the U.S. economy and also the world economy. As a result, consumer savings has begun to increase, as Americans try to rebuild their wealth. If this trend persists, America and the rest of the world will have to rebuild a economic system based on reduced consumption by the American consumer. Increased consumption by the people of China might fill in part of that gap, but in the long run economic stability can only be achieved by consumers living within their means.

K. BANKS AND BANKING. Without exaggeration it can be said that banks are central to our economic lives. Our economic system is so dependent on banks that if banks cease to function properly the entire economy has difficulty.

1. What is a Bank? A bank is a corporation authorized by government to accept deposits, pay interest, clear checks, make loans, act as an intermediary in financial transactions, and provide other financial services to its customers. A *commercial bank* attends to the banking needs of retail customers. Since most of a commercial bank's deposits can be withdrawn at any time, commercial banks make short-term loans (of less than 10 years) rather than long-term ones. An *investment bank* is a financial institution that raises capital, underwrites securities issuances (by buying all available shares at a set price and then reselling them to the public), trades in securities, manages corporate mergers and acquisitions, and acts as a broker for institutional clients. Unlike a commercial bank, an investment bank usually doesn't usually provide retail banking services to individuals. Thus, investment banks and traditional banks handle different kinds of economic transactions. The *Glass-Steagall Act* of 1933 was passed in response to the collapse of the American banking industry in early 1933. The Act established the FDIC, and introduced banking reforms, including the separation of commercial from investment banking. The view was that granting credit and making investments in the same institution could lead to conflicts of interest. The Glass-Steagall Act's separation of commercial and investment banking was repealed in 1999. Recently, several of America's largest investment banks have gone broke, or converted themselves into commercial banks so they can borrow from the FED.

2. A Short History of Banking In America. Congress chartered the first Bank of the United States in 1791, to conduct general commercial banking and to act as the fiscal agent for the United States government. The bank's charter lapsed in 1811 and was not renewed. Congress chartered the second Bank of the United States in 1816, and its charter expired in 1836. When Congress tried to renew the charter, the law was vetoed by President Andrew Jackson. From 1837 to 1863, America had no national bank, and operated in what is called the Free Banking era of state-chartered banks, characterized by frequent bank failures and currency consisting of a confusing array of private bank notes circulating

at various discounts.

In 1863, Congress passed the National Banking Act, creating a system of federally-chartered banks issuing notes convertible to gold. This national banking system lasted until 1914. There were four major bank panics during the national banking system era, which occurred in 1873, 1893, and 1907. The 1907 panic led to the passage of the Aldrich Vreeland Act of 1908, which created National Reserve Associations to issue emergency currency in a crisis and also established the National Monetary Commission. In 1912 the Commission recommended that America establish a central bank. In 1913, Congress established the Federal Reserve System (the "FED"), established in 1913. For details on the FED, see Section IV.D. Banking stability existed for 15 years until "the Great Contraction" starting in 1930. The FED failed to stem four bank panics between 1930 and 1933. See Section III.K. 7 & 8. As stated by President Franklin Roosevelt, five days after becoming President: "On March 3 banking operations in the United States ceased." See Section III.K.8. FDR closed all banks and Congress took several actions that significantly changed banking. Congress established the FDIC, to guarantee depositors' funds and avoid bank runs. See Section III.K.10 & 11. Congress passed the Glass-Steagall Act, which forced a separation between commercial and investment banks. And Congress passed the Federal Reserve Act of 1935, restructuring the FED and transferring its center-of-gravity from New York to Washington, D.C. These changes established a stable banking system that lasted until the 1980s. Bordo (Jan. 12, 2009) pp. 1-2.

In the 1980s, a process of deregulation started that continued for two decades. Most states lifted their prohibitions against branch banking (Texas did so in 1988), a process which continued through 1994. Strahan (2002) p. 3. From 1978 to 1992, states removed barriers to interstate banking (Texas did so in 1987), *Id.* p. 4. These two changes led to larger banks operating across wider geographical areas. *Id.* p. 9. In 1980, Congress passed a major overhaul of banking law which: lowered the reserve requirement (see Section III.K.6) but required all banks (even non-member state banks) to maintain reserves with the FED; phased out interest rate ceilings; permitted bank mergers; raised deposit insurance from $40,000 to $100,000; and permitting savings and loan associations (S&Ls) to offer checking accounts. Because of high inflation, in the early 1980s S&Ls were suffering from negative spreads on home mortgages. Two laws adopted in the early 1980s allowed S&Ls to make commercial loans, doubled (from 20% to 40%) the limit on S&Ls investing in commercial real estate, and allowed S&Ls to offer checking accounts. In 1982, Congress passed the Garn-St. Germain Act to allow bank holding companies to acquire failed banks and S&Ls regardless of state law. *Id.* p. 7. In 1986, oil dropped from $27 to below $10 per barrel. This, coupled with declining real estate prices, led to widespread bank failures and the collapse of the savings and loan industry.

After the clean-up of the 1980s' collapse, banking was characterized by consolidation through mergers and acquisitions. In 1997, the insurance giant Travelers Group acquired the investment bank Salomon Brothers, and combined it with brokerage firm Smith Barney. Then in 1998, Travelers Group merged with Citibank. The transaction violated existing banking laws, but was permitted if the law changed within 5 years. The following year, in 1999, Congress repealed the Glass-Steagall Act provision separating commercial from investment banking, and allowing commercial banking, investment banking, and insurance to be brought under one roof. This confirmed the Citibank merger. Read Milly Ivins' prescient commentary on the action at <www.creators.com/opinion/molly-ivins/molly-ivins-september-20-1998-09-20.html>. American banking became dominated by megabanking institutions that were "too big to fail." See Section 3.K.11. In the 2000s, bank began to invest their capital in mortgage backed securities (MBS)*,

which became illiquid when real estate prices started falling in 2007.

Shortly thereafter, a credit crisis descended on American financial markets, that soon spread across the world. Credit markets froze, and investment banks, commercial banks, and stock brokerage companies, started failing. The U.S. government and its instrumentalities financed some mergers, then stepped in to shore up and even buy stock in large financial companies. At the present time we have an ad hoc quasi-nationalization of the largest financial operations in America, and smaller banks are continuing to fail on a monthly basis. In addition to trying to avoid a major depression, President Obama and Congress are in the early stages of implement the most sweeping changes in the financial industry since the New Deal legislation of the 1930s.

3. Financial Intermediaries. Banks are "financial intermediaries," which means they accept money from savers or investors and lend those funds to borrowers, thus providing a link between persons seeking earnings on their funds and persons seeking credit. Many of the funds held by banks are in accounts whose balances can be withdrawn at will. Most of the loans made by banks last for months or years. So in performing their financial intermediation function, banks are always "borrowing short and lending long"–that is, their obligation to pay funds withdrawn by a depositor is immediate, but their ability to collect from their borrowers is medium- to long-term. This temporal imbalance between liabilities (i.e., deposits) and assets (i.e., loans), when coupled with fractional reserve banking (explained below), makes banks prone to liquidity problems.

4. Illiquidity Versus Insolvency. *Liquidity problems* must be distinguished from *solvency problems*. A liquidity problem arises when the bank temporarily does not have enough cash reserves to meet all demands to withdraw deposits, but its net worth is positive overall. A solvency problem occurs when the bank's liabilities (i.e., deposits) exceed its assets (i.e., loans), because the bank's loans or loan-derivative investments have diminished in value because borrowers have defaulted (or are expected to default) on outstanding loans. Nowadays, many banks take depositors' money and instead of lending it to borrowers they use it to buy credit instruments, such as securitized loans (i.e., individual loans that have been combined and repackaged as a security that can be bought and sold in an open market). If the bank is unable to liquidate its securitized debt instruments to meet demands of depositors, the bank has a liquidity problem. If the bank's inventory of securitized loans loses value due to widespread defaults on underlying loans which causes the market prices of the securitized loans to drop, then the bank has a solvency problem.

There is much confusion about the current banking crisis resulting from the failure to distinguish a liquidity problem from a solvency problem. The distinction is important, because a liquidity problem can be easily fixed with a loan from the central bank; a solvency problem can only be fixed by the investment of new capital in the bank (which dilutes current ownership).

Uncertainty about the collectibility of the individual loans underlying these securitized loans has made them illiquid assets, since buyers are afraid to buy them due to this uncertainty. This has created liquidity problems at banks around the world. These derivatives therefore trade at steep discounts. With "mark-to-market" accounting (see Section II.D, FAS 157-4), banks must mark down the *value* of these derivatives to the current market price, in a market that reflects only distressed sales. This accounting requirement thus converts the illiquidity of these investments into a reduction in value. If this reduction in value drops a bank's assets below the level of its debts, it makes the bank insolvent. But this insolvency is only real if the banks have to sell these financial investments at today's prices. If the banks hold these securitized loans until they mature, and if

the borrowers eventually pay 90%, or 80% or even 70%, of the individual loans underlying these securitized loan investments, then these banks are not really insolvent - they just have a liquidity problem. Are we in a huge liquidity crisis, or are banks around the world actually insolvent? Only time will tell. And central banks and central governments are doing all they can to keep the banks going long enough to give the borrowers the time to refinance or pay back the individual loans underlying these securitized loan investments, or at least until these instruments are trading at realistic values.

5. Fractional Reserve Banking. Fractional reserve banking is the banking practice of retaining a portion of deposited funds and lending the rest out in order to earn interest income. This fractional reserve approach works when depositors don't simultaneously try to pull more deposits out of the bank than the bank has held in reserve. This approach does not work during a run on the bank. At the present time in the United States, the FED requires that a bank keep 10% of its deposits in reserve, and the rest can be loaned out (i.e., a 10% reserve requirement). That means that when Depositor #1 puts $100 dollars in an account at Bank #1, Bank #1 can loan $90 to Borrower #1. When Borrower #1 deposits the loan proceeds into his bank account, the bank can loan $81 dollars of that money to Borrower #2,who deposits that money in his account, resulting in a loan to Borrower # 3 of $72.90, etc. The rate at which a deposit expands the money supply is called the "money multiplier." The money multiplier is the reciprocal of the reserve requirement. With a 10% reserve requirement, a deposit in a bank increases the money in the banking system by ten times the amount of the deposit. Thus, at simple deposit of $100 expands overall bank deposits by $1,000. Likewise, a withdrawal of $100, unless it is deposited in someone else's bank account, can shrink overall bank deposits by $1,000. Excessive demands for withdrawals can be met by the bank taking out short-term loans from the FED. This is why the FED is called the "lender of last resort."*

6. The Reserve Requirement. The Board of Governors of the FED* sets a requirement for banks to maintain a fraction of their customers' deposits in the form of cash in their vaults or required deposits with the FED. By changing the reserve requirement, the FED can affect the amount of their depositors' money that banks can lend. In the 1960s and 1970s, the FED actively used the reserve requirement to expand or contract the money supply and the availability of credit. In April of 1992, the FED reduced the reserve requirement from 12% to 10%, where it has remained since that time. However, the practical level of reserves has fallen due to a policy adopted by banks in the 1990s to sweep excess deposit account balances into special-purpose interest-bearing money market accounts which do not have a reserve requirement. *The Federal Reserve System Purposes and Functions* (2005) pp. 41-45.

The first nationwide reserve requirement was established for national banks in the 1863 National Bank Act at 25%. Although a mandated reserve ratio was born of the view that banks needed to maintain sufficient reserves to provide liquidity during a run on the bank, the reserves typically proved insufficient in a bank panic. With the arrival of the FED as a lender of last resort and later the FDIC as a guarantor of bank deposits, the reserve ratio has been seldom-used as a tool to control the size of the money supply. <www.federalreserve.gov/monetarypolicy/0693lead.pdf>. Most banks meet the current reserve ratio of 10% with vault cash. However, some 3,000 institutions must maintain required reserve balances on deposit with the FED.

7. Bank Run. A "bank run" is a sudden, panicked effort by a bank's depositors to withdraw their funds from a bank because they have lost confidence in the viability of a bank. Banks keep enough cash on hand to meet the normal level of withdrawals, but a surge of withdrawals can cause a bank to be unable to meet

all withdrawal requests, and the bank fails–not due to insolvency but due to illiquidity. Years ago, depositors lined up outside the bank, waiting to get to the teller window. <1.bp.blogspot.com/_473nrD5vEv8/SNDlLv-oWyI/AAAAAAAAAxY/tSr0IFUYFOg/s1600-h/run-on-bank.jpg>. Nowadays, depositors can move their funds out of a bank via electronic transfers. Runs by depositors are called "retail runs." Some banks now acquire capital in the short term capital market. Where liquidity dries up in the short term capital market, it is called a "wholesale run." Allen and Carletti (2008) p. 7. Thus, today's bank can suffer a liquidity crisis as a result of a failure of the short term capital market, even without a run by depositors. A run on one bank can spread to other banks, and from there across the country (called "contagion"). Some writers suggests that bank panics are random events, unrelated to changes in the real economy. *Id.* p. 7. Others believe bank panics relate to the business cycle, where people receive information suggesting a downturn in the cycle, so they anticipate future difficulties in the banking sector and withdraw their money. *Id.* pp. 8-9. As we have seen in the past year, the recent prevalence of credit risk transfer contracts (e.g., credit default swaps) can serve to spread contagion from one bank around the entire world, affecting all credit markets. Except in the case of Lehman Brothers which declared bankruptcy, the problem so far with credit default swaps (CDSs) has not been actual defaults, but rather a fear of default resulting in banks being unwilling to lend to each other.

8. Banking Crisis. In a "systemic banking crisis," multiple banks fail simultaneously, and the collective failure impairs enough of the banking system's capital that large economic effects are likely to result and the government is required to intervene. See Ergungor and Thompson (Mar. 2009), p. 2. "Crises tend to follow periods of expansionary monetary and fiscal policy and typically include some form of financial liberalization." *Id.* at 3. Systemic banking crises in the past 30 years occurred in: Argentina (1980), Chile (1981), Uruguay (1981), Japan (1992), Mexico (1994), Venezuela (1994), Indonesia (1997), South Korea (1997), Thailand (1997), etc. *Id.* at 2. A study published by the OECD (See Section IV.F.7) compared economic downturns associated with banking crises to those that were not, and found that economic downturns that follow banking crises are more severe. The paper noted the following conditions for downturns following banking crises: output losses were 2 to 3 times greater, and the period it took to return to full output was at least twice as long; business investment and housing investment were disproportionately reduced; the recovery from trough is more muted; exports play a larger role in the recovery. These correlations occur, say the authors because: after a banking crisis the supply of credit is reduced due to bank failures and deleveraging; because of the large reduction in wealth associated with banking crises; and because distrust between lenders and borrowers hampers the extension of credit. Haugh (2009) pp. 6-9.

9. Bank Holiday. When Franklin D. Roosevelt was sworn in as President of the United States on March 4, 1933, panicked bank runs had swept America. In Roosevelt's words: "On March 3 banking operations in the United States ceased." The term "Bank Holiday" is the euphemism for FDR's Proclamation 2039 <www.presidency.ucsb.edu/ws/index.php?pid=14661>, issued on March 6, 1933, closing all banks in America for three days. This suspension stopped all financial transactions, in particular withdrawals of deposits from banks. On March 9, Congress passed the Emergency Banking Act. FDR extended the holiday on March 9, and on March 10 proclaimed that banks would be reopened piecemeal by the Secretary of the Treasury, and that converting deposits into gold was prohibited. <www.presidency.ucsb.edu/ws/index.php?pid=14507&st=gold&st1=>. On March 12, FDR had a "fireside chat" with the American people by radio, explaining what had been happening, and what would be done. <www.presidency.ucsb.edu/ws/

index.php?pid=14540&st=gold&st1=>. These actions brought an end to America's last great bank run. Eventually, solvent banks were reopened; insolvent ones were dissolved.

10 Deposit Insurance. Bank deposit insurance compensates a bank's depositors for deposited funds lost if the bank fails. Deposit insurance is effective in stemming or avoiding bank runs, because it removes the impetus for panic to develop. On September 30, 2008, Ireland stemmed a run on its banks by offering a blanket government guarantee of all funds on deposit in Ireland's banks. This led to an immediate, massive transfer of excess uninsured funds from banks of other countries to Irish banks, which required other countries to offer the same protection. Depositors seeking safety in this way overlooked the fact that the Irish government guaranteed deposits totaling over 200% of its own GDP, which made the deposit guarantee an empty promise. So far, deposit insurance has eliminated runs on commercial banks in America. However, in September, 2009, a run started on money market funds and on September 19, 2008, the United States government extended deposit insurance to money market funds, successfully stemming the run.

11. F.D.I.C. The Federal Deposit Insurance Corporation (FDIC) is a United States government-chartered corporation, created under the authority of the Glass-Steagall Act of 1933, that provides deposit insurance for (as of 3/31/09) 8,247 participating banks and savings associations. This deposit insurance guarantees the safety of deposits in member institutions up to a limit. The program is a success: there were major financial panics in 1890, 1893, 1899, 1901, 1903, and 1907, but none after the FDIC was established. Romer (1999) p. 38.

The Maximum Deposit Covered. The limit of coverage, called the "standard maximum deposit insurance amount" (SMDIA), has been $100,000 per depositor per bank for years. On occasion the FDIC has lifted the cap on deposits, as with the Continental Illinois National Bank and Trust Company high-speed electronic bank run in 1984, where the FDIC agreed to fully guarantee all deposits of any size. <www.fdic.gov/bank/historical/history/235_258.pdf>. On October 3, 2008, the FDIC temporarily increased the SMDIA to $250,000 per depositor per bank. The "Helping Families Save Their Homes Act" signed by President Obama on May 20, 2009, extended the SMDIA of $250,000 through December 31, 2013, at which time it drops back down to $100,000 per depositor per bank. IRAs are covered by a $250,000 limit which remains in place after 2013. Effective October 14, 2008, funds in non-interest bearing transaction accounts at participating banks are fully insured through December 31, 2009.

Emergency Recapitalization of the Deposit Insurance Fund. To date in its history, the FDIC has received no federal tax dollars–the fund and expenses are paid by assessments on member banks. It has only borrowed from the U.S. Treasury one time, during the early 1990s, and it repaid that loan with interest within 18 months. However, in 2008, 25 banks failed, and in 2009, through June 19, 40 banks have failed, and the FDIC projects more bank failures during 2009. The FDIC's reserves dropped from $52 billion at the end of 2007 to $17 billion at the end of 2008. The FDIC receives $15 billion in annual fees from banks. But in early 2009 the FDIC determined that it would not be able to maintain its statutory minimum reserves (1.15% of insured deposits) with expected bank failures in 2009, so on February 27, 2009, the FDIC Board adopted an interim rule, with request for comment, providing for a special levy on members of 20¢ for every $100 in assets (minus Tier 1 capital), to "help rebuild the Deposit Insurance Fund." Because the levy was proposed on assets and not deposits, the levy would fall more heavily on big banks which hold more non-deposit assets than small banks. In announcing the special assessment, the FDIC said its Fund would "remain low but positive through 2009 and then begin to rise in 2010." FDIC

Chairman Sheila Bair predicted another special assessment would be necessary in the fourth quarter of 2009. The FDIC acknowledged that the special assessment in a time of financial distress would reduce the bank capital available to lend, but the backing of deposits is as essential. <http://www.fdic.gov/news/news/press/2009/pr09074.html>. On May 20, 2009, President Obama signed the Helping Families Save Their Homes Act of 2009, which increased the FDIC's authority to borrow from the U. S. Treasury from $30 billion to $100 billion. Under the Act, the FDIC could temporarily borrow up to $500 billion, with the concurrence of the FDIC, the FED Board, and the Treasury Department, in consultation with the President. On May 22, the FDIC Board (over the objection of one director, the Comptroller of the Currency) announced a final rule imposing the special assessment, but reduced from 20¢ per $100 to 5¢ per $100 of assets (minus Tier 1 capital). See Section III.K.12. This assessment is expected to raise $5.6 billion for the Fund. One analysis firm estimated that the special assessment would lower City National Bank's second quarter 2009 earnings from 10 cents a share to 2 cents a share. The FDIC downsized its staff after it worked through the last financial crisis in the 1990s. So it will now have to staff up again to deal with the volume of bank failures it faces.

The Viability of the FDIC. The nationwide run on banks with resulting bank failures was a hallmark of American financial crises up to and including the Great Depression. In response to that last crisis, Congress created the FDIC to insure deposits. Since that time, the FDIC, working with the FED, has seamlessly transferred deposits from failed banks to viable banks with no adverse effects on depositors. However, the rate of bank failures has risen in 2008 and 2009. In 2008, 25 member banks failed, and there have been member 40 bank failures in 2009, through June 19. On March 31, 2009, the FDIC had 305 banks listed as "problem institutions." The FDIC's Deposit Insurance Fund has been strained. As noted above, the FDIC announced in May 2009 a special assessment on banks to help replenish the Fund, with another special assessment projected for the 4th Quarter of 2009. Additionally, Congress increased the FDIC's loan limit with the Treasury from $30 billion (set in 1991) to $100 billion, with a potential to go to $500 billion in an emergency. These are extraordinary departures from the norm, and they indicate that governmental officials are taking unprecedented steps to be ready for potential problems of great magnitude.

The FDIC's main value is to keep a national bank panic from starting. Even without a run on banks, the Deposit Insurance Fund is being increasingly jeopardized by a large number of bank failures that may force the FDIC to borrow from the Treasury (with new dollars that are just wished into existence). If such a nationwide bank panic were to start, such as if people generally lost faith in deposit insurance, it would quickly overwhelm the FDIC, and we would be turning again to the U.S. Treasury for a bailout, as has already happened so much in the last 18 months. If you care to safeguard against that risk, the first precaution is to diversify the risk now, well in advance, by spreading money out in several different kinds of banks, being sure to keep the funds at each bank below the FDIC insurance cap. A second precaution to offset this concern, remote though it may be, would be to withdraw enough cash to pay for food and gasoline for several months and put it in a safe place. If there is a "bank holiday" like there was in 1933, you can sustain yourself with the cash, and you can make timely payments on mortgages, car payments, utilities, and the like, using checks that can't be cashed until your bank reopens.

12. Capitalization of Banks. The Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA) provides for bank regulators to take prompt corrective action whenever a bank's capital ratios fall below certain thresholds. Under FED regulations, banks fit in one of five capital categories: well capitalized, adequately

capitalized, undercapitalized, significantly undercapitalized, and critically undercapitalized. The measure of capitalization is based on certain capital ratios. Under the FDICIA, banks in the top two categories are unrestricted. The FDICIA requires increasing supervisory intervention as banks fall into the lower three capital categories. A study of the capital deterioration of banks caught up in the 1991 New England Banking Crisis, showed that "most of the failed banks moved from the well-capitalized classification to failure during a four- to eight-quarter period." Peek and Rosengren, (1997) p. 47.

Tier 1 Capital. "Tier 1 capital" is shareholders' equity, or the amount paid to purchase originally issued shares of the Bank, plus retained profits, less accumulated losses.

Tier 1 Risk-Based Capital Ratio. The "Tier 1 Risk-Based Capital Ratio" is a bank's Tier 1 capital divided by its risk-weighted assets. Risk-weighted assets are determined by assigning a bank's assets and off-balance sheet items to risk categories (either 0%, 20%, 50%, or 100%). As an example, cash has 0% risk, while a letter of credit has substantially more risk.

Tier 1 Leverage Ratio. The "Tier 1 Leverage Ratio" is Tier 1 capital (the numerator of the ratio) divided by the bank's average total consolidated assets (the denominator of the ratio). The FED requires banks to maintain at a minimum a Tier 1Leverage Ratio of 3%.

Capital Standards. The following standards determine a bank's capitalization:
Well capitalized: has a total risk-based capital ratio of 10.0% or more, and a Tier 1 risk-based capital ratio of 6.0% or more, and a Tier 1 Leverage Ratio of 5.0% or more.
Adequately Capitalized: doesn't meet test for well capitalized but has a total risk-based capital ratio of 10.0% or more, and a Tier 1 risk-based capital ratio of 4.0% or more, and a Tier 1 Leverage Ratio of 4.0% or more.
Undercapitalized: has a total risk-based capital ratio of less than 8.0%, or a Tier 1 risk-based capital ratio less than 4.0%, or a Tier 1 Leverage Ratio less than 3.0%.
Significantly Undercapitalized: has a total risk-based capital ratio of less than 6.0%,or a Tier 1 risk-based capital ratio less than 3.0%, or a Tier 1 Leverage Ratio less than 3.0%.
Critically Undercapitalized: has a ratio of tangible equity to total assets that is equal to or less than 2.0%. FDIC Rules and Regulations § 325.103, Capital measures and capital category definitions <www.fdic.gov/regulations/laws/rules/2000-4500.html>.

The Stress Tests. In 2009, the Treasury and the Federal Reserve Board announced the Supervisory Capital Assessment Program (SCAP) to conduct reviews or "stress tests" of America's nineteen largest bank holding companies. The tests were conducted under two scenarios, one based upon a consensus set of economic projections and another based on more pessimistic projections. See Congressional Oversight Panel, *Stress Testing and Shoring Up Bank Capital* (June 9, 2009) p. 3 <http://cop.senate.gov/documents/cop-060909-report.pdf>. The stress test conducted under the pessimistic scenario found that nine of the nineteen banks already hold sufficient capital to operate through 2010 under the projected adverse scenario, but that ten of the nineteen banks need additional capital totaling nearly $75 billion in order to survive the adverse economic scenario. *Id.* p. 4. The Congressional Oversight Panel generally approved of the testing process, but noted that the adverse scenario projected a 2009 unemployment rate of 8.9% and the unemployment rate has climbed to 9.4% by May of 2009. The Panel has suggested another round of stress testing based on unemployment exceeding 8.9%.

13. Too Big to Fail. "Too big to fail" refers to a bank (or insurance company or car manufacturer) that is so important to the functioning of the economy that the government cannot let it become

insolvent. In 1984, Comptroller of the Currency C. T. Conover testified to Congress that the government would not allow any of the eleven largest banks to fail. An expectation that a business is too big to fail can lead to "moral hazard," where excessive risks are taken by managers with the belief that the rewards for success will be personal, while the losses for failure will be absorbed by the government. FDIC Chair Sheila Bair addressed the issue of "too big to fail" in a speech to the Economic Club of New York, on April 27, 2009. She said that neither the FDIC as currently structured, nor the bankruptcy process, works for large, systemically important financial institutions that fail. This lack of an effective resolution mechanism for these large financial organizations is driving policy choices, and has led to unprecedented government intervention into private companies. This only reinforces the "too big to fail" expectation relating to these big companies. Bair proposed a new "resolution regime" for the large institutions, and offered the FDIC as the best agency for that purpose. <www.fdic.gov/news/speeches/chairman/spapr2709.html>. The 19 banks who underwent stress tests in May 2009 are considered by many as "too big to fail." Other organizations that are too big to fail are AIG, Fannie Mae, Freddie Mac, and General Motors. Lehman Brothers was not too big to fail, though in retrospect one wonders if the government, given the chance to do it over again, would bail them out. The new regulatory standards proposed by President Obama do not prohibit banks from becoming too big to fail, but does impose heightened capital requirements for such institutions.

14. Changes in the Banking Industry. In 2004, the FDIC published a study on the American banking industry, "The Future of Banking in America." <www.fdic.gov/bank/analytical/banking/2004nov/article1/br16n1art1.pdf>. The following analysis is taken from this study.

Structural Changes. Up until the 1990s, banking was divided into three sectors: community banks, regional and mid-sized banks, and the largest banks. *Id.* at 25. Since the early 1990s, there have been major structural changes in American banking. In 1994 Congress changed banking law to permit interstate branch banking. This allowed successful banks to take over local banks and spread across America. In 1999 Congress changed banking law to allow banks to sell brokerage services and insurance, giving them access to non-interest income and diversifying their earnings. *Id.* at p. 9. As a result of these two changes, "megabanks" developed, sometimes involved in different activities that are subject to regulation by different government agencies. Some of the issues pointed out in the FDIC study are: consolidation of banking (will big banks replace community and regional banks and substitute credit scoring for relationship-based lending?); common ownership of banks and commercial enterprises (potential conflicts of interest, concentration of economic power, and expansion of the banking safety net); large-bank supervisory issues (what part of what entity is regulated like a bank? Which agency has supervisory responsibility?); governance issues (illegal behavior by managers); the changing nature of bank liabilities (big banks are replacing deposits with collateralized borrowings as a source for capital). *Id.* at 10. Risks associated with megabanks include the risk that the failure of a megabank could jeopardize not only the FDIC but also other banks, who would be burdened with deposit insurance special assessments and premium increases. For example, at the end of 2003, the largest single bank was nearly 19 times larger than the entire Deposit Insurance Fund. *Id.* at 10-11. The failure of a megabank could also disrupt financial markets and undermine public confidence in the banking system. *Id.* at 16. There are challenges related to monitoring multiple business lines, geographically dispersed operations, and complex corporate structures. *Id.* Another concern is that banks were increasingly being managed by people who "have experienced nothing but profits," and who have no memory of the 1980s bubbles in energy, agriculture, and real estate. *Id.* at 25. Once banks become "too big to

fail," the government is required to bail them out in order to save the banking system. Not only does that potentially cost the taxpayers a lot of money, but the method of bailout determines who bears the loss as between shareholders, bond holders/counter-parties, employees, and depositors. The expectation of such bailout protection creates "moral hazard," which encourages risk taking so that management can have the rewards of success but not bear the costs of failure.

15. The Privatization of Financial Intermediation. When an individual needs money, s/he can borrow from a friend or s/he can borrow from a bank. When a company needs money, it can borrow from a bank, or issue stock or bonds to investors. "Financial intermediation" is the process whereby financial intermediaries, such as banks, receive money in the form of deposits and lend it out to borrowers who wish to use that money for purchases, investment, expansion, and the like. The efficiency and reliability of the process through which savings are channeled into productive uses is important to the entire economy. Allen and Carletti (2008) p. 1. When compared in the aggregate, in the United States capital for operations far and away comes first from bonds (when private and public are combined), next from stocks, and lastly from bank loans. *Id.* at 2. This is much more the case than in Europe and the United Kingdom, where commercial loans exceed other sources of capital for corporations. Thus, America is more market-oriented in raising its business capital. But still the American economy is very tied to financial intermediation for liquidity.

Liquidity Risk. One problem with intermediating is that liabilities (deposits) can be freely withdrawn, while assets (loans) cannot be recovered until the come due. So banks inherently have liquidity risk because they borrow short and lend long. This "maturity mismatch" is ameliorated by the central bank, which provides a vehicle for overnight loans between banks and also provides short term loans to banks, and in a crisis will provide long term loans. However, financial intermediation increasingly is shifting away from regulated banks to unregulated private investment vehicles, like hedge funds, who cannot borrow from the FED, and the role of the central bank as the "lender of last resort" is diminishing. There is no one central authority to assist the new unregulated financial intermediaries during a liquidity crisis. And former FED Chairman Paul Volcker has commented: "The liquidity of active open markets also encouraged thin capital positions and high leverage." Volcker (April 8, 2008) p. 5.

Loan Supervision. Banks not only evaluate the borrower before the loan is made, but banks also provide advice to business borrowers and to a certain extent supervise the use of the loan proceeds through loan covenants, frequent financial reporting, and the like. When capital for corporations is drawn from hedge funds and other non-bank sources, there is no government supervision of the transactions, allowing unhealthy lending practices to occur.

Diversifying Risk. Banks diversify the risk of lending money, by aggregating many depositors and making many loans. It is thus less likely that failure of one loan will have an important impact on any one depositor. Banks also diversify risk across time, meaning that they can store up capital in good times and use that to cover withdrawals during an economic downturn. Allen and Carletti (2008) p. 6. However, competition from financial markets can reduce the time diversification function of banks by reducing profitability in good times. *Id.* pp. 6-7. Non-bank lenders diversify the risk of default using credit default swaps* (CDSs). These contractual relationships are mostly unregulated, and the risk of default is spread far and wide. The opaque CDS market does not permit anyone to accurately assess their counter-party's ability to pay in the event the underlying debt goes into default. If the counter-party cannot perform, then the risk of default was not

successfully transferred to the third party.

L. INFLATION AND DEFLATION. Inflation and deflation are opposite sides of the same coin. In an inflation, the value of money is declining. In a deflation, the value of money is increasing. These two conditions have very different effects. The American economy has been in inflation for many decades. Our economic planners actually desire a 2% to 3% rate of inflation. However, we are currently in a deflation. The economic planners dislike deflation, and associate it with the great suffering that occurred during our last period of serious deflation, the Great Depression. Our central bank (the FED*) is now taking actions to re-inflate the economy, by doing things that are traditionally viewed as contributing to inflation. The inflationary actions that the FED is taking during this economic downturn run the risk of establishing excess inflation when the economy turns around. The FED is well-aware of this risk, and the FED's recent efforts to re-inflate the economy have been "sterilized," or made with an eye toward unwinding these inflationary tactics as soon as normal economic activity is restored.

1. Inflation. Inflation is a rise in the general level of prices. Stated differently, "the inflation rate is determined by the rate of growth of the stock of money relative to the demand for it." Wynne (2008) p. 207. An overview of inflation by economist Lawrence H. White is at <www.econlib.org/library/enc/inflation.html>. Since 1950, the highest inflation rate in the U.S. was 13.3% in 1979. Since 1991, inflation has ranged between 1.6% and 3.3%. A chart of the history of the inflation rate in the U.S.A., measured by the Consumer Price Index (CPI) for all consumer, all items, (so-called "headline inflation"), is at <http://research.stlouisfed.org /fred2/series/CPIAUCSL>. Whether the CPI is best measure of inflation is discussed below.

a. Effects of Inflation. John Maynard Keynes wrote about inflation in his 1919 bestseller *The Economic Consequences of the Peace*, which criticized the economic effects of the Versailles Treaty and European economic policies after WWI:

> Lenin is said to have declared that the best way to destroy the Capitalist System was to debauch the currency. By a continuing process of inflation, governments can confiscate, secretly and unobserved, an important part of the wealth of their citizens. By this method they not only confiscate, but they confiscate arbitrarily; and, while the process impoverishes many, it actually enriches some. . . .
>
> Lenin was certainly right. There is no subtler, no surer means of overturning the existing basis of society than to debauch the currency. The process engages all the hidden forces of economic law on the side of destruction, and does it in a manner which not one man in a million is able to diagnose.

Put simply, "prosperity is undermined when the value of money fluctuates." Jordan (2006) p. 485.

Declining Returns on Investment. At a more practical level, inflation diminishes the purchasing power of cash, discouraging people from holding cash and cash-based investments like savings accounts, CDs, and bonds. Inflation also diminishes the earnings of workers whose pay raises do not keep pace with inflation. Inflation also diminishes the lifestyle of persons (like retirees) who live on fixed incomes that have no cost-of-living adjustments that keep pace with price increases. Inflation also diminishes the real rate of return on all income-producing investments, like stocks and bonds. A diminished rate of return pushes investors into assets that have higher rates of return, but which also have increased risk. In some respects, since the 1970s the desire to avoid inflation loss drove Americans out of CDs and bonds and into the stock market, thus driving share prices too high and widening the number of people adversely affected by the

2000 and later 2007-2009 stock market declines. For decades, smart investors have put much of their retirement investments in stocks; dumb investors put their money into CDs and government bonds. At this point in time, the smart investors are no better off than the dumb ones.

Perceptions. When people believe that the central bank will allow inflation to occur, they demand higher wages in union contracts in order to protect the purchasing power of their wages. This increase in wages causes an increase in costs, which feeds more inflation, in what is called an "inflationary spiral." The public expectation regarding inflation therefore plays a role in inflation, and is constantly on the minds of the FED, and affects what FED representatives say and do.

Contracts. High inflation can disproportionately affect contracting parties whose obligations extend over time. This can create an aversion to long term contracts. Since inflation erodes the purchasing power of dollars, lenders hate inflation because their loans are repaying with money of less value.

Volatility. High rates of inflation make prices volatile, due to prices of different items being adjusted at different speeds. Also, the price signals required for efficient allocation of resources are distorted by the effects of inflation. White, p. 10.

It is important to recognize that economy-wide price inflation is really the loss in value of the currency. Viewed this way, the question to answer is not "why are prices rising?" but rather "why is the currency losing its value?" The last question puts the focus on government policies, rather than on the operation of markets.

b. Signs of Inflation. Inflation is easy to spot: the cost of what you buy is increasing. Inflation is also pervasive; we are always in an inflation, except for when we are in a deflation. The U.S. Government regularly reports price increases, and those reports are widely disseminated by the news media as a measure of inflation. The CPI, the PPI, and the Implicit Price Deflator, each in its own way reflects some aspect of the rate of inflation. Some people say that the government indicators of inflation are understated. "Core inflation" is what the FED looks at to decide on monetary policy. "Headline inflation" is what we actually pay for living expenses. These measures are discussed below.

c. Measuring Inflation. There are different ways to measure inflation, and several different measures are taken. There is the Consumer Price Index (core vs. headline), the PCE Price Index (PCE), the Producer Price Index (PPI), the GDP Implicit Price Deflator (GDP Deflator), and the TIPS spread. See Section VI.A.13. The measure you look at depends upon the use you wish to make of the measure.

Consumers are interested in the prices of the things they buy, which are measured by the Consumer Price Index (CPI) and the Personal Consumption Expenditures Price Index. See Section VI.A.13.a and b. Business people who are setting prices for their output are more concerned with the cost of items going into their finished product, so they are attuned to the Producer Price Index (PPI). See Section VI.A.13.c. People who wish to compare Gross Domestic Product for different years, and need to strip out differences attributable solely to price changes, look to the GDP Implicit Price Deflator, which strips price changes from the aggregate measure of production. See Section VI.A.13.d.

In late May, 2009, the CPI-U was showing deflation approaching -0.1%; the PCE Implicit Price Deflator was showing inflation at 1.25%; the TIPS spread on 10 year bonds was 1.8%, and the GDP Price Deflator was just over 2%. All of these indicators suggest low inflation, but the TIPS spread has been tending upward since January.

Core Versus Headline Inflation. The FED has a central bank's perspective on inflation. The FED is interested in the "core inflation" that represents the long-term trend of prices overall in the economy, so they know what to do with monetary policy. So the FED excludes the volatile prices of food and energy from their "core inflation" calculation. However, measuring inflation for purposes of structuring divorce settlements is entirely different. Individuals are more interested in what they have to pay for all of their living expenses especially food and energy. Thus, someone who is relying on a stream of payments to meet support needs is more interested in the "headline inflation," which includes price increases of food and energy, since they will be spending significant parts of their budget on the very items that are excluded from "core inflation." The Bureau of Labor Standards measures both "core inflation" and "headline inflation," so at the present time you can pick the index that suits your purpose.

Some writers have criticized the FED for using core inflation as a signal for monetary policy. They suggest that the concept of core inflation understates the true inflation rate. Among economists there is uncertainty about the theoretical basis for using the Consumer Price Index, excluding the price of food and energy, as a signal for monetary policy. And some central banks of other countries use "headline inflation" for their monetary policy decisions.

Theoretical Basis for Measuring "Core Inflation." The concept of core inflation is premised on the view that the inflation of concern to the central bank is not exactly the cost of living. Wynne (2008) p. 207. The central bank must concern itself not only with consumers, but also with producers, since increases in prices to producers will be passed along to retailers and will eventually be reflected in increases in prices to consumers. Also, some increases in prices are temporary, as a result of shocks like weather, or political disruptions across the world, and do not warrant a change in monetary policy. The central bank is really concerned with the economy-wide rate of decline in the purchasing power of money. Wynne (2008) p. 223.

The Practice of Central Banks. In the United States, the Bureau of Labor Standards (BLS) started publishing the CPI less food and energy as separate subschedules in 1975, and as a independent measure in 1978. Wynne (2008) p. 208. Similarly, the European Central Bank publishes a consumer price index, but also various measures of core inflation. *Id.* p. 210. The Bank of Japan relies on its consumer price index, including food and energy. *Id.* p. 210. The Bank of Canada uses its consumer price index for planning purposes, but considers core inflation in setting policy. <www.bank-banque-canada.ca/en/inflation/index.html>. The Bank of England uses a retail price index that includes food and energy prices but excludes mortgage interest payments. *Id.* p. 212. The Bank of Sweden targets headline inflation, but publishes measures of core inflation. *Id.* p. 212. The Reserve Bank of Australia targets headline inflation. *Id*. p. 213.

Alternatives to CPI. Core and headline inflation both assume a starting point of the Consumer Price Index as the underlying indicator of inflation. It is then either adjusted or not adjusted to reflect core inflation. There are alternatives. One approach would be to include all prices in the economy weighted in terms of importance, somehow defined. Wynne (2008) p. 216. The justification for this is that inflation affects all prices: "The inflationary signal in the price of a new pair of shoes is theoretically the same as that in the price of shoe leather, or for that matter, in the price of cows." *Id*. p. 216 n.20. Weighting could also be based on that parameter's ability to forecast future inflation. *Id*. p. 217. Even food and energy prices have a component of inflation in them, so perhaps that component should be measured and considered. *Id*. p. 217.

Alan Greenspan noted the increasing difficulty of

measuring prices when a unit of output is increasingly difficult to craft. Nowadays "an ever-growing fraction of overall value added reflects intellectual insight, as distinct from physical effort." Greenspan, *Opening Remarks* (1996) <www.kc.frb.org/Publicat/sympos/1996/pdf/s96green.pdf>.

A separate question is measuring the expectation of inflation. There are surveys for that, but inflation expectation can be drawn from the market, such as the yield curve* between long and short term bonds, or the yield on inflation indexed bonds (like TIPS). See Section VI.A.13.d.

d. Increasing Prices of Goods and Services Versus Increasing Prices of Investments. Ninety-nine times out of a hundred, when someone mentions "inflation" they are talking about an increase in the price of consumer goods and services. This type of inflation is reflected in the Consumer Price Index, which is the price index that the news media talk about. However, there can be inflation manifested in the rising price of investments whose price increases are not readily be seen in the prices of consumer goods and services.

Economic Need Versus Speculation. If the increase in the price of a class of investments is based on increased economic need for the item, then a price increase probably reflects routine adjustments due to supply-and-demand. Increased demand here takes away from demand somewhere else. However, if the price increase of the investment class is not based on expanding economic need for the item, but is instead based on increased demand from speculators anticipating further price increases, then we need to examine the price increases more closely. If speculators are liquidating one type of investment and flooding into another, inflation is not involved, since the supply of money and credit is not increased. If, however, speculators are borrowing money on easy terms and using that to flood into the investment, then the price increase does reflect price inflation.

The Effect of Inflating Investment Values on the Economy. The effect of inflation in one asset class upon the entire economy depends on the connectedness of the asset class to the entire economy: it can have no effect, direct effect, or indirect effect. Inflation confined to beach condominiums does not have much effect on the overall economy. Inflation confined to personal residences can have a huge effect.

As an example of no effect, take gold. The industrial and retail demand for gold is fairly stable, so a rapid increase in the price of gold probably reflects an increase in demand by speculators. A speculative-driven increase in the price of gold may eventually increase the price of gold jewelry and a few industrial processes, but it will have essentially no effect on the Consumer Price Index and will not affect the overall economy to any great extent.

As an example of a direct effect, take crude oil. Two kinds of people buy oil futures: 1) businessmen who want to lock in the price of oil they are going to sell or buy for industrial purposes; and 2) speculators who hope to profit from an increase (or shortsellers who want a decrease) in the price of oil. If speculators buy lots of oil futures, and drive the price of oil futures way up, it increases the cost of oil to petroleum refiners, who recover their increased costs by increasing the price of gasoline and airplane fuel, which causes automobile drivers to pay more a the pump for gasoline, and causes truckers and airlines to raise their prices, which gets reflected in increased costs to consumers. The refiners also raise the price of heating oil, which drives up heating expenses in the north during winter months, thus directly increasing the Consumer Price Index. Since petroleum products enter at just about every stage of the production process, an increase in the price of oil will also increase the prices of many items refined from oil, throughout the economy. So speculator-driven increases in

crude oil futures can increase the cost-of-living, as it did during 2008, and reduce the amount of money available for other consumer expenditures.

As an example of an indirect effect, take the stock market from 2002 to 2008. From its trough of 7,702.34 on July 23, 2002, to its peak of 14,164.53 on October 9, 2007, the Dow Jones Industrial Average grew by 84%. Because millions of Americans own stock, either outright or through their IRAs and 401(k)s, as the values of stock increased, the wealth of Americans increased. As the wealth of Americans increased, the "wealth effect"* caused people to increase their consumer expenditures. Sometimes consumers supported this extra buying by increasing their consumer debt, and sometimes consumers actually "extracted" their increased wealth by taking margin loans against their stock portfolio to pay for consumer purchases. Eventually the level of consumer spending exceeded what the level of income could support, so that wealth was the only thing propping up consumption based on debt. When the stock market started declining from its all-time closing high of 14,164.53 on October 9, 2007, margin calls forced the sale of stocks which further depressed stock market prices, which triggered further margin calls, creating a deleveraging spiral that forced the stock market down further and further, wiping out wealth along the way.

The same thing happened with residential real estate between 2001 and 2007. Low interest rates and easy credit permitted increasing numbers of people to buy houses, sometimes for speculation (i.e., as an investment to resell at a higher price). This drove up the price of housing. As increasing home values increased the equity in existing homes, the "wealth effect" prompted homeowners to make consumer purchases based on their home equity "wealth." Sometimes people just increased their consumer debt based on their home equity "wealth," while others actually "extracted" their increased home equity "wealth" by taking out home equity loans to use to make consumer purchases. The rise in real estate prices had some direct effect on the Consumer Price Index, which includes the cost of renting a residence as one factor of the Index. However, consumers borrowing against their home equity "wealth" effectively increased the amount of money available for consumer purchases.

Speculative Bubbles. The distinction between inflation in investments and inflation in consumer goods and services is important, because the distinction affects the actions of the central bank, the FED.* A central bank that is focused on economy-wide price levels might not recognize inflation in the economy when the inflation is confined to certain classes of investments that do not impact consumer prices. Nonetheless, where "bubbles" (see Section IX.B) in certain classes of investments result from easy credit used for leveraged investing in that asset class, then a very dangerous type of "confined" inflation is occurring. If the inflation is "confined" to platinum prices, then the popping of the speculative bubble will not have great effect. If the inflation is "confined" to a broad asset class, like equities or residential real estate, then the popping of the speculative bubble can have devastating consequences to the economy at large. That risk should be of concern to the central bank, which is implicated to the extent that the bubble is based on low short term interest rates, or high leverage ratios on the part of institutions governed by the FED (like commercial banks). To the extent the bubble is based on high leverage ratios of institutions not governed by the FED, then the country needs to bring those enablers under regulatory control, since time and time again the marketplace has proven not to be a sufficient safeguard against excessive leverage in investing.

e. Phillips Curve. The "Phillips Curve" was posited by A.W.H. Phillips in 1958, who studied the relationship between unemployment and inflation in the United Kingdom from 1861-1957 and concluded that an inverse relationship existed between the rate of change of nominal wages and

the level of unemployment in the U.K. Lown and Rich (1997), p. 54. The theory was that low unemployment causes a tight labor market that drives up labor costs. *Id.* Stated differently, high demand for goods drives up prices, which causes firms to hire more, which increases employment and thus increases demand. The Phillips Curve now has become "a generic term for any relationship between the *rate of change* of a nominal price or wage and the *level* of a real indicator of the intensity of demand in the economy, such as the employment rate." Eller & Gordon (2002), p. 13. The Phillips Curve is the principal tool used by economists to predict inflation. Lown and Rich (1997), pp. 51-52. The stagflation that occurred in the 1970s and 1980s indicated that the Phillips Curve had shifted, meaning that more inflation occurs at a given level of unemployment.

The term "sacrifice ratio" refers to the percentage point decline in the unemployment rate required to raise the long-term inflation rate by 1%. Stated differently, the sacrifice ratio is the number of people who must lose their jobs in order to bring inflation down 1%. This formulation reflects the perception that there is a trade-off between inflation and unemployment.

During the recovery from the 1990-91 recession, the Phillips Curve predicted a higher than actual inflation rate, a condition called "the inflation puzzle," leading some economists to say that the Phillips Curve was "dead" while others did not know. At this point, central bank economists favor the conclusion that unique factors depressed wages and costs during the 1990s, and that the Phillips Curve is still alive and well, at least in the short run. There are other who disagree, and think high growth and low inflation are compatible.

f. Causes of Inflation. There are different opinions on what causes inflation, but two widespread views attribute inflation to (i) the money supply increasing faster than the supply of goods and services to spend that money on ("too much money chasing too few goods"); and (ii) demand outstripping supply in the economy even with a stable currency. Baumohl, p. 273. The FED pursued expansionist policies in the mid-1960s and early 1970s, with the result that inflation became established and eventually got out of control. Romer (1999) p. 42. Milton Friedman said that the mere expectation of future inflation can cause inflation. Friedman's view is accepted at the FED, which is committed to projecting the image that it is doing everything it can to control inflation, even while it is rapidly expanding the money supply. Many people believe that inflation is a problem with paper currency, particularly where the paper currency is not tied to a commodity like silver or gold. Today the world has adopted paper money standards, or fiat currency, which makes it much easier for countries to inflate their currency.

g. The Relationship Between Debt and Inflation. Since debt puts money in the hands of the borrower, money and debt are interrelated. An expansion in debt has the same effect as an increase in the money supply. When stockbrokers lend money to investors to make investments, it has the same effect as an increase in the money supply. Thus, expanding debt affects inflation by increasing the money supply and increasing demand.

h. Effect of Inflation on the Federal Budget. Inflation affects the Federal budget. The largest component of Federal revenue is personal income taxes. Personal income tax rates are indexed to inflation but capital gains tax is not. So price increases attributable to inflation are taxed as if real value had increased. Additionally, the alternative minimum tax (AMT) is not indexed for inflation, and taxes more people each year even though their real (i.e., inflation adjusted) income may not be high enough to trigger the AMT. *Id.* p. 14. Inflation increases corporate income taxes in that depreciation deductions, which are based on historical cost, do not keep place with replacement cost denominated in newer inflated dollars. *Id.* p.

15. With inflation, the government must pay more for the goods and services it buys. Certain Federal entitlement programs, like Social Security, are indexed to prices and so increase with inflation.

i. Stagflation. Stagflation occurs when economic stagnation and inflation occur simultaneously. John Maynard Keynes wrote in his post-WWI book, *The Economic Consequences of the Peace*, that governments printing money while implementing price controls caused inflation coupled with economic stagnation. Keynes wrote that workers, required by law to receive a set pay that is declining in purchasing power due to inflation, would soon refuse to sell their labor. In the early 1960s, inflation was 1 to 2% per year. During the Vietnam War, government "defense" spending was greatly increased without offsetting tax increases, as the same time that consumer demands for goods and services was rising ("guns and butter"). This resulted in inflationary pressure. In 1973, the Arab component of the oil producing countries' cartel (OPEC, created in 1960) imposed an oil embargo on the United States for its support of Israel in the 1973 Arab-Israeli war. This supply shock drove the price of oil and oil-derived products higher in the United States, and increasing the flow of capital from the United States to OPEC countries, removing that wealth from the U.S. economy and contributing to a recession. Staats (1975) p. 3. The coinciding of the economic stagnation and resulting high unemployment with inflation was called "stagflation." Up to this point, Keynesian economic theory associated recession and high unemployment with low inflation (the "Phillips Curve"). The stagflation that occurred in the 1970s was not explained well by Keynsian economics. Milton Friedman suggested that inflation could occur any time workers and businesses expect future inflation and build inflation into their wage agreements, thus shifting the Phillips Curve upwards. Many people believe that an expanding money supply leads to price inflation, even in an economic downturn, and when that occurs we have stagflation. The FED, under Paul Volcker, raised interest rates between 1979 and 1983, stopping the inflationary side of the stagflation problem. Unemployment remained high for 6 years, and finally came down when economic growth returned. Some believe that stagflation is a present risk, where if the gigantic expansions of the money supply by developed economies do not bring us out of recession.

j. Restraining Inflation. One measure historically used to control inflation is wage and price controls, which are an economic policy in which the government places a ceiling on wages and prices to curb inflation. President Roosevelt imposed wage and price controls during WWII that were removed soon after the war ended. On August 15, 1971, in an effort to stem inflation of 6%, President Nixon imposed wage and price controls, designed to last for 90 days, that turned into Phases One, Two, Three, and Four lasting until April of 1974. After a short downturn (lasting until June 1972), inflation rose to 12% by December of 1974, and eventually 15% in March of 1980. See Eller & Gordon (2002) p. 22. Price controls on oil remained in effect after Nixon resigned. President Carter started the process of deregulating oil prices, but full deregulation was not concluded until President Reagan was President. Wage and price controls are out of favor at the national level right now. However, price controls continue in some areas, such as rent control in New York and Los Angeles.

Under current thinking, the standard tools for curtailing inflation are: 1) increasing short term interest rates, which reduces economic activity and (unfortunately) increases unemployment, which holds down wage increases; 2) shrinking the money supply, which makes dollars worth more; and 3) using "tough talk" about implementing anti-inflation monetary policy to dampen expectations of inflation. See Section V.A.

k. Has Inflation Been Tamed? "The Great Moderation" refers to the period of time from the

mid-1980s to the mid-2000s, where the variability of growth in GDP and in the rate of inflation were greatly reduced from historical levels. This was attributed by some to three factors: 1) structural change, 2) improved macroeconomic policies; and 3) good luck. See Ben S. Bernanke, *The Great Moderation* (Feb. 20, 2004) <www.federalreserve.gov/BOARDDOCS/SPEECHES/2004/20040220/default.htm>. Noted inflation economist Robert J. Gordon is of the view that inflation rates were low from 1996-2001, not because the inflation tiger had been tamed, but rather because a strong U.S. dollar reduced the relative price of imports. Gordon also believes that medical care inflation dropped sharply in the mid-1990's due to the managed care health revolution, and that producer prices were restrained by computer price deflation from 1995 to 1999. Gordon also sees a productivity revival after 1995 holding down wage increases. Eller & Gordon (2002), p. 58. Other economists have suggested that inflation has been more benign in recent years, because: 1) greater international competition made companies wary of granting wage increases; 2) internationalization of production made workers more reluctant to seek wage increases; 3) better monetary policies led to better-anchored expectations of low inflation; 4) international migration of workers upward pressure in check; 5) rising savings rates (a reduction in savings in developed countries was offset by increased savings resulting from the shift of income from low-saving countries to high-saving countries). Elmeskov (2009).

l. Things to do in an Inflation.

- Move out of cash, CDs, and bonds into appreciating assets like stock, commodities, and gold. Since cash declines in purchasing power during an inflation, you would rather put your cash into assets that will appreciate in value as the dollar depreciates. The same goes for getting out of CDs and bonds, since the interest rate will be eroded by inflation, and the money you get back on maturity will be worth less than when you invested it.
- Invest in stocks. Stocks inflate with the economy. Over the years, the stock market has been a good place to preserve the value of your money against inflation. However, the stock market is volatile, and susceptible to large drops and long down-turns, which risks must be weighed against the inflation protection.
- Invest in real estate. Historically, land prices have inflated with an inflating currency. Real estate can appreciate faster if it acquires additional value as a site for development. Real estate can be illiquid in certain circumstances, and there are carrying costs, like property taxes, insurance and repairs.
- Accelerate purchases of consumer durables. Unless your income is inflating as fast as the economy, it will be better to buy consumer durable items now, when they cost less, than later, when they will cost more.
- Don't prepay debt; don't be a lender. Because in an inflation dollars at the end of a year are worth less than dollars at the beginning of the year, it is better to pay debts later, with dollars that are worth less. For the same reason, you should not be a lender in an inflation, unless the interest rate is hiked up enough to exceed the inflation rate by 3%.
- Buy on "store credit." Many vendors will entice customers to buy items by promising they don't have to make the first payment "until next year." This kind of store credit allows you to pay later with dollars that are worth less.
- Buy on credit, if the interest rate on the loan is less than the inflation rate plus 3%.

m. Hyperinflation. "Hyperinflation" is ruinously high increases (50% or more per month) in prices due to the near total collapse of a country's monetary system, rendering its currency almost worthless. According to Professor Steve H. Hanke, episodes of hyperinflation are rare, and have occurred only where the money is a fiat paper currency. He says that no hyperinflation has

ever been recorded when money has been commodity-based or when paper money has been convertible into a commodity. The first modern hyperinflation occurred during the French Revolution (1789-96). The French episode was followed by 28 additional hyperinflations—all in the twentieth century. <www.freemarketfoundation.com/Hanke%5CHyperinflation--Mugabe%20versus%20Milosevic.pdf>. Germany between the World Wars reached a monthly inflation rate of 30,000%. Hungary and Yugoslavia experienced hyperinflation after WWII. Zimbabwe is currently experiencing hyperinflation. See <http://humorland.wordmess.net/20081025/what-the-real-crisis-is-like> and (watch this very powerful video <www.youtube.com/watch?v=s3LdNxV0yPM>.

n. Things to do in a Hyperinflation.

- Stock up on preserved food.
- Buy guns and ammunition.
- Buy precious metals, especially gold and silver coins.
- Move away from the city, to avoid civil disturbances and robbery.
- Grow your own food.
- Be prepared to barter.

2. Deflation. Deflation is often defined as a general decline in the price level of goods and services. However, the price declines reflect an underlying condition which is causing prices to diminish. The underlying condition can be seen as a broad reduction in economic activity. At the same time, declining prices could be seen to result from a contraction in the volume of money and credit relative to available goods and services. The Director of the Congressional Budget Office explained deflation in this way:

> Deflation is the decline in a broad array of prices of goods and services for a protracted period. It is a concern because deflation and expectations of future deflation discourage investment and spending. Because nominal interest rates cannot go below zero, a decline in prices implies an increase in real [i.e., inflation-adjusted] interest rates, reducing the desire of both firms and households to borrow for investment or consumption spending. A deflationary spiral—lower prices, growing real debt burdens, lower spending, and subsequently even lower prices and lower spending—contributed to the depth of the Great Depression, and some analysts argue that even the mild deflation experienced by Japan during the 1990s made it more difficult for the country to escape a period of economic stagnation.

<www.cbo.gov/ftpdocs/100xx/doc10086/State_of_Economy_Testimony.1.2.shtml>.

Deflation is not always a bad thing. If deflation in prices is due to increased efficiency and increased productivity, it means that consumers are getting the benefit of progress. This kind of deflation has occurred with computer prices, but that kind of price deflation is not system-wide. Economist George Selgin has advocated allowing prices to fall in an economy that experiences ongoing productivity improvements. If wages don't fall as fast as prices, then workers will enjoy higher real incomes. Jordan (2006) pp. 492-493.

a. Effects of Deflation. Deflation reduces the general price level, but in connection with a contraction in sales, and a reduction in business capacity, shorter work weeks, job losses, suspension of dividends, business failures, falling stock prices, and diminishing credit. To quote Ben Bernanke: "the economic effects of a deflationary episode, for the most part, are similar to those of any other sharp decline in aggregate spending--namely, recession, rising unemployment, and financial stress." Bernanke (Nov. 21, 2002). However, deflationary recessions have a few special problems.

<u>Nominal Versus Real Interest Rate.</u> In a deflation the "real" (deflation-adjusted) interest rate is

higher than the "nominal" (stated) interest rate, since the borrower is repaying loans with money that is worth more than when it was borrowed. Thus, in a deflation the "real" interest rate is equal to the "nominal" interest rate *plus* the rate of deflation. Thus, in a deflation of 3%, an existing long-term mortgage with a 5% "nominal" interest rate really has an 8% "real" interest rate. The borrowers only way out is to pay off the loan, or renegotiate it at a lower nominal interest rate.

Zero Bound Problem. Deflation of sufficient magnitude may cause the nominal interest rate to decline to zero or very close to zero, where it becomes "zero bound." Once the nominal interest rate goes to zero, "the real interest rate paid by borrowers equals the expected rate of deflation." *Id.* This is because the loan must be eventually repaid in dollars that, due to deflation, have a greater purchasing power. Thus, with a zero nominal interest rate in a deflation, the loss of purchasing power of the borrowed money represents the time value of money. Existing borrowers may be able to renegotiate their loans to a lower nominal interest rate, but if they cannot, then the deflation rate adds to the nominal interest rate of the loan as a cost of the loan. And the lower the nominal interest rate is, the less interested lenders will be in making the loan. As a practical matter, even with a 5% deflation rate, no mortgage company would make a house mortgage at zero nominal interest rate, even though their real rate of interest would be 5%. Rising "real" interest rates in a deflationary economy can lead to financial distress of borrowers, which can cause loans to go into default, leading to bankruptcies and bank failures. *Id.* See Section V.A.4 "the Liquidity Trap."

Pessimism. The fall in the values of assets breeds pessimism in the economy, which curtails consumer spending and business investment, adding momentum to the economic downturn.

b. The Signs of Deflation. In a deflation, prices are generally falling across the economy in the context of a decline in economic activity. The price reductions occur not only in consumer goods and services, but also in the value of investments such as stocks, bonds, commodities, and real estate.

c. Measuring Deflation. The ordinary measures of inflation also measure deflation. A falling Consumer Price Index reflect deflation in consumer prices. A declining Producer Price Index reflects a decline in the cost of industrial inputs. See Section VI.A.13.c. The GDP Implicit Price Deflator reflects the reduction in prices across the board in the economy. See Section VI.A.13.d. Stock market indexes reflect falling values of equities. See Section XI.E. 3 & 4. Commodity prices are reported daily and even hourly.

d. Causes of Deflation. From a business point-of-view, economy-wide deflation is the result of declining economic activity. From a monetary point-of-view, deflation is caused by a reduction of money and credit relative to available goods and services. It is arguable as to which is the cause and which is the effect, or whether they are both effects of some other cause.

Deflationary Spiral. Deflation can create a negative feed-back loop in business, where fears of declining personal income, coupled with the prospect that the price of goods will fall over time, cause consumers to defer making purchases, which causes retail sales to fall and inventories to rise, so that retailers cancel purchases from manufacturers, who must then shorten workweeks or lay off workers, increasing unemployment, which leads to more reductions in consumer purchases, which leads to the closing of retail stores, which leads to the closing of factories, which lead to more unemployment, et cetera, setting up a "deflationary spiral." In terms of credit, unemployment leads to defaults in consumer loans and the failure of businesses leads to defaults in commercial loans, which leads to reduced availability of credit as banks loan less in

an effort to shore up reserves. A high "real" interest rate also motivates borrowers to liquidate assets or investments to pay off debt. When large amounts of assets or investments are placed on the market at one time, it lowers the market price, requiring more assets to be sold per dollar of debt to be paid off. The reduced price puts stress on other borrowers who may then have to sell their assets and investments to pay off their debts ("forced selling"), which causes a deflationary spiral. Take, for example, precious metals like gold and silver. Gold and silver do not fare well in a deflation, since cash has a built-in rate of return (in the form of the deflation rate), which makes holding cash more attractive than holding investments, and since the contraction of credit from the economic contraction reduces the demand for investments, and since the declining value of investments can lead to forced selling by leveraged investors having to meet margin calls.

e. Reversing Deflation. Ben Bernanke, among others whose economic perspectives are colored by the deflation in America in 1930-1933, has serious concerns about deflation and will take extreme measures to reverse it. In a famous speech given by Dr. Bernanke to the National Economists Club, Washington, D.C., on November 21, 2002, entitled "Deflation: Making Sure 'It' Doesn't Happen Here," Bernanke, then a Governor of the FED, talked at length about deflation and said:

> The conclusion that deflation is always reversible under a fiat money system follows from basic economic reasoning. A little parable may prove useful: Today an ounce of gold sells for $300, more or less. Now suppose that a modern alchemist solves his subject's oldest problem by finding a way to produce unlimited amounts of new gold at essentially no cost. Moreover, his invention is widely publicized and scientifically verified, and he announces his intention to begin massive production of gold within days. What would happen to the price of gold? Presumably, the potentially unlimited supply of cheap gold would cause the market price of gold to plummet. Indeed, if the market for gold is to any degree efficient, the price of gold would collapse immediately after the announcement of the invention, before the alchemist had produced and marketed a single ounce of yellow metal.
>
> What has this got to do with monetary policy? Like gold, U.S. dollars have value only to the extent that they are strictly limited in supply. But the U.S. government has a technology, called a printing press (or, today, its electronic equivalent), that allows it to produce as many U.S. dollars as it wishes at essentially no cost. By increasing the number of U.S. dollars in circulation, or even by credibly threatening to do so, the U.S. government can also reduce the value of a dollar in terms of goods and services, which is equivalent to raising the prices in dollars of those goods and services. We conclude that, under a paper-money system, a determined government can always generate higher spending and hence positive inflation.

<www.federalreserve.gov/boarddocs/speeches/2002/20021121/default.htm>. Intentionally inflating the currency is one way of combating deflation. The trick is to switch from inflationary monetary policy to normal monetary policy in time to avoid a sustained inflation when the business cycle turns up.

f. Things to do in a Deflation.

- Reduce expenses.
- Pay off debt.
- Prepare for a reduced work week or unemployment.
- Accumulate cash for personal needs. A common precaution is to have enough cash on hand or on deposit to pay six months' of living expenses.

- Liquidate stocks and real estate, and hold cash or buy very safe short-term bonds. If you buy a bond, during a deflation the interest you receive will become more valuable as time passes, and the principal you receive on maturity will be able to buy more than the money you originally loaned out or invested in the bond. Be cautious: There is an increased risk of default in a deflation.
- Collect debts owed to you. If you are owed debt during a deflation, as time goes on the payments will be made with dollars that have more and more purchasing power. However, collection may become more difficult.
- Buy artwork and collectibles only at sacrifice prices.
- Buy precious metals, but take physical possession.
- Look for the "bottom," at which time you buy, buy, buy.
- Delay buying consumer items; they will get cheaper as time goes on.

IV. U.S. GOVERNMENT ECONOMICS.

A. THE ANNUAL BUDGET. The United States government has a fiscal year starting on October 1 and ending September 30 of the year of the budget. Thus, Fiscal 2009 ends on September 30, 2009. The U.S. government ordinarily spends money in accordance with an annual budget, in the form of appropriation bills passed by Congress and signed by the President.

Prior to 1921, the Federal budget was constructed on a piecemeal basis with each department and agency having separate appropriations without coordination by the President. The Budget and Accounting Act of 1921 created a Bureau of the Budget (now Office of Management and Budget) in the Executive Department to allow the President to formulate an integrated budget that would serve as a base line for Congressional consideration and action. Over time, congressional appropriation committees lost jurisdiction over much of the budget, as entitlements were created for interest groups governed by other committees, such as veterans, welfare recipients, businesses receiving subsidies, etc. This resulted in long delays in adopting part of the budget, and Presidential vetoes of certain appropriation bills, and under President Nixon even a refusal to spend appropriated funds ("impoundment"), requiring some governmental departments to operate on continuing resolutions rather than appropriations. In 1974, Congress passed the Congressional Budget and Impoundment Control Act, which established a strict timetable for the completion of the annual budget. The legislation established a budget committee for each house of Congress, established the Congressional Budget Office, and required 5-year forecasts of revenues. Staats, *The Federal Budget and the Economy and Inflation* (1975).

Each year, the President starts the budget ball rolling by submitting his proposed budget to Congress on the first Monday in February. This budget is assembled by the Office of Management and Budget. The Congressional Budget Office (CBO) submits its own independent re-estimate of the President's budget proposals by March 1. This CBO re-estimate of the budget permits Congress to compare the President's spending or revenue proposals to other proposals using a consistent set of economic and technical assumptions.

In the meantime, during February the U.S. House Committee on the Budget and the U.S. Senate Budget Committee conducts public hearings on the budget. During March the Senate House Budget Committees draft a Congressional Budget Resolution. This concurrent Congressional Budget Resolution sets forth total levels of spending and revenues, and broad spending priorities, for several fiscal years. As a concurrent resolution, it is approved by the House and Senate but does not become law. No funds are spent or revenues raised under the budget resolution. Instead, it serves as a blueprint for Congressional action on spending and revenue legislation. Various components of Congress then work on

individual appropriations that coalesce in the annual budget.

B. GOVERNMENT REVENUES AND EXPENSES; SURPLUS AND DEFICIT. Like any economic operation, the U.S. Government has income and expenses. Income is in the form of taxes and fees for licenses, and the like. Expenses are what the government pays out to its employees, to buy commodities necessary to its operations, and as transfers to states and individuals, foreign aid, and in support of world organizations.

1. Annual Surplus/Deficit. A "budget deficit" occurs when a government spends more money than it takes in during a budget cycle. When receipts exceed expenditures, there is a "budget surplus." A budget deficit must be funded either by government borrowing or by the government issuing currency to pay the government's bills. If an annual budget deficit is funded by debt, it becomes part of the national debt of the country. If an annual budget deficit is funded by printing money, it leads to inflation, and in the extreme to hyperinflation, and then collapse. History proves that funding the deficit with debt can delay the day of reckoning, but it cannot avoid it. If the national debt just grows and grows, eventually either the interest on the national debt will crowd out other then-current expenditures and create a fiscal crisis, or investors will refuse to invest in more government debt at interest rates the government can afford and the rest of the economy can sustain–also a fiscal crisis. A government can default on its debt, which is called "sovereign default."* Sovereign default appears to be more benign than hyperinflation as a way out of an insurmountable national debt. Budget deficits tend to slow economic growth over the long-run, because they reduce capital accumulation. Elmendorf (May 21, 2009) p. 19.

The U.S. Treasury projects that the federal deficit for Fiscal Year 2009, including the recovery and stability plans, will be $1.75 trillion, or 12.3% of GDP. President Obama has said he intends to bring the annual deficit down to $533 billion by fiscal year 2013, which would reduce the deficit to about 3% of GDP. This would keep the national debt from growing faster than the economy itself. According to Treasury Secretary Timothy Geithner, the failure to reduce deficits to the level prescribed by President Obama would result in higher interest rates as government borrowing crowds out private investment, leading to slower growth and lower living standards for Americans. <www.treas.gov/press/releases/tg47.htm>.

C. GOVERNMENT LIABILITIES; THE NATIONAL DEBT. The accumulated Federal budgets have been in deficit, rather than surplus, and these past annual deficits have resulted in an accumulated national debt. This national debt consists primarily of securities it has sold to investors. The total national debt is $11.4 trillion, although the $2,244,655,501,000 ($2 trillion) owed by the Federal government to the Social Security Trust Fund is sometimes not included in the national debt figure.

1. U.S. Treasury Negotiable Instruments. The U.S. government borrows money by selling negotiable instruments to individuals, banks, mutual funds, foreign governments, and other investors. Recently the FED has been purchasing these negotiable instruments. The U.S. government also borrows from the Social Security Trust Fund, by forcing the Fund to buy special non-negotiable bond. See Section X.D. below.

a. The Negotiable Instruments. The United States Treasury Department sells a variety of marketable securities, at regular auctions, through intermediaries, and direct to the public. See <www.treasurydirect.gov>. These marketable securities include:

- Treasury bills, which are short-term government securities with maturities ranging from a few days to 52 weeks. Bills are sold at a discount from their face value.

- Treasury notes, which are government securities that are issued with maturities of 2, 3, 5, 7, and 10 years and pay interest every six months.
- Treasury bonds, which pay interest every six months and mature in 30 years.
- Treasury Inflation-Protected Securities (TIPS), which are marketable securities whose principal is adjusted by changes in the Consumer Price Index-U all items. TIPS pay interest every six months and are issued with maturities of 5, 10, and 20 years.
- I Savings Bonds, which earn interest while protecting the holder from inflation. They are sold at face value.
- EE/E Savings Bonds, which pay interest based on current market rates for up to 30 years. Electronic EE Savings Bonds are sold at face value in TreasuryDirect. Paper EE Savings Bonds are sold at ½ face value.

b. The Sale/Purchase Process. The Treasury Department sells some of its marketable securities through regular auctions, by which the rate or yield of these securities are determined. Several days before a scheduled auction, the Treasury announces the details of the upcoming issue, including the amount to be auctioned and the maturity date. Bidders have two bidding options – competitive and noncompetitive. A competitive bidder specifies the rate he will accept. A noncompetitive bidder agrees to accept the rate set by the auction. At the close of an auction, the Treasury Department accepts all noncompetitive bids, and then competitive bids in ascending order in terms of their yields (lowest to highest) until the quantity of accepted bids reaches the amount offered. All bidders, non-competitive and competitive, receive the same rate or yield at the highest accepted bid. <www.treasurydirect.gov/indiv/products/prod_auctions_glance.htm>. For the timing of auctions, see <www.treasury direct.gov/instit/auctfund/work/auctime/auctime.htm>. The Treasury Department also sells savings bonds in over-the-counter transactions through banks, savings and loans, and other financial intermediaries. And the Treasury Department makes direct sales to and from bank accounts (through a Treasury Direct account or Legacy Treasury Direct Account) and over the internet (through a Treasury Direct Electronic Services account, or legacy account). In these direct sales transactions, no paper instrument is issued. Instead, the Department of the Treasury establishes and maintains a book-entry account on behalf of the investor.

c. Borrowing Versus Investment. From the government's perspective, the sale of negotiable instruments is the way the government finances the annual federal deficits and the payment of interest on the national debt. From the buyer's perspective, the purchase of these negotiable instruments is a way to invest money. In fact, U.S. Treasury negotiable instruments are considered by many investors around the world to be the safest investments in the world. The U.S. government has spent more than its revenues for nearly all of its existence. For decades, the U.S. government has been able to finance its deficit spending by borrowing money from Americans, foreign governments, and foreigners. This works only as long as these lenders/investors would rather loan money to the U.S. Government than make other investments. As time goes on, the belief that the U.S. Government will pay all of its debts is increasingly harder to maintain. As buyers' perception of risk of sovereign default increases, the interest rate on the U.S. government's bills, notes and bonds will start to rise – a warning sign. If the U.S. government ever holds a securities auction, and the offering does not sell out, then the government must take the steps necessary to recapture investor confidence (raise taxes and cut spending), or it will have to monetize the deficit, triggering inflation. If the government elects to inflate, we will have a financial crisis of unparalleled dimensions that could fundamentally alter the political, military, and economic arrangements that have kept the world more-or-less stable for the past 60 years.

d. The National Debt. The national debt has been building ever since January 1, 1835, when President Andrew Jackson paid the national debt down to its all-time low of $33,733.05. <www.treasurydirect.gov/govt/reports/pd/histdebt/histdebt_histo1.htm>. On June 26, 2009, the national debt was at $11,362,480,417,393.35 <www.treasurydirect.gov/NP/BPDLogin?application=np>, or $11.4 trillion. <www.treasurydirect.gov/govt/reports/pd/mspd/2009/opds032009.prn>. This figure includes both debt owed to the public and debt owed to the Social Security Trust Fund. As of June 2, 2009, the national debt amounts to some $37,348 per person in the United States. This figure does not include the government's obligation to fund programs like Medicaid, and parts of Medicare, as well as the government's obligations assumed in recent bail outs of Fannie Mae and Freddie Mac and other entities.

The national debt is subject to a statutory debt limit, but when it is reached, Congress always increases it. On July 2, 2009, the debt limit was $12.1 trillion, up from $9.8 trillion one year ago.

Our national debt is held 46% by American investors or institutions and 54% by foreign investors. The People's Republic of China is the largest foreign investor in U.S. government debt, holding some 24% of the outstanding debt instruments. Japan is second, holding 20.66%. The other foreign investors are at 6% and below.

Some people are concerned, some very concerned, about the size of our national debt and the rate at which the national debt is increasing. National debt is typically measured in comparison to annual economic activity, since there is not a handy and reliable measure of the wealth of a nation. (How much is the Grand Canyon worth?) For example, in 2008 the U.S.A.'s national debt held by the public was 60.8% of Gross Domestic Product (GDP), while Japan's was170.4% of their GDP, India's was 78%, France's was 67%, Germany's was 62.6%, Canada's was 62.3%, UK's was 47.2%, and Sweden's was 36.5 % of their GDP. The Congressional Budget Office projects that by 2019 the publicly held national debt will be 82.4% of GDP. <www.cbo.gov/ftpdocs/100xx/doc10014/Chapter1.5.1.shtml>. Some people feel reassured that the U.S. percentage is lower than some other countries. However, the USA is distinct in many respects from other countries, not only in the total size of our national debt, and the rate at which it is increasing, but also in the USA's unique role of providing the world's universal currency, the American dollar. Our national debt affects the demand for the American dollar, which affects the price of the American dollar, which affects world trade, and everyone who is part of the world economy. In March of 2009, the UK was not able to sell all of the 40-year government bonds it wanted to issue. This means that investors were not willing to lend as much money to the UK government as the government wished to borrow. In May of 2009, the projected national debt of the UK resulted in credit rating agency Standard & Poor's change its outlook on the UK from "stable" to "negative," and said that there was a one-in-three chance that Britain's AAA credit rating on its sovereign debt would be lowered. This would require the UK to pay more interest to borrow money, which will in turn drive up interest rates on private debt and diminish economic activity.

One measure of the perception of risk of default on U.S. securities is the premium for credit default swaps to insure against sovereign default. On January 19, 2009, CDSs on 10-year U.S. Treasury securities reached a 5-year high of 69.5 basis point, meaning that investors were paying $69,500 a year to insure against default on $10 million worth of U. S. Government bonds. <www.reuters.com/article/bondsNews/idUSLJ71150920090119>. By June 26, 2009, the default risk premium on U.S. 5-year bonds was down to 38.81 basis points. This compares to Germany, at 34.84 basis points, and Norway at 31.3 basis points. CDS premia on sovereign debt is available at <www.creditma.com/market-data>. As of June 26, 2009, the riskiest sovereign debt is Argentina, followed by

Ukraine, then Venezuela, Latvia, Iceland, Dubai, Lithuania, Kazakhstan, Romania, and Bulgaria.

D. THE FEDERAL RESERVE SYSTEM. The Federal Reserve System (the FED) is the "central bank" of the United States. The FED was established by the U.S. Congress in the 1913 Federal Reserve Act, signed by President Woodrow Wilson. The FED determines monetary policy, supervises and regulates banks, serves as the lender of last resort, maintains an efficient payments system, and serves as banker for private banks and for the U.S. government. Former FED Chairman Alan Greenspan called the FED "the ultimate guardian of the purchasing power of our money." Monetary policy is discussed in Section V.A.

1. History of the FED. The FED has been controversial since before its inception. A central bank that was partly public and partly private was suggested by the first Secretary of the Treasury, Alexander Hamilton. However, the structure of the Federal Reserve System was conceived at an unofficial meeting that was held beginning November 22, 1910 at the Jekyll Island Club, on Jekyll Island, an island off the coast of Georgia. The group consisted of six people: four Wall Street bankers, a former Harvard economics assistant professor who was then an assistant Treasury Secretary, and the head of the meeting, Rhode Island Republican Senator Nelson Aldrich, Chairman of the Senate Finance Committee. Aldrich, a descendant of Puritan colonist John Winthrop, was the father-in-law of John D. Rockefeller, Jr., and the grandfather of Vice President Nelson Rockefeller. Aldrich dominated the Republican Party and economic politics in the first two decades of the Twentieth Century. It deepens the intrigue that Jekyll Island club was owned by Wall Street uber-financier J.P. Morgan, the Rockefellers, the Pulitzers, the Vanderbilts, and other millionaires, and that participants traveled under assumed names ostensibly on a duck hunt. (To experience the sense of intrigue, Google the following phrase of Charles Forbes, who founded Forbes Magazine: "Picture a party of the nation's greatest bankers stealing out of New York on a private railroad car under cover of darkness . . . .") The law these gentlemen worked out essentially established a quasi-private/quasi-public central banking system, which would operate as a lender of last resort and would control the levers over the money supply and thus the rate of growth of the economy. Ironically, the Republican-conceived Federal Reserve Act itself was adopted in 1913 mainly by Congressional Democrats over the objections of Congressional Republicans. The system created by the 1913 Act mixes private ownership with government control, and represents a compromise of competing views about a central bank that have been a source of sometimes heated disagreement dating back to colonial times. Establishing a central bank independent of direct government control was viewed with suspicion by agrarian and progressive interests who saw private control of the central bank as an extension of the power of Wall Street bankers. Bankers, however, were frightened of a central bank that would operate on an overtly political basis and reflect the vicissitudes of a fickle electorate. The FED is hybrid, which combines banker autonomy with Federal control. An excellent view of the place of the FED in our history and our politics is former FED Chair Alan Greenspan's famous "irrational exuberance" speech, given on December 5, 1996 <www.federal reserve.gov/boarddocs/speeches/1996/19961205 .htm>.

2. The Creation of Money. Paper money in the United States consists of Federal Reserve notes. The twelve Federal Reserve Banks issue these notes into circulation pursuant to the Federal Reserve Act of 1913. The Federal Reserve Banks obtain the paper notes from the Bureau of Engraving and Printing. One big bone of contention for FED-detractors is the arrangement that the U.S. government borrows the currency from the FED as opposed to just printing dollars as the Constitution provides. According to the FED, the primary income of the FED is interest on

U.S. government securities it has acquired through "open market transactions" where the FED buys U.S. Treasury securities in the open market using cash it receives from the U.S. Treasury. The FED makes no profit from either the currency or its government bonds, because it is required to transfer the balance of its annual earnings to the government after subtracting its operating expenses. *The Federal Reserve System Purposes and Functions* (2005) p. 11. Coins are manufactured by the U.S. Treasury at mints located in Philadelphia, Denver, San Francisco, and West Point, and then delivered to Federal Reserve Banks who deliver them to private banks to put into circulation.

3. Structure of the FED. The Federal Reserve Act established the FED as a system of 12 Federal Reserve Banks distributed around the country, whose shares were owned by private banks in their geographical area. The New York Federal Reserve bank, due to its proximity to Wall Street initially, took the lead among these 12 banks. After the Banking Act of 1935, the FED now has five components: (1) the 7-member Board of Governors; (2) the Federal Open Market Committee; (3) twelve regional Federal Reserve Banks; (4) numerous privately-owned "member banks"; and (5) various advisory committees.

4. The FED Board of Governors. The FED Board of Governors is a federal agency consisting of seven members appointed by the U.S. President with the consent of the U.S. Senate. The Chairman and Vice Chairman are appointed by the President and confirmed by the Senate. A full term for a Board member is 14 years. The Board of Governors determines the reserve requirement, meaning the portion of bank reserves that must be held as vault cash or required reserves on deposit at Federal Reserve Banks. The Board also supervises the Federal Reserve Banks and state-charted banks that are part of the Federal Reserve System, the nation's payment systems, and administers the laws pertaining to consumer credit protection (i.e., Truth in Lending, Equal Credit Opportunity, and Home Mortgage Disclosure Acts). The Chairman is required to testify before the Senate Committee on Banking, Housing and Urban Affairs and the House Committee on Financial Services in February and July of each year. *The Federal Reserve System Purposes and Functions* (2005) pp. 4-5.

5. The FED Open Market Committee. The Federal Open Market Committee (FOMC) is a 12-member committee that meets eight times a year in Washington, D.C., to review economic and financial conditions, determine monetary policy, and assess the risks to the FED's long-run goals of price stability and sustainable economic growth. The Committee consists of the seven members of the FED Board of Governors, the president of the Federal Reserve Bank of New York, and four of the remaining eleven Federal Reserve Bank presidents, who serve one-year terms on a rotating basis. See "A Day in the Life of the FOMC," <www.philadelphiafed.org/education/teachers/resources/day-in-life-of-fomc>. The Dallas Federal Reserve Bank president is in rotation with the presidents of the St. Louis and Atlanta Federal Reserve Banks. All Federal Reserve Bank presidents attend FOMC meetings, and can speak, but only the five presidents on the FOMC can vote. By tradition, the Chairman of the FED Board of Governors is the chair of the FOMC, and the president of the New York Federal Reserve Bank is vice chair. Thus the FOMC is a blend of a Federal agency (the FED Board) and representatives of the private banking industry. The FOMC is responsible for the "open market operations" of the FED, meaning that it decides on purchases and sales of U.S. Treasury and federal agency securities. <www.federalreserve.gov/monetarypolicy/fomc.htm>. See *The Federal Reserve System Purposes and Functions* (2005) pp. 11-12.

"Open market operations" are transactions whereby the FED buys or sells U.S. Treasury securities on the public market that exists for such securities, on a daily basis. These open market operations are the FED's most powerful tool for

influencing the "federal funds rate." *The Federal Reserve System Purposes and Functions* (2005) pp. 36-41. See Section V.A.3.

Under Ben Bernanke, the FOMC has increased transparency by frequent speeches and quicker publication of FOMC minutes. The most recent FOMC minutes are at <www.federalreserve.gov/monetarypolicy>. Also adding to transparency is the fact that Bernanke, for the past 20 years, published papers on how the FED should respond to the prospect of a deflationary recession so as to avoid another Great Depression. Many of his proposals made as a scholastic are unfolding in the FED's recent actions.

6. The Regional Federal Reserve Banks. There are twelve Federal Reserve Districts, each with a Federal Reserve Bank (located in Atlanta, Boston, Chicago, Cleveland, Dallas, Kansas City, Minneapolis, New York, Philadelphia, Richmond, San Francisco, and St. Louis) and their branches. Texas, the southern half of New Mexico, and the northern half of Louisiana, are in the 11th Federal Reserve District. The Dallas Federal Reserve Bank has branches in El Paso, Houston, and San Antonio. These Federal Reserve Banks operate a nationwide payments system, distribute currency and coin, supervising member banks in the district, and serve as banks for the U.S. Treasury. Each Bank serves as a depository for private banks in its Federal Reserve District. One purpose of this geographical dispersion was a desire, back in 1913, that no commercial bank would be more than one night's train ride from its Federal Reserve Bank, in case it needed to discount its 30, 60 + 90-day commercial paper to cover depositors' withdrawals. Stratton and Roberts (2001).

Each Federal Reserve Bank has a board of nine directors, consisting of three classes. Three Class A directors represent commercial banks that are in the Federal Reserve System. The three Class B and three Class C directors represent the public. The Class A and B directors are elected by member banks in the District. Class C directors are appointed by the FED's Board of Governors. Class C directors cannot own stock in a bank or bank holding company. The directors of each Federal Reserve Bank nominate the president and first vice president of their Federal Reserve Bank, subject to approval by the FED's Board of Governors. The Boards of Directors of the Federal Reserve Banks provide a variety of information and views to the FED from around the nation, which is used by the Board of Governors and the FOMC in pursuing monetary policy. This information is also assembled into special reports, called "Beige Books," issued about two weeks prior to each FOMC meeting. *The Federal Reserve System Purposes and Functions* (2005) pp. 10-11.

7. Member Banks. The nation's banks are either federally-chartered national banks or state-chartered banks. All Federally-chartered banks must be members of the Federal Reserve System. State-chartered banks may elect to be members of the Federal Reserve System but they are not required to do so. Member banks must buy shares of the Federal Reserve Bank in their district, in an amount equal to 6% of their capital and surplus. The stock has no voting rights, and cannot be sold or pledged. Member banks receive an annual dividend of 6%. Member banks vote on Class A and B directors of their District's Federal Reserve Bank. *The Federal Reserve System Purposes and Functions* (2005) pp. 12-13.

8. Current Politics. Congressman Ron Paul, Republican from Texas, has a long-held antipathy toward the FED. Paul's H.R. 1207 would require that the FED be subject to open audits. The bill has 208 cosponsors. It has been reported that in June 2009 the FED hired a lobbyist, Linda Robertson, who has worked in the Treasury Department in both Republican and Democratic administrations. Senator Charles Grassley, Republican from Iowa, sponsored an amendment to S. 896, authorizing the General Accounting Office to audit the FED with respect to a single

and specific entity.

E. GOVERNMENT-SPONSORED ENTITIES; GOVERNMENT GUARANTEES.

1. Fannie Mae. The Federal National Mortgage Association (FNMA), popularly known as "Fannie Mae," is a federally-chartered shareholder-owned corporation. Fannie Mae was created in 1938 as a government agency to purchase home mortgages insured by the Federal Housing Administration. In 1968, Fannie Mae was chartered as a corporation by Congress, to raise capital by selling its stock, notes, bonds, and other securities, and to use this capital to foster a secondary market for home mortgages. Fannie Mae supports the secondary mortgage market in two ways: by buying home mortgages for cash from primary lenders; and by issuing and then selling mortgage backed securities (MBS)* to primary lenders in exchange for pools of mortgages from primary lenders, who can sell these MBS's through securities dealers. Fannie Mae replenishes the primary lenders' supply of money so that they can make new mortgage loans. The Federal government's implicit guarantee of Fannie Mae securities raises them to Aaa grade, allowing Fannie Mae to borrow at lower interest rates than private firms. The Fannie Mae MBSs are highly liquid and can be sold through securities dealers. Fannie Mae is listed on the New York Stock Exchange (ticker: FNM). Fannie Mae shares plummeted on Friday, July 11, 2008, and continued thereafter to decline. On September 7, 2008, Fannie Mae (and Freddie Mac) were put under the conservatorship of the Federal Housing Finance Agency, and top management was fired. New Senior Preferred Stock and warrants were issued to the U.S. Treasury Department, giving the Treasury Department a 79.9% interest in Fannie Mae. As of March 31, 2009, Fannie Mae had a negative net worth of $18.9 billion (but after the loan portfolio was marked-to-market the net asset deficit stood at a negative $110.3 billion). That same day the U.S. Treasury provided $15.2 billion, raising the U.S. government's preferred stock investment to $16.2 billion. The Treasury Department has continued to buy Fannie Mae MBSs in May, 2009, while the FED has purchased MBSs throughout May and June, and purchased $5.6 billion in Fannie Mae debt in June, 2009.

2. Freddie Mac. "Freddie Mac" is a nickname given to the Federal Home Loan Mortgage Corporation, a government-chartered corporation that buys qualified residential mortgage loans from the financial institutions that originate them, securitizes the loans, and then sells them as investment securities. Freddie Mac was chartered on July 24, 1970. Like Fannie Mae, it was put into conservatorship on September 7, 2008.

3. Ginnie Mae. "Ginnie Mae" is the nickname for the Government National Mortgage Association, a U.S. government-owned corporation operating under the U.S. Department of Housing and Urban Development (HUD). Ginnie Mae was broken off from Fannie Mae in 1968. Ginnie Mae guarantees investors the timely payment of principal and interest on MBS backed by federally insured or guaranteed loans — mainly loans insured by the Federal Housing Administration (FHA) or guaranteed by the Department of Veterans Affairs.

4. PBGC. The Pension Benefit Guarantee Corporation (PBGC) is a wholly-owned federal corporation established under ERISA, with a three-member board of Directors made up of the Secretaries of Labor (who is the Chair), Commerce, and Treasury. Under the Pension Protection Act of 2006, the Director of PBGC is appointed by the President and confirmed by the Senate. The PBGC guarantees payment of part of the benefits due from private sector defined benefit pensions plans, covering nearly 44 million American workers in more than 29,000 plans. The PBGC, traditionally allocated its investment portfolio 75-85% fixed income and 15-25% equities. In February of 2008, the Board adopted a new mix for its $55 billion investment portfolio:

45% equities, 45% fixed income, and 10% alternative investments (including private equity and private real estate). This was done because two studies showed that the existing investment policy gave the PBGC only a 19% chance of achieving full funding for the agency in 10 years (without increasing premiums), while the new policy would give it a 57% chance of full funding in 10 years (without increasing premiums). The move was criticized at the time as involving too much risk. The PBGC acting director told Congress on May 20, 2009 that, as of March 31, 2009, PGBC had the largest deficit in the agency's 35-year history: $33.5 billion up from $11 billion in September 2008. $11 billion of the deficit was from completed and probable pension plan terminations, $7 billion from a decrease in the discount rate used to calculate liabilities, $3 billion in investment losses, and $2 billion in actuarial charges. <http://www.pbgc.gov/media/ /news-archive/testimony/tm16758.html>. The PBGC is not immediately insolvent, because its payment obligation stretch over time. However, insolvency must be addressed at some point. The PBGC is between a rock and a hard place: if it dramatically increases premiums charged on functioning defined benefit plans, it may cause more plans to be curtailed. It is estimated that the PBGC will be on the hook for $42 billion of the $77 billion in underfunded pensions for GM and Chrysler, and related supply companies. An excellent explanation of the PBGC is at <www.coffi.org/pubs/PBGC%20A%20Primer.pdf>. See Section XII.9 regarding conflict-of-interest issues.

F. INTERNATIONAL COMMERCE. International commerce is an extremely important part of the American economy.

1. Balance of Trade. The balance of trade is the difference between a country's exports and its imports. Thus, a country importing more than it exports has a trade deficit. The balance of trade also includes the net inflow and outflow of investment income (dividends and interest) and net transfer payments, such as foreign aid. Viewed differently, the balance of trade is the amount of a country's goods flowing out of the country versus the amount flowing in.

2. Balance of Payments. A country's balance of payments is a statistical statement that summarizes, for a specific period of time, the economic transactions of an economy with the rest of the world. Payments coming into the country (receipts) are entered as positive numbers, called "credits"; payments sent out of the country (payments) are entered as negative numbers, called "debits." The balance of payments is the net difference between the receipts and the payments, or credits and debits. The relevant transactions involve goods, services, income, and forgiveness of financial claims owed to and by foreign countries. The balance of payments is made up of a country's "current account," "capital account," and "financial account."

3. Net Capital Outflow. Net Capital Outflow is the difference between a country's money being invested abroad and foreigners' money being invested domestically.

4. Current Account Balance. A country's Current Account Balance reflects the difference between the country's savings and its investment. A current account balance surplus means that the country holds more assets of foreign countries than foreign investors own of domestic assets. A current account balance deficit means that foreign investors own more domestic assets than the country owns of foreign assets. In 2007, the countries with the largest current account balance surpluses were: China ($372 billion); Germany ($253 billion); Japan ($211 billion); Saudi Arabia ($96 billion). In 2007, the countries with the largest current account deficits were: USA (–$731 billion); Spain (–$145 billion); United Kingdom (–$105 billion); Australia (–$56 billion); Italy (–$53 billion). As noted by the U.S.-China Economic and Security Review Commission in its 2008 Report to Congress:

> The U.S. current account deficit causes considerable anxiety among both economists and foreign investors who worry that future taxpayers will find it increasingly difficult to meet both principal and interest payments on such a large debt. The total debt burden already is having a significant impact on economic growth, which will only increase in severity.

Id. at 3. <www.uscc.gov/annual_report/2008/EXECUTIVE%20SUMMARY.pdf>. Stated differently, the U.S.'s present current account deficit is tantamount to a loan made by foreigners, who have invested in U.S. Treasury securities, to help Americans to pay for excessive consumption.

In recent years, the economies that are net oil importers have worsened their current account balances, while the countries that are net oil exporters improved theirs. China has maintained a current account balance surplus due to its exports to foreign countries. The U.S. has persistently large current account deficits, matched by the continued recycling of surpluses from Asia and oil-exporting countries back into United States Treasury securities and other assets located in the United States. This situation is identified by the European Central Bank as posing "substantial risks to financial stability." ECB, Financial Stability Review (Dec. 2008), pp. 17-18. <www.ecb.int/pub/pdf/other/financialstabilityreview200812en.pdf>.

5. Immigration. There are pros and cons to immigration. Immigrants provide a source of relatively cheap labor, sometimes working jobs that could not be economically filled by citizens. The larger pool of laborers increases GDP. Mexican-born persons residing in the United States in 2000 comprised about 29.5% of the foreign-born population in American. Borjas and Katz (April 2005) p. 1. As a result of their study, Professors Borjas and Katz concluded that Mexican immigrants who came to America from 1980 to 2000 had reduced the wages of high school dropouts in the United States by 8.2%. Economist David Card, on the contrary, believes that there is only slight evidence that immigrants harm native employment opportunities. Card also believes that the children of post-1965 immigrants have had rather surprising educational success, suggesting that these families assimilated into society. *Id.* pp. 25-26. Professor Card found that in 2000, 13.6 % of adult immigrants in the U.S. were born in Europe, while 32% were born in Mexico, 16% in Central America or the Carribean, and 26.6% in Asia. *Id.* p. 2. Total net immigration (after subtracting emigration) for the United States is estimated in the most recent Social Security Trustees' Report to remain at 1,065,000 persons per year for the foreseeable future. 2009 S.S. Report, p. 81.

6. Oil. The price of oil rose sharply between early 2007 and the third quarter of 2008, and had a large negative effect on the economy. Elmendorf (May 21, 2009) p. 14. "The short run effect of an increase in oil imports on GDP is similar to that of a sharp tax hike." *Id.* p. 15. America imports 62% of its oil, which transfers capital from the American economy to the oil producing nations.

Oil Price Shock. An "oil price shock" is a surprise increase in the price of oil that impacts the economy. The first oil price shock occurred on October 16, 1973, when Arab oil exporting countries stated that they would cut oil production by 5% "until the Israeli forces are completely evacuated from all Arab territories occupied in the June 1967 war and the legitimate rights of the Palestinian people are restored." Hamilton (March 23, 2009) p. 5. The Arab countries also halted all oil exports to the USA and the Netherlands. The supply of crude oil reduced 4% and the price increased 41.3%. The economic pain was shared by undeveloped countries, and even Communist countries who had to pay more for imported items. The second oil price shock occurred at the time of the Iranian Revolution in 1978 (supply reduced 1.3% and price increased 38.7%), then again with Iraq's invasion of Iran in September 1980 (supply

reduced 1.2% and price increased 25.3%), and the with Iraq's invasion of Kuwait in August 1990 (supply reduced 2.9% and price increased 71.6%). The most recent oil price shock occurred in 2007-1008, when oil prices spiked for reasons not fully understood, but probably partly based on growing demand coupled with stagnant production, and partly on speculation. For a study of oil price shocks, see Hamilton (March 23, 2009). Dr. Hamilton believes that the oil price shock of 2007 turned a slowing of economic growth into a recession. *Id.* p. 40. A possible defensive maneuver would have been to release oil from the U.S.A. "Strategic Petroleum Reserve" in the Spring of 2008. *Id.* Pp. 40-41. Another would have been for the FED to increased short term interest rates when speculation in crude oil got out of hand. *Id.* p. 41. The recent oil price shock, followed by the credit freeze denying car loans to consumers, combined to tip the American automobile industry over the edge into collapse. Back in 2005, a writer for the Financial Times warned that we were headed for an oil price shock <http://yaleglobal.yale.edu/display.article?id=6154>.

Peak Oil. "Peak oil" is the moment that global oil production peaks and starts a permanent decline. There is disagreement whether the world has reached peak oil yet. At the recent Exxon shareholders meeting in May 2009, the CEO of Exxon said he did not think we had reached peak oil yet. World oil production grew until 2005, at which point it leveled out. Hamilton (March 23, 2009) p. 55.

7. International Organizations.

The International Monetary Fund. The International Monetary Fund (IMF) is a United Nations agency established in 1944 under the Bretton Woods system to help prevent unstable exchange rates and avoid competitive devaluations, which plagued the world economy prior to WWII. The IMF consists of 185 member countries, each of which contributes capital to the IMF in proportion to their national wealth. Countries can get temporary loans from the IMF for rebuilding of foreign exchange reserves, stabilizing currency, and paying for imports. Only states are members of the IMF, so the European Union is not a member, although individual European countries are.

The World Bank. The World Bank is a source of financial and technical assistance to developing countries around the world. Therefore, development policy is a major activity of the World Bank, which makes substantial contributions to the debt-relief initiative for poor countries, conditioned on the borrowing country's implementation of economic policies prescribed by the World Bank. Various countries contribute capital to the World Bank.

The Organization for Economic Co-Operation and Development. The Organization for Economic Co-Operation and Development (OECD) represents 30 member countries worldwide, including many from the EU, that share a commitment to democratic governance and the market economy. The OECD produces research, forecasts and recommendations for economic development and social issues, including formulating multilateral agreements. <http://ec.europa.eu/economy_finance/the_euro/euro_in_world9375_en.htm>.

The World Trade Organization. The World Trade Organization (WTO) is an international organization, subscribed to by 153 governments, established to supervise and liberalize international trade. The WTO was started January 1, 1995. It succeeded the 1947 General Agreement on Tariffs and Trade (GATT). The WTO provides: 1) a forum for negotiating agreements aimed at reducing obstacles to international trade and ensuring a level playing field for all, thus contributing to economic growth and development; 2) a legal and institutional framework for the implementation and monitoring of these agreements, as well as for settling

disputes arising from their interpretation and application. The current body of trade agreements comprising the WTO consists of 16 different multilateral agreements (to which all WTO members are parties) and two different plurilateral agreements (to which only some WTO members are parties).

Doha Development Round. The Doha Development Round is the ongoing series of meetings of members of the World Trade Organization, which started in 2001 in Doha, Qatar. The object is to reduce trade barriers, relating to agriculture, industrial tariffs, trade remedies, etc. In a succession of meetings since 2001 nothing concrete has emerged. The U.S.'s current trade representative is former Dallas Mayor and University of Texas law graduate Ron Kirk.

Sovereign Wealth Funds. According to the U.S. Department of Treasury, "there is no single, universally accepted definition of a SWF. [It is] a government investment vehicle which is funded by foreign exchange assets, and which manages those assets separately from the official reserves of the monetary authorities . . . . SWF managers typically have a higher risk tolerance and higher expected return than traditional official reserve managers." <www.treas.gov/offices/international-affairs/economic-exchange-rates/pdf/2007_Appendix-3.pdf>. Sovereign wealth funds have developed since 2001, when the accumulation of official reserves in some countries so far exceeded established benchmarks of reserve adequacy that those countries needed to create sovereign wealth funds as new vehicles to invest their excess reserves. *Id.* According to the U.S. Treasury Department, "[i]n the September 2008 World Economic Outlook, the IMF forecasts foreign assets under the management of SWFs will exceed $7–11 trillion by 2013." <www.treas.gov/offices/international-affairs/economic-exchange-rates/pdf/Appendix%202.pdf>. SWFs include China Investment Corp., Qatar Investment Authority, Kuwait Investment Authority, Abu Dhabi's International Petroleum Corp., and Singapore's Tamasek.

G7, G8, G20. The "G7," or Group Seven, was a group of the finance ministers and central bank governors of the seven most-industrialized nations in the world that would periodically meet to discuss global economic policies. The G7 included: Canada, France, West Germany, Italy, Japan, the United Kingdom, and the United States. When Russian joined the group, it became the "G8." The G20 was formed in 1998 to permit developing nations to have a voice in world economic affairs. The additional countries added to the G8 to make the G20 were: Argentina, Australia, Brazil, China, India, Indonesia, Mexico, Saudi Arabia, South Africa, South Korea, Turkey, and the European Union. The G20 include 85% of world trade. These larger groups are more inclusive, but they also make it harder to reach a multilateral agreement.

NAFTA. NAFTA is the North American Free Trade Agreement, effective January 1, 1994, in which the United States, Canada, and Mexico agreed to form a free trade area (i.e., no tariffs or other trade restrictions). In 2001, Lawrence Summers commented on the importance of NAFTA:

> I think the decision to support NAFTA was a crucial one because it was really a watershed as to whether America was going to stand for larger markets, was going to stand for forward defense of our interests by trying to have a more integrated global economy [in] which countries were growing. So [a] watershed in our relations with Mexico and establishing a real partnership with a country with whom we had a 2,000-mile border. I think it resulted in a profound change in the internal political dynamics in Mexico in favor of the progressive forces that believed in the market and friendship with the United States as opposed to the forces that believed more in socialism and opposition to the

> United States. And NAFTA didn't cost the United States a penny. It contributed to the strength of our economy both because of more exports and because imports helped to reduce inflation. It didn't cost the budget anything. It was a very worthwhile investment for our country.

<www.pbs.org/wgbh/commandingheights/shared/minitextlo/int_lawrencesummers.html#2>.

8. Carry Trade. The "carry trade" is a trade where an investor borrows at a lower interest rate in order to make an investment that pays a higher interest. A currency carry trade is where an investor borrows in a currency (such as Japanese Yen) where the interest rate is low, and uses the proceeds to purchase a higher interest-paying security denominated in a different currency (such as U.S. government long term debt). Currency carry trade has two significant risks: U.S. interest rates could increase, thus diminishing the value of the bond purchased; and the exchange rate could move unfavorably, thus effectively increasing the borrowing cost.

9. Protectionism vs. Free Trade. "Free trade" is a situation where governments allow commerce between nations without governmental interference, in particular without trade barriers or tariffs. "Protectionism" is a trade policy that protects local industry from competition from imports through import duties or other non-tariff barriers. In olden days, two countries could develop a "trade war," in which each of two countries alternate in further restricting trade from the other. "Beggar thy neighbor" policies are governmental policies that seek to benefit one's own country at the expense of other countries. In olden days, such policies were used to cure domestic depression and unemployment by shifting demand from imports onto domestic products goods through tariffs and quotas on imports. More recently, beggar thy neighbor policies include government-driven depreciation of a country's currency, to stimulate exports. China is often accused of doing this, although the U.S. Treasury Department does not agree. The recent government bail-out activity may raise beggar thy neighbor issues, when governments restrict bailouts to domestic companies and not foreign-owned companies that are located in the country. France recently crossed into beggar-thy-neighbor territory when it announced that it would lend $7.8 billion to its top two car makers, on the condition that the companies keep loss-producing plants in France open, make all new models in France, and keep R&D in France. Amid criticism from Czechs, Germans, and Swedes, the French Minister for European Affairs Bruno Le Maire responded: "It's not protectionism, it's the defense of our industry and the defense of our jobs." There is a creeping protectionism reflected in the stimulus legislation recently adopted in response to the economic downturn.

10. Exchange Rate. The exchange rate is the rate at which one country's currency is exchanged for the currency of another country. Exchange rates can be fixed or variable. A U.S. Treasury paper discussing fixed and variable exchange rates is at <www.treas.gov/offices/international-affairs/economic-exchange-rates/pdf/Appendix_2.pdf>. There are more than 100 currencies in the world, but fewer than a dozen are standards of value – the rest are pegged to another currency. Jordan (2006) p. 493. Changes in the exchange rate caused by events in one country can cause wealth gains and losses in other countries. Jordan (2006) p. 490. See the discussion of the "Asian Crisis" in Section IV.F.12. An increase in interest rates in a country can increase the exchange rate of the currency as foreign investors seek local currency in order to make high yield investments. The American dollar and the Japanese Yen can rise in value relative to other currencies as a result of a "flight to quality," or the decision by foreign investors to hold dollars or invest in U.S. or Japanese government bonds when the perceived risk of other currencies or investments in other countries escalates. Because the flow of investment funds now crosses borders, monetary

policy can affect exchange rates, an vice-versa, adding a new dimension to the considerations of central banks in executing monetary policy.

Bretton Woods. Shortly after World War II, representatives of 44 countries met at the imposing Mount Washington Hotel in Bretton Woods, New Hampshire, to hammer out a new system of fixed currency exchange rates to replace the gold standard which prevailed prior to the war. The Bretton Woods scheme involved pegging the currencies of other countries to the U.S. dollar, and fixing the U.S. dollar to a set price for gold. The Bretton Woods conference also established the World Bank and the International Monetary Fund. The Bretton Woods regime collapsed when President Nixon, without the concurrence of Congress, decoupled the dollar from gold in 1971, leaving the world with floating exchange rates. As of 2008, there were still at least 17 national currencies pegged to the U.S. currency. The U.S. Dollar accounts for 64% of the world's foreign-exchange reserves. China is beginning a process to develop its currency into a world-wide reserve currency. Other countries have taken steps to substitute their currencies for the American dollar in trade with their countries.

The Euro. "The Euro" is the name of the European single currency adopted by the European Council at its meeting in Madrid on December 15 and 16, 1995. <www.ecb. europa.eu>. On January 1, 1999, a group of countries gave up their national currencies and adopted the Euro as their currency: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the Vatican City. Greece joined the Euro on January 1, 2001, Slovenia on January 1 2007, Malta and Cyprus on January 1, 2008, and Slovakia on January 1, 2009. There has been some discussion of countries pulling out of the Euro. See <www.eurointelligence.com/uploads /media/Euro_Area_Meltdown_Web_Edition.pdf>.

11. Asian Financial Crisis. The Asian financial crisis began in early July of 1997, when Thailand unhooked its currency, the baht, from the U.S. dollar and allowed it to float. This led to severe currency devaluation for the baht as well as the currencies of South Korea, Indonesia, the Philippines, and Malaysia. The ensuing financial dislocation caused economic collapse in these countries and even unseated Indonesia's dictator of 30 years. The cause of the crisis is disputed, but prior to the crisis these economies had attracted foreign investment by offering high interest rates on their bonds. This inflow of capital was coupled with highly-leveraged investing that created a bubble in asset prices. Some economic growth was financed with money borrowed from abroad, which left borrowers exposed to a exchange rate risk. In the mid-1990s, the FED started raising interest rate in America, drawing many investments out of these countries and back to the U.S.A., which raised the value of the dollar and also the currencies of these Southeast Asian countries. The rising currencies depressed exports, which caused economic activity to slump. The slumping economy caused investors to pull out, which flooded the market with local currencies, putting downward pressure on the currencies pegged to the dollar. Some say currency raiders like George Soros drove down the value of the currencies. The IMF offered bailout packages, conditioned on structural adjustments such as cutting back on government spending to reduce deficits, allowing insolvent financial institutions to fail, and aggressively raise interest rates.

V. THE GOVERNMENT'S ECONOMIC TOOLS: MONETARY POLICY; FISCAL POLICY; BAILOUTS; REGULATION.

A. MONETARY POLICY. In 1836, Abraham Lincoln said that "no duty is imperative on . . . . Government, than the duty it owes its people, of furnishing them a sound and uniform currency." (Quoted in Jordan (2006) p. 494). The Federal Reserve Act states the goals of the FED: "to promote effectively the goals of maximum employment, stable prices, and moderate long-

term interest rates." Monetary policy in the U.S. is executed by the FED, using open market operations (the purchase or sale of U.S. Treasury and federal agency securities), setting bank reserve requirements, and lending money through the "discount window." The FED can influence the level of business activity by restricting or expanding the availability of credit and by lowering or raising the cost of borrowing (i.e., the interest rate). The FED can affect the rate of inflation by restricting or expanding the money supply. The FED can also affect business activity and future inflation rates through influencing public perceptions about future interest rates and future inflation. Monetary policy is tricky, because factors outside of the FED's control can affect aggregate demand and aggregate supply, and because of lag time between a policy change and the result of its effect on the economy. Federal tax policy and spending programs, which are decided independently by Congress, can affect demand. Aggregate demand can be affected by changes in consumer and business confidence, and the condition of lenders. Aggregate supply can be affected by natural disasters, disruptions in the supply of oil, agricultural losses, and slowdowns in productivity growth. *The Federal Reserve System Purposes and Functions* (2005) pp. 19-20.

1. Money Supply.

Why the Money Supply is Important. According to Dr. Anna Schwartz, former protégée of the famous economist Milton Friedman, the money supply is important because money is used in virtually all economic transactions. But money is more than a medium of exchange. In the aggregate, the money supply can influence consumer and business decisions. An increase in the money supply lowers interest rates, which stimulates investment, and puts more money in consumers' hands, which makes them feel wealthier thus prompting them to make retail purchases. Increased retail sales reduce retail inventories, which causes retailers to order more products from producers, which in turn causes producers to order more raw materials, increase capital equipment expenditures, and hire more employees, in order to increase production. The expanding economy causes the stock market to rise, prompting companies to issue new shares in order to raise capital, as well as to borrow, to support business expansion. Schwartz, *Money Supply* pp. 1-2. However, if the money supply expands too rapidly, it can cause inflation of prices, and if that inflation is expected to continue, it can cause interest rates to rise, because lenders will add the expected rate of inflation to the real interest rate in order to preserve the value of the money loaned. Jordan (2006) p. 490.

The Money Supply as a Signal. The money supply traditionally was an important signal watched by the FED in setting monetary policy. In theory, the money supply should be expanded at the same rate as the desired increase in real GDP added to the desired rate of inflation. So if the growth rate in real GDP consistent with full employment is 3%, and the desired inflation rate is 1%, then the money supply should be expanded by 4%. Because the correlation between changes in the money supply and the growth in nominal GDP is uncertain, the FED has reduced the importance of monetary aggregates in setting policy. *The Federal Reserve System Purposes and Functions* (2005) p. 21. In January 1987, the FED announced that it would no longer use the money supply figures as guidelines for controlling inflation.

Increasing/Decreasing the Money Supply. The FED's primary method for expanding and contracting the money supply is through purchasing and selling assets in the open market. To put money into the economy, the FED normally buys assets from banks, which puts cash into the banks' vaults, which then serves as the basis for loans of ten times as many dollars to borrowers. This is how new money is normally dispersed through the economy. However, when banks are unwilling to lend, the normal dispersion

of money to the public does not occur.

Recent Increases in the Money Supply. Dr. Arthur B. Laffer wrote an article in June, 2009, expressing concern about the possibility that the FED's recent radical increase in the money supply would trigger inflation. In September 2008, the FED increased the money supply by just under a trillion dollars. Laffer (June 11, 2009). This was the largest increase in 50 years. The currency in circulation had been 95% of the money supply (M1), but has been reduced to only 50%, meaning that bank reserves have substantially increased. Under our fractional reserve banking system, these bank reserves can be multiplied by ten and loaned out. According to Dr. Laffer, the 12-month M1 measure of money supply is up 15%, near a record growth rate for the last 50 years. *Id.* Dr. Laffer is extremely concerned that if inflation presents itself, the FED can try to shrink the money supply back down to size, but to do so it would have to sell $1 trillion of assets, which would put it in competition with the U.S. Treasury, which will be trying to sell $2 trillion in bonds over the next year. Another option is to increase the reserve requirement, forcing banks to keep more of their capital on deposit with the FED. Since the FED is now paying interest on excess reserves, the cost to the banking industry of increased reserves will not be prohibitive, says Dr. Laffer. Dr. Paul Krugman, the most recent winner of the Nobel Price in Economics, takes the opposing view. Krugman (June 15, 2009). He says that we are in a "liquidity trap,"* and that the greater danger is that the FED will reinstitute anti-inflationary measures too soon. Two other liquidity traps we can learn from are the USA in the 1930s and Japan in the 1990s. From 1934 to 1937, the U.S. economy was growing rapidly, which prompted fears of inflation, so the FED tightened monetary policy and FDR and the Congress tried to balance the budget, dropping the economy back into depression. In Japan, after a slump the economy was growing at 3%, and the government raised taxes and cut spending, dropping Japan back into a recession. Krugman observes that an increase in the money supply is not inflationary when you are in a liquidity trap, and he points to the Depression and Japan's "lost decade"* as examples. Dr. Alan S. Blinder likewise disagrees with the threat of inflation. Blinder (June 21, 2009). He believes that the banks are not lending their increased reserves out, and when they do, Dr. Blinder believes that the FED will draw back bank capital to compensate. Blinder also notes that the indications from the spread between Treasury debt and TIPS, often taken as a reflection that investors' perception of future inflation, in late June 2009 was 1.6% over five years and 1.9% over ten years. *Id.*.

2. **Reserve Requirement.** The "reserve" part of the Federal Reserve System describes the practice and requirement that private banks maintain deposits of cash in their vaults ("vault cash") and with the FED ("required reserve balance"), based on a percent of their demand deposits and time deposits. The reserve requirement is set by the FED Board of Governors within limits set by the Federal Reserve Act. The reserves on deposit with the FED creates a means for private banks with excess reserves on deposit with the FED to lend funds overnight to banks who are temporarily short of required reserves. Banks are free to put more money on deposit with the FED, and when they do those funds are called "excess reserve balances." Traditionally, the FED paid no interest on required reserve balances or excess reserve balances. As a result of the current financial crisis, beginning October 2008 the FED started paying interest on required reserves and excess reserves deposited with the FED. <www.federalreserve.gov/monetarypolicy/reservereq.htm#table1>. This interest income, even though, it is artificially created by the FED, will replace some of the income lost by the banks' refusal to make loans, improving banks profitability which should cause bank stock prices to rise, thereby increasing the amount of capital banks can raise through new stock issuances, and restoring public confidence in the banking system.

3. Federal Funds Rate. The "Federal funds rate" is the interest rate that banks and other institutions with excess funds on deposit at the FED charge one another for overnight loans of excess reserves. The Federal funds rate target is set by the FED's Federal Open Market Committee, but the actual rate is set by market forces and not by fiat. The FED influences short term interest rates through "open market operations." Open market operations involve the FED's purchase and sale of securities, primarily U.S. Treasury securities, in the national market for such securities. See Cheryl L. Edwards, *Open Market Operations in the 1990s* <www.federal reserve.gov/pubs/bulletin/1997/199711lead.pdf>. When the FED buys government securities, it drives the price up and the yield down. A lower yield is tantamous and to a lower interest rate, in this instance a lower federal funds rate. A change in the Federal funds rate can affect other short-term interest rates (e.g., Treasury bills and commercial paper), which in turn influence long-term interest rates (e.g., Treasury notes, corporate bonds, fixed-rate mortgages, auto loans, other consumer loans), the value of the U.S. dollar in foreign exchange (as foreign investors demand U.S. dollars in order to invest in U.S. bonds), bond values, and stock market prices, which in turn affect household and business spending, which in turn affects aggregate demand in the economy. See *The Federal Reserve System Purposes and Functions* (2005) pp. 17-18.

As stated by the FED:

> Open market operations are the Federal Reserve's principal tool for implementing monetary policy. These purchases and sales of U.S. Treasury and federal agency securities largely determine the federal funds rate—the interest rate at which depository institutions lend balances at the Federal Reserve to other depository institutions overnight. The federal funds rate, in turn, affects monetary and financial conditions, which ultimately influence employment, output, and the overall level of prices.

<www.federalreserve.gov/pubs/bulletin/1997/199711lead.pdf>, p. 859. In 1985, the FOMC began publicly announcing its target for the federal funds rate. *The Federal Reserve System Purposes and Functions* (2005) p. 29.

The federal funds rate in early June 2009 has ranged from 0.21% down to 0.17%. A history of the federal funds rate is charted at <http://research.stlouisfed.org/fred2/series/DFF>. The federal funds rate is now so low that it creates a "zero bound problem" or in Keynesian terms a "liquidity trap," – the federal funds rate cannot go any lower, so the FED's main monetary tool (of reducing the short term federal funds rate) is of no further help in stimulating the economy, so that other monetary tools must be used or the government must rely on fiscal stimulus to help with the recession.

4. Liquidity Trap. British economist John Maynard Keynes wrote that the money supply affects prices and output through the nominal interest rate. Increasing the money supply reduces the interest rate by reducing the demand for money. A lower interest rate stimulates investing and spending. Based on the circumstances of the Great Depression, Keynes described the "liquidity trap" as a situation where interest rates are so low that investors are unwilling to invest cash in bonds because of a fear that interest rates will rise. Nobel Prize-winning economist Paul Krugman says that "if the interest rate is zero, bonds and money become in effect equivalent assets; so conventional monetary policy, in which money is swapped for bonds via an open-market operation, changes nothing." Krugman, *Thinking About the Liquidity Trap* (December 1999). This is also called the "zero bound problem." Keynes used this condition to explain why monetary policy had no effect during the Great Depression, and that fiscal policy (i.e., deficit spending) was the government's only effective response. Milton Friedman and Ben Bernanke believe that the

liquidity trap can be overcome by causing inflation through increases in the money supply, by the FED or the government purchasing assets or increasing the deficit and financing that increase by printing money. We are in a liquidity trap at the present moment, and time will tell what policies can get us out of that trap. Modern economic thinking says that demand (for goods and services) is affected not only by the short-term interest rate but also current expectations of future interest rates at a time when the short term rate is not zero bound. See Eggertsson (2004).

5. Discount Window Lending. The "discount window" is the name for lending by the Federal Reserve Banks to member banks in their Districts. The FED makes three kinds of loans: primary credit (overnight loans to sound borrowers), secondary credit (to meet short-term liquidity needs or to resolve severe financial difficulties), and seasonal credit (loans to small banks with seasonally-fluctuating needs, as for agricultural or seasonal resort communities.). The loans are secured by collateral, such as existing bank loans that are not due and investment grade securities. The lendable value of collateral is established by the Federal Reserve Bank based on market value reduced by a margin. The margin is set based on how accurately the value of the collateral can be determined, and how variable that value is, the liquidity of the collateral, and the financial condition of the borrowing bank. In normal times, the discount window is used by the FED to help maintain its target federal funds rate. The discount window is also used to provide liquidity to a bank suffering a liquidity problem, by allowing the bank to borrow cash against its less liquid assets (i.e., loans or investment securities). In times of distress to the financial system, such as a natural disaster or the September 11 terrorist attack, discount window lending can be sued to feed liquidity into the banking system to meet the system's immediate needs. *The Federal Reserve System Purposes and Functions* (2005) pp. 45-50. In the liquidity crises of 2007 and 2008, the FED expanded the types of collateral it would accept for such loans.

Loans from the FED's discount window bear interest at the "discount rate." The discount rate is the interest rate charged to commercial banks and other depository institutions on funds they borrow from their regional Federal Reserve Bank's discount window. The discount rate charged for primary credit (the primary credit rate) is set above the usual level of short-term market interest rates. Between August 2007 and December 2008, the FED reduced its discount rate from 5.75% to 0.5%. Elmendorf (Jan. 27, 2009) As of July 2, 2009, the discount rate remained at 0.5%.

The discount window has proved to be a major factor alleviating systemic financial difficulties in times of great stress. After the collapse of stock prices in October 1929, the New York FED offered loans to liquify call loans to stock brokers (an action later censured by the FED Board). Mishkin and White (2002) p. 19. After the Penn-Central Railroad bankruptcy in June 1970, the commercial paper market froze, and the New York FED opened a discount window for banks to get funds for commercial paper they held. *Id.* p. 33-34. Emergency discount window actions occurred in response to the 1987 stock market crash, the 1998 Russian financial crisis and failure of Long Term Capital Management (see V.C.), and after the September 11, 2001 World Trade Center attack. *Id.* p. 35. See Section I.G.3.c.

6. Inflation Targeting. In the mid-1990s, a view arose that the FED should explicitly announce a target inflation rate. Alan Greenspan believes the FED should have an implicit target inflation rate, and not state it explicitly. Ben Bernanke has supported an explicit inflation target. This is discussed by economist Marvin Goodfriend, at: <www.tepper.cmu.edu/alumni/lifelong-learning/expert-commentary/marvin-goodfriend-video-on-inflation-targeting-ben-bernanke-and-monetary-policy-in-the-tepper-classr/download.aspx?id=887>Several other central banks have adopted inflation targeting: New Zealand

(1990); Canada, 2% (1991); England (1992); Sweden (1993); and Australia (1993). Wynne (2008) p. 210-211. (The point of inflation targeting is to build an expectation in the public mind (i.e., anchoring) that the FED will restrain the rate of inflation, so that excessive future inflation is not built into long term commitments like union contracts or long term debt or bonds. See Gurkaynak, Levin, and Swanson, *Does Inflation Targeting Anchor Long-Run Inflation Expectations? (Evidence from Long-Term Bond Yields in the U.S., U.K., and Sweden)* <www.frbsf.org/publications/economics/papers/2006/wp06-09bk.pdf> (finding that explicit inflation targeting in UK and Sweden anchored expectations better than implicit targeting in the U.S.A.). A clear explanation of Canada' good experience with inflation targeting is at <www.bank-banque-canada.ca/en/speeches/2002/sp02-6.htmls.>

7. A Desirable Rate of Inflation. One of the FED's mandates is price stability. Milton Friedman said: "The first and most important lesson that history teaches about what monetary policy can do -- and it is a lesson of the most profound importance -- is that monetary policy can prevent money itself from being a major source of economic disturbance." Milton Friedman, The Role of Monetary Policy, American Economic Review (1968) p.12. Alan Greenspan defined price stability in these terms: "[p]rice stability obtains when economic agents no longer take account of the prospective change in the general price level in their economic decision making." Greenspan, *Opening Remarks* (1996) <www.kc.frb.org/Publicat/sympos/1996/pdf/s96green.pdf>.

A few economists advocate zero inflation. Note that Friedman's and Greenspan's comments do not suggest an inflation rate of zero; just an inflation rate that does not detract. Lawrence Summers said, in a speech, said that inflation should be between 4 to 5% at the top and 3% on the bottom. He said that there are dangers with inflation that is too low, as well as too high. In "excessively low inflation, cyclical downturns will last unnecessarily long." He noted that with low inflation, you can't get real wage reductions without nominal wage cuts when you need them in an economic downturn. Summers (1996) p. 36. He meant that in an inflationary economy, real wages can be reduced by setting the growth in pay raises lower than the inflation rate; without inflation, you would have to actually reduce the wage rate rather than increase it–a situation that employees would not readily accept. He also said that negative real interest rates play an important role in facilitating recoveries. Negative real interest rates occur when the inflation rate exceeds the interest rate.

Other countries have announced the following inflation targets: New Zealand, 1-3%; Canada, 1-3%, with 2% as the target; Sweden 1-3%, with 2% as a target. Wynne (2008) pp. 210-212.

8. Lending Outside FED Control. As noted in Section III.K.13 above, a significant amount of lending occurs in the United States that is not under the purview of the FED. These lending decisions can only indirectly be affected by monetary policy. In a speech given on June 17, 2009, President Obama said that "We've seen that structural deficiencies allow some companies to shop for the regulator of their choice -- and others, like hedge funds, to operate outside of the regulatory system altogether." <www.whitehouse.gov/the_press_office/Remarks-of-the-President-on-Regulatory-Reform>. He proposes to "dismantle the Office of Thrift Supervision and close loopholes that have allowed important institutions to cherry-pick among banking rules." Henceforth the Federal government "will offer only one federal banking charter, regulated by a strengthened federal supervisor." He intends to "raise capital requirements for all depository institutions."

<u>Shadow Banking System.</u> Paul McCulley of PIMCO, a large investment management company that emphasizes bond investment, invented the

term "shadow banking system" to describe what he called “the whole alphabet soup of levered up non-bank investment conduits, vehicles, and structures.” <http://www.pimco.com/LeftNav/Featured+Market+Commentary/FF/2007/GCBF+August-+September+2007.htm>. McCulley went on:

> Unlike regulated real banks, who fund themselves with insured deposits, backstopped by access to the Fed’s discount window, unregulated shadow banks fund themselves with un-insured commercial paper, which may or may not be backstopped by liquidity lines from real banks. Thus, the shadow banking system is particularly vulnerable to runs – commercial paper investors refusing to re-up when their paper matures, leaving the shadow banks with a liquidity crisis – a need to tap their back-up lines of credit with real banks and/or to liquidate assets at fire sale prices.

9. The FED’s Balance Sheet. In order to address individual aspects of the recent crisis, and also because of the “zero bound problem” (see Section V.A.4) which has neutralized short-term interest rates as a monetary tool, the FED has had to put money into the economy either through loans to financial institutions or by purchases of assets like long-term Treasury securities. In the process of doing this, the FED had to downgrade the quality of assets it accepts as collateral for its loans from 100% Treasury securities to less than one-third Treasury securities. And the assets held by the FED (primarily securities and loans to banks) have ballooned, from $900 billion at the end of 2007 to $2.3 trillion at the end of 2008. This rapid increase is unprecedented. When the asset side of the balance sheet increased, so did the liability side, with increased currency in circulation, and increased reserve deposits held at the FED, added to the Treasury’s daily balances, and a few other assets. And the FED now holds assets that are worth less than the loans they secure. No one in the Federal Reserve System is comfortable with this situation, and all are concerned that when the crisis recedes the FED will be able to return its balance sheet to normal.

FED Chairman Ben Bernanke talked about the FED’s balance sheet in a speech on April 3, 2009. He talked about how the FED could “unwind” all it has done when the time comes to change directions. He said that many of the FED’s lending programs are short term and the FED can fail to renew them. Also, the interest rates on these loans are above market, so when the lending markets are functioning normally the demand for FED loans will diminish. The FED can conduct reverse repurchase agreements against its long-term securities and sell its securities, in order to draw money out of the economy. Plus, the FED can raise the interest it pays on bank reserves on deposit at the FED, keeping that money from being loaned out. Bernanke didn’t mention the ability of the FED to increase the reserve requirement (maybe because when the reserve ratio was increased in the Great Depression is had a disastrous effect). This unwinding will have a constraining effect on the economy, so the timing and speed of unwinding is crucial. <www.federalreserve.gov/newsevents/speech/bernanke20090403a.htm>. Moving too quickly could send the economy back into recession.

B. FISCAL POLICY. “Fiscal policy” is a term used to describe the Federal government’s taxation and spending decisions designed to influence the economy. Fiscal policy is usually designed to stimulate the economy either directly, through government spending, or indirectly, through tax cuts or tax rebates which if spent, increase consumer and business spending. A contractionary fiscal policy exists when government revenues exceed government spending (i.e., the budget is in surplus) and an expansionary fiscal policy exists when spending is higher than revenue (i.e., the budget is in deficit). <www.econlib.org/library/Enc/FiscalPolicy.html>.

1. Government Spending. The Federal budget represents a significant portion of GDP and has a powerful influence on the economy. Staats (1975) p. 1. By changing revenues and expenditures in the budget, Congress can influence aggregate demand, price levels, and employment. *Id.* p. 1. Targeting changes in taxes and spending can affect certain sectors of the economy vis a vis other sectors. *Id.* p. 2. As explicated by British economist John Maynard Keynes, fiscal policy is an important tool for influencing the economy. But because it is done through the government, politics plays an important role in determining fiscal policy.

The Federal budget is in turn affected by the economy. If the economy slumps and employment falls, Federal revenues go down. At the same time, Federal costs increase due to increasing unemployment benefits, food stamps, and other expenditures made to bolster the economy. *Id.* p. 2. So, fiscal stimulation through government spending during a recession forces the government to incur larger deficits. In the current economic downturn, the projected Federal deficits are very high. Nonetheless, these deficits are seen by many as a necessary evil. See Dr. Martin Feldstein, *The Stimulus Plan We Need Now* (Oct. 30, 2008) <http://www.washingtonpost.com/wp-dyn/content/article/2008/10/29/AR2008102903198.html>.

Economists believe that GDP is demand-determined in the short run and supply-determined in the long run. Blinder (Jan. 30, 2008) p. 5. The Congressional Budget Office (CBO) says, whenever given the opportunity, that over the long run, the economy produces close to its potential output on average, and that the nation's ability to produce goods and services ultimately depends on three factors of supply: 1) the size and quality of the labor force; 2) the stock of productive capital (factories, vehicles, computers); and 3) the nation's technological expertise, called "productivity." See CBO's *An Analysis of the President's Budgetary Proposals for Fiscal Year 2009* (March 2008) ch. 2 p. 3. <www.cbo.gov/ftpdocs/89xx/doc8990/Chapter2.5.1.shtml>. Director's Blog, *Macroeconomic Effects of the Senate Stimulus Legislation* (Feb. 4, 2009) <http://cboblog.cbo.gov/?p=205>. As the *Analysis* explains, changes in these factors are called "supply side changes." The use of these three factors of supply can drop below their potential, if aggregate demand drops, like it has recently because of the drop in value of real estate and stocks, and turmoil in the financial markets. These are "demand side changes." The CBO believes that, when aggregate demand is low, increases in government spending for goods and services can increase short-run demand and hasten a return to full potential output. However, the CBO says that such government-supplied changes in demand only temporarily raise output above what it would otherwise have been, because long-term corrective forces naturally move the economy to the sustainable potential set by the three supply side factors.

The way the government finances its purchases can have long-term economic effects. If such demand stimulation increases the deficit, it increases the national debt and thus the interest payments on that debt, taking a greater share of future budgets and reducing the money available to spend on then-current expenses. This is the "crowding out effect," because government debt, "crowds out" private investment, thus reducing the stock of private capital and the long-term potential output of the economy. Elmendorf, Director's Blog (Feb. 4, 2009). However, the crowding out effect is mitigated somewhat by expenditures on infrastructure, such as improvements to roads and highways (which would add to the economy's output in much the same way as private capital investment would), or grants which increase college education (which raises long-term productivity by enhancing people's skills), or expenditures on basic research (which would increase GDP over the long term more than investment in physical capital). See CBO Director Douglas W. Elmendorf's February 4, 2009 letter to Senator Judd Gregg <www.cbo.

gov/ftpdocs/96xx/doc9619/Gregg.pdf>.

2. Taxation. Congress uses the federal income tax not only to raise revenue to pay the government's bills but also to encourage and discourage many different types of activities. Sometimes tax laws can have important side-effects.

Income Tax Rate. The Federal income tax is graduated, meaning that as taxable income rises, the taxpayer will enter higher "tax brackets" that take an increasing percentage of income through taxation. For 2008, personal tax rate brackets are $8,350=15%, $33,950=25%, $82,250=28%, $171,550=33%, and $372,950=35%. For 2009, corporate tax rate brackets are: $50,000=25%, $75,000=34%, $100,000=39%, $335,000=34%, $10 million=35%, $15 million=38%, $18.333 million+=35%. The "marginal tax rate" is the tax rate on the last dollar earned. Individuals or businesses who are tax-rate sensitive usually make decisions based on their marginal tax rate, not their overall tax rate. Inflation causes what is called "bracket creep": as income goes up in keeping with inflation, taxpayers will progress to higher tax brackets, increasing the taxes they have to pay.

Effect on Labor. The CBO believes that the economy's potential output is strongly tied to the supply and quality of labor. A government policy that increases the amount of hours worked increases potential economic output. CBO's *An Analysis of the President's Budgetary Proposals for Fiscal Year 2009* (March 2008) ch. 2 p. 3. <www.cbo.gov/ftpdocs/89xx/doc8990/Chapter2.5.1.shtml>. Tax cuts, which increase after-tax income, tend to reduce the number of hours worked because people can maintain their standard of living with less work.

Choice of Entity. Tax law can affect the type of entity businessmen choose to conduct business. Corporations are subject to double taxation, while partnerships are not. "Double taxation" is taxation of the same earnings at two levels. This occurs when corporate earnings are subject to corporate income tax, and the distribution of profits is taxed again when the shareholders receive dividends. For some reason they don't call it double taxation when a state government taxes the same income that is taxed by the Federal government.

Effect on Capital. Taxes affect the way capital is allocated in the economy. Business income taxes discourage investment in corporations (where the investment is subject to "double taxation") in favor of housing (where gains are taxed only once) and non-corporate businesses (which "pass through" their income and so avoid "double taxation"). Increasing tax rates on dividends and capital gains prompts corporations to rely more on debt rather than issuance of stock to finance investment. This is because interest payments on debt are deductible to corporations, while dividends to shareholders are not.

Effect on Retirement. Taxes will effect how long people work. Increases in marginal tax rates reduce the reward for working, and make leisure time less costly in terms of lost income. "Bracket creep" from inflation move lower income workers into higher tax brackets, increasing their marginal tax rates. Inflation also forces more taxpayers into the alternative minimum tax. And inflation also pushes more people across the threshold ($25,000) where Social Security benefits are taxed. Americans will either have to work longer before retiring or they will have to cut back on expenditures during retirement.

Expiring Bush Tax Cuts. In 2001, at the urging of President Bush, Congress reduced individual income tax rates from/to 15% to 10%, 28% to 15%, 31% to 25%, 36% to 33% and 39.6% to 35%. Congress also increased the child tax credit from $500 to $1,000 and established a phased-in reduction of estate taxes to zero% in 2010. In 2003, Congress reduced the top capital gains rate from 20% to 15% and reduced the top individual rate on dividends from 35% to 15%. These tax

cuts automatically expire on December 31, 2010. When they do, the highest personal tax rate automatically goes from 35% to 39.6%. The long term capital gain tax goes from 15% to 20%, and dividend income becomes taxed at ordinary income rates.

3. Government Spending During a Recession. Professor Alan S. Blinder testified to the Senate Budget Committee on January 30, 2008, about how to design a fiscal stimulus. Alan S. Blinder, *On Designing a Fiscal Stimulus–Quickly* (Jan. 30, 2008) <http://budget.senate.gov/democratic/testimony/2008/BLINDER_StimulusNow_final.pdf>. Professor Blinder said that normally you allow the FED to regulate the macroeconomy by raising and cutting interest rates. *Id.* p. 1. But interest rate changes take 6 months to a year to have a substantial effect. *Id.* p. 2. Fiscal stimulus has lags, too: political lag (for the political process); implementation lag (getting the money out to the spenders); and expenditure lags (the time it takes for recipients to spend the money). *Id.* p. 2-3. Blinder said most economists think that GDP is demand-determined in the short run but supply-determined in the long run. To affect things now, you must stimulate demand. To affect things in 5 years, you need to focus on supply. *Id.* p. 5. Blinder says when the government borrows too much, it pushes up interest rates which impedes capital formation and thus future productivity. *Id.* p. 6. But in an emergency, Blinder says that factor is outweighed by returning the economy to full capacity. Blinder's rules for fiscal stimulus are: it should be fast-acting, targeted to boost spending, and temporary. *Id.* He suggests reducing existing taxes and transferring money to people who will spend it. To Blinder, unemployment payments and food stamps are two programs that fit that bill.

4. Tax Rebates During a Recession. One fiscal stimulus measure that Congress has used to stimulate consumer spending during a recession is a tax rebate. A tax rebate is a check mailed by the U.S. Treasury to U.S. taxpayers, and sometimes people who didn't pay taxes. The U.S. government issued $35 billion in tax rebates to all taxpayers in July through September 2001, and $95 billion in tax rebates to low-income and middle-income groups from April to July of 2008. The extent to which these and other tax rebates actually stimulate consumer spending is debated. If consumers use the tax rebate to add to savings or pay down debt, the rebates would not have their intended effect. The 2008 rebates were targeted to low- and middle-income families in the belief that those families would be more likely to spend their rebate. Studies of the issue analyze three types of data: detailed data about the spending of individual households, responses to consumer surveys, and aggregate data on national income and consumer spending. Results vary considerably, depending on the data used. The Congressional Budget Office estimates that the 2008 tax rebates increased the growth of consumption by 2.3% in the second quarter of 2008, and by 0.2% in the third quarter. The issue is analyzed in <https://www.cbo.gov/ftpdocs/96xx/doc9617/06-10-2009Stimulus.html>.

5. Fiscal Stimulus Bill. The FED reduced the federal funds rate essentially to zero in December, 2008. It's main tool to stimulate the economy had been used to the maximum. This shifted focus to fiscal stimulus as a way to turn the economy around. The biggest part of fiscal stimulus in the current economic downturn is the American Recovery and Reinvestment Act (ARRA), signed into law on February 17, 2009. The President's Council of Economic Advisors put out a report in May, 2009, assessing the projected fiscal impact of the ARRA. <www.whitehouse.gov/assets/documents/Job-Years_Revised5-8.pdf>. The report said:

> The ARRA of 2009 had a total fiscal impact of $787 billion. The individual components fall into six broad categories: individual income tax cuts; a two-year patch to the alternative minimum tax; investment incentives; aid to people directly hurt by the recession; state fiscal relief, and direct

government investment spending.

To estimate the fiscal impact of the statute, the Executive department accountants used multipliers they said represented a consensus of economists and professional forecasters. For example, they assumed that transfers to states would be used 60% to prevent spending reductions, 30% to avoid tax increases, and 10% to reduce withdrawals from "rainy day funds." *Id.* p. 11. They applied a multiplier of 0.6 to the state spending and 0.3 to the avoidance of state tax increases. *Id.* The economists further assumed that $92,000 of government spending creates 1 job-year. *Id.* p. 7. The Report estimates that a 1% increase in GDP corresponds to an increase in employment of approximately 1 million jobs, or about three-quarters of a percent. *Id.* p. 2. The ARRA requires the reporting to Congress of job creation using these stimulus funds, which will develop hard data about the effectiveness of fiscal stimulus in the current severe recession. The first job report is due in August 2009.

The CBO has its own estimates of the short-term and long-term effects for the ARRA. The CBO believes that the ARRA will increase GDP from 1.4% to 3.8% by the fourth quarter of 2009, with a declining effect in subsequent quarters. That will increase employment by between 0.9% and 2.3 million by the fourth quarter of 2009, declining in later quarters. After 2015, the ARRA is predicted to reduce GDP by between zero and 0.2%. This long-term reduction in GDP is expected to lower wages rather than lower employment, because workers will be "slightly less productive because the capital stock will be slightly smaller." See CBO Director Douglas W. Elmendorf's March 2, 2009 letter to Senator Charles Grassley. <www.cbo.gov/ftpdocs/ 100xx/ doc10008/03-02-Macro_Effects_of_ARRA.pdf>. The CBO has estimated lag times for the ARRA appropriations. It estimates the percent of ARRA funds that will be disbursed in each of the following years. Transfer payments to individuals goes out quickly. Aid to the states goes quickly if it builds on existing formulas (like Medicaid) but more slowly in other areas. <http://www.cbo.gov/ ftpdocs/102xx/doc10255/06-02-IMF.pdf>.The CBO estimates that discretionary spending for highways, mass transit, broad band, education and state aid will be spent 11% in 2209, 47% in 2010, and 72% in 2011. For entitlements (food stamps, unemployment compensation, Health IT, Medicaid matching and refundable tax credits), the percent disbursed will be 32% in 2009, 73% in 2010, and 91% in 2011.

Economist Nouriel Roubini has commented that the current efforts at fiscal stimulus will do little to correct the collapse of five out of six components of aggregate demand (consumption, residential investment, capital expenditure by businesses, business inventories, and exports). Of the $787 billion authorized by Congress, only $200 billion will be spent in 2009, half of which is tax cuts which Roubini says people will save and not spend. Roubini (3-5-2009).

C. BAILOUTS. A "bailout" is emergency financial help to keep a firm afloat. In modern times bailouts are usually governmental assistance (i.e., an infusion of capital) to a particular entity, group of entities, or group of individuals. Important bailouts in American history include: 1971, Lockheed; 1974, Franklin National Bank; 1975, New York City; 1980, Chrysler; and 1984, Continental Illinois.

<u>Long Term Capital Management.</u> Long-Term Capital Management (LTCM), a hedge fund, was a Delaware limited partnership, with its main office in Connecticut, that managed a fund that was a Cayman Islands partnership. Founded in 1994, it had on its board of directors two celebrated economists, Myron Scholes and Robert C. Merton, both of whom won the 1997 Nobel Prize in Economics for their work on pricing options. Partly based on the celebrity status of its managers, LTCM raised $1 billion in capital, and produced returns, net of fees, of 40% in 1995 and 20% in 1997. *Hedge Funds, Leverage, and the*

Lessons of Long-Term Capital Management, (April 1999) p. 10 <treas.gov/offices/domestic-finance/financial-markets/fin-market-policy>. At the end of 1997, LTCM intentionally reduced its capital base from $7.5 billion to $4.8 billion by returning $2.7 billion to investors. While doing so, LTCM did not reduce its investment positions, so that its balance sheet leverage was greatly increased. At the end of August 1998, LTCM had on its books $500 billion in futures contracts, $750 billion in swaps, and $150 billion of options and other over-the-counter derivatives, in financial markets around the world. It had a balance-sheet leverage ratio of more than 25-to-1. *Id.* p. 12. On August 17, 1998, Russia devalued the ruble and declared a moratorium on payment of its debt, negatively affecting world financial markets and triggering a worldwide flight to quality*. By mid-September, counter-parties who had contracted with LTCM became concerned about LTCM's insolvency. A small group of major creditors held an impromptu emergency meeting at the New York Federal Reserve Bank and agreed to inject $3.625 billion into LTCM in exchange for 90% ownership and the installation of new management. LTCM suffered losses of $4.6 billion, but the intervention stopped the run on LTCM and the bailing firms eventually liquidated their investments in LTCM for a small profit. LTCM was an early warning of the danger of over-leveraged and under-regulated financial entities engaging in an excessive number of derivative transactions, but few people took heed.

The Mexican Peso Crisis. The Mexican Peso Crisis was triggered by the devaluation of the Mexican peso in December of 1995. On January 10, 1996, after Robert Rubin was sworn in as Treasury Secretary, Rubin and Lawrence Summers met with President Clinton about the crisis. President Clinton tried to pass the Mexican Stabilization Act through Congress, but Congress balked. So, with commitments from the IMF, the Bank for International Settlements, and the Bank of Canada, the President used the U. S. Treasury Department's Exchange Stabilization Fund to make America's contribution to the bailout, which totaled to $50 billion in loans. Deputy Treasury Secretary Lawrence Summers flew to Mexico to meet with Mexican President Ernesto Zedillo, a Yale-educated economist. In the end, the U.S.A. made a $500 million profit on the transaction. Deputy Treasury Secretary Lawrence Summers and Deputy Assistant Secretary Tim Geithner.

AIG. "AIG" stands for American Insurance Group, one of the largest insurance companies in the world, so large in fact that it is "too big to fail." In September, 2008, AIG received an $85 billion loan from the FED, and the FED received a warrant for 79.9% of AIG's equity. In October of 2008, the size of the loan was increased by another $37.8 billion. Subsequent advancements have raised the government funds extended to AIG to $182.5 billion. <www.gao.gov/new. items/ d09490t.pdf>. On March 24, 2009, Secretary of the Treasury Timothy Geithner testified to the House Financial Services Committee, saying:

> "AIG was one of the largest insurance companies in the world with operations in 130 countries and a trillion dollar balance sheet. AIG directly guarantees over $30 billion of 401(k) and pension plan investments and is a leading provider of retirement services for teachers and educational institutions.
>
> "AIG's Financial Products division (AIGFP) was a counterparty on thousands of over-the-counter derivatives contracts to major financial institutions and other entities across the globe. This division was an unregulated entity operating in unregulated markets.
>
> "In September, at a time of unprecedented financial market stress, losses on derivatives contracts entered into by AIG's Financial Products group forced the entire company to the brink of failure. The U.S. Department of the Treasury (Treasury), the Federal Reserve

> Board, and the Federal Reserve Bank of New York agreed that the collapse of AIG could cause large and unpredictable global losses with systemic consequences -- destabilizing already weakened financial markets, further undermining confidence in the economy, and constricting the flow of credit. A disorderly failure of AIG risked deepening and prolonging the current recession.
>
> "On September 16th, the Federal Reserve Board authorized an $85 billion revolving credit facility to provide liquidity and avoid default. As a condition of government assistance, the government installed new management at AIG and began the process of restructuring the board. We initiated a strategy to return AIG to its core insurance business by winding-down its derivatives trading operation and selling non-core businesses."

<www.treas.gov/press/releases /tg67.htm>.

A significant portion of the money put into AIG was paid out to counter-parties on AIG's credit default swaps. Recipients include: Goldman Sachs, Bank of America's Merrill Lynch and Morgan Stanley, as well as foreign banks like Societe Generale, Deutsche Bank and Barclays. Thus, the AIG bailout was an indirect bailout of banks who had credit default swaps with AIG.

<u>Recent Bank Bailouts.</u> In March of 2008, the Federal Reserve Bank of New York made a $29 billion non-recourse loan to J.P. Morgan Chase to help it acquire the foundering investment bank Bear Stearns. In November 2008, the U.S. Treasury purchased from Citigroup $20 billion in preferred shares, as well as a warrant to purchase common stock. The Treasury Department and the FDIC also guaranteed a pool of $306 billion of loans and securities. In January of 2009, the Bank of America received $20 billion in capital in exchange for preferred stock and a warrant, and the Treasury and the FDIC agreed to guarantee a pool of $118 billion in loans, in exchange for preferred stock. The U.S. Treasury has invested $200 billion in hundreds of banks to shore up their capital. See <http://money.cnn.com/news/specials /storysupplement/bankbailout>. As of June 9, 2009, the Treasury Department has given 10 banks permission pay back 100% of the bailout money they received, totaling to $68 billion.

<u>Other Bailouts.</u> Bailouts are not on a normal list of governmental tools to manage the economy, but they have been a prominent feature of the current economic crisis. The recent crop of federal bailouts include: Chrysler, which received a $4 billion loan from the U.S. Treasury; GM, which received a $15.4 billion in loans from the U.S. Treasury prior to filing for bankruptcy, plus $33.3 billion in debtor-in-possession financing from the U.S. and Canadian governments; and GMAC, which received a $7.5 billion capital investment from Treasury in exchange for mandatory convertible preferred membership interests and the right to participate in the FDIC's Temporary Liquidity Guarantee Program. The number of recent bailouts is too long to list and explain. CNNMoney.com maintains a "bailout tracker" at <http://money.cnn.com/news/storysupplement/economy/bailouttracker>. See also <www.propublica.org/special/government-bailouts>.

<u>Moral Hazard.</u> "A bailout creates what is known in the economics and insurance literature as . . . 'moral hazard' by creating a presumption that in the future the government may again rescue a failing firm. That presumption encourages a firm and its investors to be less careful than they otherwise would be about taking risks. If a firm expects a bailout, it believes that government help will cover losses while the firm's owners can enjoy the gains, if any, from risky strategies. When the government is expected to absorb losses, bailouts unavoidably increase inappropriate risk taking, which increases the likelihood of losses in the future." Poole (2008) p. 66. When a bailout occurs, ask who is receiving the benefits of the bailout–shareholders,

bondholders (American and foreign), employees, retirees, lenders with loans to the company, the FDIC, the PBGC, etc. For example, economist Nouriel Roubini has suggested that the AIG bailout helped not shareholders (who were wiped out with the loss of the stock's value) but counterparties on credit default swaps, such as Goldman Sachs and Merrill Lynch. Roubini (March 5, 2009).

D. REGULATION. On June 15, General Electric's CEO Jeffrey Immelt said: "We are going to live in a world where government and business are going to intersect more." <www.wired.com/epicenter/2009/06/ges-immelt-we-actually-hire-people>. That same day, Treasury Secretary Timothy Geitner and Presidential Economic Advisor Lawrence Summers published an article in the Washington Post, recapitulating the causes of the current financial crisis and outlining the Obama administration's proposals on how to build a stronger and safer financial system. <http://www.financialstability.gov/latest/06142009_wp.html>. The article noted that the financial system is supposed to reduce and distribute risk, and instead it magnified risk that resulted in an economic contraction. The roots of the problem are listed: 1) the global imbalance in saving and consumption; 2) the widespread use of poorly understood financial instruments; 3) shortsightedness and excessive leverage at financial institutions; and 4) basic failures in financial supervision and regulation. Regarding supervision and regulation, the article commented that our financial regulation is "riddled with gaps, weaknesses and jurisdictional overlaps, and suffers from an outdated conception of financial risk," and that the pace of innovation in the financial sector has outstripped regulatory modernization, leaving entire markets and market participants unregulated.

Geitner and Summers wrote of five problems. The first problem is that existing regulation focuses on the soundness of individual institutions but not the stability of the system as a whole. This resulted in institutions having inadequate capital or liquidity to deal with system-wide stress. The new proposals will raise capital and liquidity requirements for all institutions, especially for the largest and most interconnected firms. Any interconnected firms whose failure could jeopardize the stability of the system will be subject to consolidated supervision by the Federal Reserve. The Administration will propose a "council of regulators" with the responsibility coordinate across the financial system. It is noteworthy that no mention was made of breaking of interconnected firms, or prohibiting aggregations of such size as to threaten the systemic risk.

The second problem is that securitization broke the link between borrowers and lenders, which led to an "erosion of lending standards." The Administration will propose more stringent reporting requirements for the issuers of asset-backed securities, reduce reliance on credit-rating agencies; and require brokers to retain a financial interest in the performance of securitized loans. The Administration will also propose to regulate derivative contracts, and derivatives dealers.

The third problem is weak consumer protections against predatory and unfair lending practices, which the Administration proposes to strengthen.

The fourth problem is the lack of tools to contain and manage financial crises. The FED's provision of credit in not a solution over the long term. The Administration will propose a new resolution mechanism for financial holding companies whose failure can jeopardize the system.

The fifth problem is global interconnection, and the Administration acknowledges that steps taken in America alone cannot solve the problem. So the Administration will encourage improved regulation and supervision around the world.

President Obama announced his goals of revamping the regulation of finance in America in

a speech to the nation on June 17, 2009. <www.whitehouse.gov/the_press_office/Remarks-of-the-President-on-Regulatory-Reform>. He said that the existing regulatory structure was put in place during the Great Depression in the 1930s. He noted the tension between "those who place their faith in the invisible hand of the marketplace and those who place more trust in the guiding hand of the government," and said that tension between those positions is a good thing. But, he said, the marketplace is neutral, and reflects who we are, the good and the bad. To address the fact that regulation focused on individual companies, rather than the safety of the entire system, and focused on the trees and not the forest, the President proposes that the FED be granted new authority to regulate bank holding companies and or large firms whose failure poses a risk to the entire economy. He also intends to create an oversight council that will bring together regulators from across markets to coordinate and share information, and take a longer and broader view. He proposed to disband the Office of Thrift Supervision, the regulator of choice for some financial institutions seeking to avoid more stringent supervision by the FED. And he suggested that hedge funds be brought under SEC supervision. President Obama also proposes that the large companies that pose systemic risk meet stronger capital and liquidity requirements. He did not mention breaking up banks that are already "too big to fail," or prohibiting the future aggregation of companies so large that they present systemic risk. The President noted that we don't have an effective system to deal with the failure of AIG, "[one of] the largest and most interconnected financial firms in our country." He therefore proposes a "resolution authority" to allow "orderly procedures" to deal with the failure of such large organizations, which presumably would go beyond the existing alternatives of FED/FDIC procedures for failed banks, or Federal bankruptcy court. The President also suggested moving the responsibility for consumer credit protection from the FED to a new agency created for that purpose. He expects that agency to set new rules for home mortgage lending, to stamp out "exotic mortgages with exploding costs," and to put non-bank mortgage lenders under the same constraints as banks. He also suggested that the originators of loans be required to maintain an interest in those loans, to give them an incentive to make only good quality loans. He also suggested regulation of credit default swaps and other derivatives. Some of these things can be done by the Executive, but some of these things will require Congressional action, which means that specific bills will have to run the gauntlet of the special interests that infest the Congress. So far this Congress does not appear to be as compliant with presidential initiatives as the Congress that passed FDR's New Deal legislation. Shortly after this speech, certain members of Congress hostile to the FED are using it as an opportunity to readdress the independence of the central bank.

The full report, *Financial Regulatory Reform: A New Foundation*, is on-line at <www.financialstability.gov/docs/regs/FinalReport_web.pdf>.

VI. U.S. ECONOMIC DATA AND INDICATORS. Economic statistics are generated by the government, by universities and "think tanks," by businesses and businessmen, by news media, and combinations of them all. There are also several opinion surveys that reflect expectations for the economy. If you are interested in understanding economic indicators, get a copy of the highly-readable *The Secrets of Economic Indicators: Hidden Clues to Future Economic Trends and Investment Opportunities*, by economist and former *Times Magazine* economics reporter Bernard Baumohl, published by Wharton School Publishing ("Baumohl").

A. ECONOMIC DATA. The Federal government collects and present data about the economy in the "national income and product accounts" produced by the of Economic Analysis of the Department of Commerce. These accounts provide a comprehensive measure of economic

activity in the U.S. economy. A well known measure of current production (the process of providing goods and services for consumption) is "Gross Domestic Product" (GDP). The accounts are divided into four major sectors: business, government (federal, state and local), household and the foreign sector. The reports of these accounts contain little analysis. To understand the significance of various numbers in these accounts it is necessary to look to other sources.

One of the best, most comprehensive data and analysis reports about the U.S. economy is *The Annual Report of the Council of Economic Advisors* ("the CEA Report"), transmitted by the U.S. President to the Congress within ten days after the President submits his budget to Congress. The CEA Report has a complete review of the entire economy, as well as economic data from recent quarters, and annual figures back to 1959. For more current economic data, you can look at the monthly publication *Economic Indicators*, sent every month by the Council of Economic Advisors to Congress's Joint Economic Committee, available for free download from the U.S. Government Printing Office at <www.gpoaccess.gov/indicators>. *Economic Indicators* has only tables and graphs, no analysis. It gives current and historical summary figures for seven areas of the economy: total output, income, and spending; employment, unemployment, and wages; production and business activity; prices; money, credit, and security markets; federal finance; and international statistics. Up-to-date information is at U.S. Census Bureau's web page, "Economic Indicators," which releases economic data collected by the U.S. government as soon as it is ready for publication. <www.census.gov/cgi -bin/briefroom/BriefRm>. The Department of Commerce publishes its up-to-date economic indicators at <www.economicindicators.gov>.The Bureau of Labor Statistics releases on a monthly basis a number of economic indicators at <www. bls.gov/newsroom>. Economic indicators are published weekly in Baron's Newspaper, probably the most convenient collection of economic data there is.

Oddly enough, you may find more useful analysis about the American economy on the website of the European Central Bank, <www.ecb.europa .eu> . They published a *Financial Stability Review* in December of 2008 that contains excellent overviews of the American economy. Because the EC and the ECB are so new, they tend to compare themselves to the American situation, and their analysis is very succinct and very readable.

1. Gross Domestic Product. Gross Domestic Product (GDP) is the total final value of all goods and services produced or provided in the U.S.A., included items placed in inventory and not sold. Baumohl, pp. 107-123. Stated differently, GDP is a measure of economic activity, namely the value of an economy's total output of goods and services, less intermediate consumption, plus net taxes on products and imports, in a specified period. GDP can be broken down into output, expenditure or income components. The main expenditure aggregates that make up GDP are household final consumption, government final consumption, gross fixed capital formation, changes in inventories, and imports and exports of goods and services. <www.ecb.europa.eu>.

GDP is stated in terms of "current dollars" and "chained dollars." "Current dollars" are based on production measured by the actual prices charged, while "chained dollars" reflect the value of what was produced, after adjusting for price increases or decreases. Baumohl, pp. 108-110. Final value as used in the GDP excludes all costs of the intermediate stages leading to a final product. GDP has four components: what consumers spend; what businesses invest in plant and equipment; net exports; and government consumption and investment. Baumohl, p. 110. The Bureau of Economic Analysis (BEA) converts current dollars to chained dollars by stripping out the effects of inflation or deflation. The BEA does this using four tools: the GDP Price Index; the GDP Implicit Price Deflation; the

Deflator for Gross Domestic Purchases; and the Deflator for Personal Consumption Expenditures. Baumohl, pp. 115-116. Because GDP includes additions to unsold inventories, it is not a reflection of actual spending. Baumohl, p. 119. GDP excludes illegal transactions such as the trade in illegal drugs. The exclusion of illegal transactions is dictated by politics, not by economic theory.

GDP Per Capita. Some economists say that the best way to compare growth of an economy in different time periods is Gross Domestic Product (GDP). Economies typically grow along a trend line (for the USA in the 20th Century it was 2% per year.) Small deviations from the trend line in GDP per capita are called business cycles. Large deviations from trend line are called great depressions. See Kehoe and Ruhl (2004), pp. 3-6.

2. Industrial Production and Capacity Utilization. The Federal Reserve publishes a monthly index of industrial production and the related capacity indexes and capacity utilization rates, covering manufacturing, mining, and electric and gas utilities. This information is important because the industrial sector, together with construction, accounts for the bulk of the variation in national output over the course of the business cycle. The production index measures real output, while the capacity index measures sustainable maximum output in 87 industries. Both indexes are expressed as a percentage of a base year, currently 2002. <www.federal reserve.gov/releases/g17/About.htm>. The June 16, 2009 release reflected that industrial production fell 1.1% in May, and declined 13.4% from May 2008. That is the largest year-over-year decline since 1946. Capacity utilization in May was 68.3%, down from 78.9% in May 2008. That is 12.6 percentage points below the long-term average utilization from 1972 through 2008 of 80.9%. May's capacity utilization index is at its lowest level since the index was instituted in 1967. The prior low was 70.9% in December 1982. <www.federalreserve.gov/releases/g17/ Current>. The capacity utilization is sometimes called the "output gap," and it is considered by the FED Open Market Committee as an indicator for monetary policy. The manufacturing sector numbers clearly were influenced by the problems at General Motors and Chrysler. There is more of the same to come, as GM plans to stop work at 14 plants. Orders are expected to remain low until excess inventories have been liquidated. The industrial production index since 1919 is charted at <http://research.stlouisfed.org/fred2/series/IND PRO>. The Congressional Budge Office projects that the difference between actual and potential output will average 7% of GDP in 2009 and 2010. Elmendorf (May 21, 2009) pp. 1-2.

3. Inventories. The Commerce Department releases monthly information on inventories, broken down into three categories: manufacturing, retail, and wholesale. Wholesalers buy goods from manufacturers and sell them to retailers. Manufacturers hold 33% of inventories, wholesalers 25%, and retailers 42%. The Commerce Department also publishes an inventory-to-sales ratio for total inventories. The May 2009 ratio was 1.29, meaning it would take 1.29 months to exhaust inventories at May's sales rate. Inventory figures are closely watched because it is believed that they reveal the direction of the economy. In a recession, reduction in inventory investment represents a large part of reduced economic activity. As inventories are depleted, however, it sets the stage for inventory replenishment during the growth phase of the next business cycle. In 1986, Alan Blinder, a former Governor of the Federal Reserve System and inventory theorist, famously wrote that "the business cycle, to a surprisingly large degree, is an inventory cycle."

4. Employment Statistics. The Bureau of Labor Statistics publishes information regarding the nationwide employment situation, at <www.bls.gov/bls/newsrels.htm>. In the view of the Department of Labor, people are either employed, unemployed, or out of the labor force.

During periods of economic weakness, unemployment increases. Conversely, during periods of economic strength, unemployment goes down. For this reason, the employment rate is seen as an indicator of economic activity, and a change in the rate of unemployment are seen as an indicator of change in the economy. The rate of unemployment is regularly determined by the Department of Labor's Bureau of Labor Standards (BLS). The data comes from the monthly Current Population Survey of 60,000 households (household survey) or the Current Employment Statistics Survey of 160,00 businesses and government agencies (establishment survey). You can view a chart of the unemployment rate on Bloomberg, <www.bloomberg.com>, enter symbol "USURTOT:IND".

The unemployment rate is not the full story, however. There are other labor market indicators that the BLS extracts from the Current Population Survey. There are people who are have "full-time jobs," but their work-weeks have been shortened by employers due to slack work. This statistic is captured by the BLS separately from the unemployment rate. The BLS includes, as employed, workers who are working part time, because they can't get a full time job. The BLS measures this statistic, as well. Among the ranks of the people without jobs are people who would like to work but have become discouraged and have quit looking for jobs. These people are "marginally attached workers," and they are *excluded* from the official unemployment figure even though they want jobs but have given up trying to find work. The BLS measures this statistic separately.

More specifically, "marginally attached workers" are persons who are unemployed and who want and are available for work, and who have looked for a job sometime in the prior 12 months (or since the end of their last job if they held one within the past 12 months), but who were not counted as unemployed because they had not searched for work in the 4 weeks preceding the survey. <www.bls.gov/bls/glossary.htm>. Discouraged workers are a subset of the marginally attached. "Discouraged workers" are "[p]ersons not in the labor force who want and are available for a job and who have looked for work sometime in the past 12 months (or since the end of their last job if they held one within the past 12 months), but who are not currently looking because they believe there are no jobs available or there are none for which they would qualify." <www.bls.gov/ bls/glossary.htm>. The five specific reasons for discouragement are: 1) thinks no work available; 2) could not find work, 3) lacks schooling or training, 4) employer thinks too young or too old, and 5) other types of discrimination. See <www.bls.gov/opub/ils/pdf/ opbils74.pdf>, which provides a good overview of marginally attached workers. So the economy manifests itself in several different BLS employment figures.

Since 1948, the BLS-calculated unemployment rate has fluctuated between a low of 2.9% in 1953 to a high of 10.4% in 1983. More recently, unemployment troughed at 4% in Dec.-Jan. of 1999-2000, then peaked at 6.3% in June of 2003, then troughed again at 4.4% in March of 2007, then started climbing to its present rate of 9.5%. *Id.* See <data.bls.gov/PDQ/servlet/SurveyOutput Servlet?data_tool=latest_numbers&series_id=L NS14000000>. U.S. unemployment for June of 2009 was 14.7 million persons. Marginally attached workers included another 2.1 million. <www.bls.gov/opub/ils/pdf/opbils74.pdf>. U-6 unemployment (the regular unemployed plus marginally attached workers plus people looking for full time but settling for part-time employment) in June 2009 was 16.5%.

The rate of unemployment is not a particularly good leading indicator of where the economy is going, but it can be used to compare current economic conditions to other periods of time. The number of full-time workers on part-time schedules due to slack work or business conditions is a leading indicator of a downturn in

the business cycle and a peak in this statistic is clearly correlated to an economic recovery. A rise in economic part-time employment due to slack work heralds a raise in unemployment, because employers tend to reduce workers' hours before laying them off. The converse holds true for economic recovery. <www.bls.gov/opub/ils/pdf/opbils71.pdf>.

Based on the Bureau of Labor Statistics' June 2009 survey of households, since the start of the current recession, employment has declined by 7.2 million jobs, and the unemployment rate has increased from 5.9% to 9.5%. The rate of job reduction tempered somewhat in April 2009, which lost 611,000 jobs as compared to an average monthly loss of 700,000 for the preceding four months. May saw 437,000 jobs lost, and June saw 374,000 jobs lost, so the rate of job loss is declining. Different states have different levels of unemployment. In May 2009, Michigan had the highest unemployment rate, 14.1%. If you include marginally attached workers, discouraged workers, and workers employed part-time for economic reasons, Michigan's unemployment rate in May was 17.2%. California had 11.5% unemployment, Oregon 12.4%, South Carolina and Rhode Island at 12.1%, Nevada at 11.3%, and North Carolina at 11.1%.

Because of President Obama's emphasis on jobs that will help the environment, the BLS's 2010 budget includes funds to develop new series on "green-collar" jobs. The data will first be published in 2011. <www.bls.gov/bls/budget2010.htm>.

5. Housing and Construction. CEA Report p. 40. Housing and construction data include housing starts, builders' confidence, construction spending, residential spending, and non-residential spending. An important index for home prices is the S&P/Case-Shiller Index, which is based on a comparison of the sales price when a home is sold and then when it is resold, months or years later. There is a composite 10 index and composite 20 index. The composite 10 index is weighted as follows: New York (27.2%), Los Angeles (21.2%), San Francisco (11.8%), Chicago (8.9%), Washington, D.C. (7.8%), Boston (7.4%), San Diego (5.5%), Miami (5%), Denver (3.7%), and Las Vegas (1.5%). Dallas is the only Texas city included in the composite 20 index. S&P's June 30, 2009 report shows that in April of 2009 Dallas had suffered only a 5% annual decline. Dallas was the best monthly performer in April, 2009, showing a +1.7% price rise. There is also the Fannie Mae Home Price Index. The S&P/Case-Shiller Index is based on only publicly available data, which is limited in certain areas of the country, while the Fannie Mae Index uses public data and data available internally to Fannie Mae, giving it a broader base. Case-Shiller also includes the prices of foreclosed homes, which Fannie Mae ignores as not reflecting market values. Fannie Mae noted that the price of homes in Texas declined 2.9% from the last peak to March 31, 2009. The worst-hit states for peak to March 31, 2009 declines in home values were Nevada (-47.7%), Florida (-43.9%), Arizona (-41.7%), and California (-40.4%). On May 8, 2009, Fannie Mae predicted that in 2009 home prices would decline between 7 and 12%. *Fannie Mae 2009 First Quarter Credit Supplement* (May 8, 2009). <www.fanniemae.com/ir/pdf/sec/2009/q1credit_summary.pdf> Fannie Mae projected peak-to-trough home price declines to range from 20 to 30%. *Id.* p. 3. The S&P/Case-Shiller Index figures has higher highs and lower lows than the Fannie Mae Home Price Index. The S&P/Case-Shiller Index fell 19% in the first quarter of 2009 compared to a year before, the steepest decline in the index's 21-year history. The Index stood in April at 151.27, down 18% from 184.45 in January. The Congressional Budget Office in January 2009 said that there was a large imbalance between the supply and demand for housing. Elmendorf (Jan. 27, 2009). Foreclosures are up. *Id.* p. 11. Recently, 50% of home sales have been foreclosures.

6. Productivity. Productivity is the output of goods and services that employees produce for each hour worked. Baumohl (2008) p. 303. Labor accounts for 70% of business expenses, so the efficiency of labor greatly affects the cost of production. Increasing productivity permits businesses to make more profits from their workforce, which boosts dividends and investment spending and allows business to increase workers' pay. *Id.* p. 303. Normally, productivity falls at the start of an economic downturn, as demand reduces production without a commensurate reduction in work force. Then the layoffs occur. When the economy starts back up, productivity jumps as production is increased with the smaller work force, before additional employees can be hired. *Id.* p. 304. The Department of Labor publishes productivity statistics quarterly.

7. Employer Cost for Employee Compensation. The Employer Cost for Employee Compensation figure measures employer costs for wages, salaries, and employee benefits for nonfarm private and state and local government workers. The data is gathered through a survey of 11,000 private businesses, and 800 state and local government offices. Baumohl (2008) p. 312. The BLS reported in June that employer costs for employee compensation averaged $29.39 per hour worked in March 2009. Wages and salaries, which averaged $20.49, accounted for 69.7% of these costs, while benefits, which averaged $8.90, accounted for the remaining 30.3%. The average cost for health insurance benefits was 7.3% of total compensation. Looking just at private industry, in March 2009 compensation costs averaged $27.46 per hour worked, with wages and salaries averaging $19.45 per hour (70.8%), and benefits averaging $8.02 (29.2%).

8. Real Earnings. The Real Earnings figure, published monthly by the U.S. Department of Labor, measures the change in worker earnings after adjusting for inflation based on the Consumer Price Index. Average weekly earnings rose by 1.2 %, seasonally adjusted, from May 2008 to May 2009. After deflation by the CPI-W, average weekly earnings increased by 2.8%. Since Real Earnings takes into account inflation/deflation, in a price deflation like the present one, purchasing power goes up by the combination of wage increase plus the deflation rate. In an inflationary economy, purchasing power goes up by the combination of wage increase minus the inflation rate.

9. Personal Income and Spending. Consumer spending accounts for more than two-thirds of GDP. Chatterjee (2009) p. 1. Consumer spending behavior has been a topic of analysis among economists. John Maynard Keynes suggest a "consumption function," which was the causal relationship between income and spending. He theorized that people with higher incomes spent a smaller percentage of their income. *Id.* p. 2. Milton Friedman published a book on the consumption function, where he identified "permanent income" as the amount a household could spend and still maintain its wealth. Friedman suggested that households spend their permanent income. *Id.* p. 2. Consumer spending grew at a 2.2% rate, during the first quarter of 2009. Elmendorf (May 21, 2009) p. 4. In May of 2009 consumer spending was $9.961 billion, down -1.9% from January.

10. Retail Sales. The Census Bureau of the Department of Commerce publishes retail sales figures on a monthly basis. The numbers are based on random surveys sent to 5,000 retailers around the country. Baumohl (2008) p. 75. Retail Sales include only sales of goods, not sales of services, and services make up 2/3 of personal expenditures. The figures are nominal (not adjusted for inflation), so the effect of inflation/deflation are not separated out of the figures. Also, the Retail Sales figures are often revised and the numbers can change significantly. *Id.* p. 74. The Commerce Department reported that retail sales rose 0.5% in May 2009. They are down -9.56% from January.

11. Consumer Debt. Consumer debt includes most short- and intermediate-term credit that has been extended to individuals, excluding loans secured by real estate. The FED publishes a Consumer Credit Statistical Release on the fifth business day of each month. <www.federalreserve .gov/releases/g19>. The April 2009 release showed that consumer credit decreased at an annual rate of 3-1/2% in February 2009, with revolving credit (unsecured credit cards and charge accounts) decreasing at an annual rate of 9-3/4%, and nonrevolving credit (single-purpose loans to buy cars, mobile homes, appliances, vacations, etc.) increasing at an annual rate of 1/4%. Household debt has increased from 64% of GDP in 1995 to 100% of GDP in 2009.

12. Yield Curve. The "yield curve" is a graphical line that plots the yield (i.e., the interest rate divided by value of the bond), at different points in time, of bonds having equal credit quality, but differing maturity dates. The most frequently-reported yield curve compares the 3-month, 2-year, 5-year and 30-year U.S. Treasury debt. The slope of the yield curve can be measured as the difference between the interest rates at two selected maturities. Long-term interest rates are influenced by expectations regarding future inflation. Thus, the shape of the yield reflects the market's expectation of future interest rate changes. There are three main shapes for the yield curve: normal, inverted and flat. A normal yield curve is convex and slopes upward, from the lower left to the upper right, reflecting an increase in yield the longer the term of the bond. A steeply-increasing yield curve (long-term interest rates far above short-term interest rates) suggests that bond investors expect inflation to rise significantly over the long term. A flat yield curve is a horizontal line, where the yield does not change with the length of term of the bond. A flat yield curve indicates that there is no premium for the risks of holding longer-term instruments, suggesting that bond investors expect the inflation rate to be stable over many years. A steeply-decreasing yield curve suggests an expectation that over the long term output and employment will fall. An inverted yield curve is concave, and goes from the upper left down to the lower right. An inverted yield curve means long-term debt instruments have a lower yield than short-term debt instruments of the same credit quality. An inverted yield curve is the rarest of the three main curve types and is considered to reflect expectations of a recession. When the entire yield curve shifts upwards, it means that bond investors expect inflation to increase in both short and long terms. The yield curve can be influenced by factors other than inflation expectations, such as expectations regarding fiscal policy and foreign exchange markets. Historically, the 20-year Treasury bond yield has averaged approximately 2 percentage points above that of 3-month Treasury bills.

13. Inflation Measures. There are several different ways to calculate inflation or deflation in prices. There is disagreement between government economists and some iconoclastic financial pundits whether the government measures of inflation have been manipulated, at the direction of a succession of Presidents dating back to Lyndon B. Johnson, to make inflation seem lower than it really has been. Even accepting the government measures at face value, the indications of inflation over the past 50 years are disturbing.

a. Consumer Price Index. The Consumer Price Index is the most widely recognized measure of the increase in prices of items purchased by consumers in the United States. This increase in prices is a reflection of "inflation." The CPI is the basis for adjustments in Social Security benefits, food stamps, union contracts, and the like. The CPI is based on surveys by the Bureau of Labor Standards (BLS) of about 23,000 businesses in 87 urban areas, checking prices on 80,000 items and services that are divided into eight categories (housing, food and beverages, transportation, medical care, apparel, recreation, education and communications and other goods and services). Baumohl (2008), pp. 272-274. The same "basket"

of goods and services is measured each month to allow comparisons over time. The data is subjected to "seasonal adjustments" to level out timing issues so that different months of the year can readily be compared. The CPI-W measures inflation for wage earners and clerical workers, who constitute 32% of the economy. Baumohl, p. 275. CPI-U measures inflation for all workers, including professionals, self-employed, managers, etc., which includes 87% of consumers. *Id.* It is the CPI-W (all items) (which includes "headline inflation" factors of housing and energy) that is used to adjust Social Security payments and individual income tax parameters, and collective bargaining agreements. *Id.* Different calculations are issued for 14 regions of the U.S.A. Texas has two regions: Dallas-Fort Worth and Houston-Galveston-Brazoria. *Id.* at 279-80. You can obtain the latest CPI report at <www.bls.gov/cpi>. For details, see <www.bls.gov/cpi/#faq>.

The biggest contributors to the CPI's basket of goods and services are housing (42%), transportation (17.4%), food and beverages (15%), followed by medical care (6.2%), etc. Baumohl, p. 272.

As measured by the CPI-U (all urban consumers), since 1990 inflation in the U.S. has been running about 3% per year until 2008, when it fell to 0.1%. The CPI–U recently at 219.964 in July 2008, and in May 2009 it was 213.856, down -1.25% from January. The year-on-year inflation rate in May 2009 was -1.3%, the largest decline since 1950. Viewed over time, the rate of inflation is more striking. Using the CPI of 1982-84=100 as a base, inflation since 1984 has been:

1990	30.7 %	2006	101 %
1995	53.4 %	2007	107.3%
2000	72.2 %	2008	115 %

Although the CPI is used to measure inflation, it does not do as good a job of that as a true "cost of living index" (COLI). The CPI is not a COLI because, among other things, the CPI: ignores the fact that household preferences extend to choices between labor and leisure and among different types of leisure; ignores time by assuming that all consumption takes place in a single period; ignores the impact of externalities, like the environment, on household welfare. Cage, Greenlees, and Jackman (2003) p. 2. Stated differently: "While the CPI measures changes over time in the cost of consumer goods and services, an unconditional cost-of-living index would go further, and take into account changes in non-market factors, such as the environment, crime, and education." <www.bls.gov/cpi/cpisupqa.htm#Question_2>.

<u>Alleged Manipulation of the Numbers.</u> Some writers on the world-wide web and elsewhere have criticized the way the CPI is determined, and accuse the government of hiding the true inflation rate. These criticisms focus on core versus headline inflation (see Section III.L.1. above), rental equivalence as a measurement for housing costs, substitution of lower priced items for more expensive one, and the hedonic quality adjustment. The Department of Labor has published a refutation of these criticisms. <http://www.bls.gov/cpi/cpiqa.htm>. The historical CPI since 1913 is charted at <http://research.stlouisfed.org/fred2/categories/9>.

<u>Housing</u>. The BLS says: "Until 1983, the CPI measure of homeowner cost was based largely on house prices. The long-recognized flaw of that approach was that owner-occupied housing combines both consumption and investment elements, and the CPI is designed to exclude investment items. The approach now used in the CPI, called rental equivalence, measures the value of shelter to owner-occupants as the amount they forgo by not renting out their homes." <www.bls.gov/cpi/cpiqa.htm#Question_2>.

<u>Substitution</u>. It has long been recognized that consumers will sometimes change their consumption patterns in response to changes in

relative prices. “For example, pork and beef are two separate CPI item categories. If the price of pork increases while the price of beef does not, consumers might shift away from pork to beef.”“ <http://www.bls.gov/cpi/cpisupqa.htm#Question _2>. Since 2002, the BLS has been publishing a C-CPI-U, the Chained Consumer Price Index, which processes the CPI data to adjust for what is called “upper-level substitution bias,” or the propensity of consumers to substitute cheaper items for items that have grown too expensive to purchase.

Hedonic Quality Adjustment. The “hedonic quality adjustment” is a statistical procedure in which the market value of a feature is estimated by comparing the prices of items with and without that feature. If a television that is in the CPI is replaced by one with a larger screen and higher price, the BLS adjusts the price difference by estimating what the old television would have cost had it had the larger screen size. Critics say this adjustment is used to reduce the measure of inflation. The BLS responds that it has made hedonic adjustments to shelter and apparel for several decades and it has increased those indexes, and that the hedonic adjustment recently applied to consumer durables have reduced the annual rate of change in the CPI all items by 0.005%. <www. bls.gov/cpi/cpiqa.htm#Question_4>.

b. PCE Price Index. The Personal Consumption Expenditures (PCE) chain-type price index is prepared by the Bureau of Economic Analysis (BEA). The CPI and the PCE Price Index track each other, but the PCE Price Index has lower peaks and higher troughs. McCully, Moyer, and Stewart (2007) p. 3. The relative weights assigned to each of the item prices in the PCE Price Index are based primarily on business surveys, while the CPI weights are based on consumer surveys. The PCE Price Index has a different scope from the CPI, because the PCE Price Index measures the goods and services purchased by households and non-profit institutions serving households, with the result that the some prices included in the PCE Price Index are excluded from the CPI. *Id.* p. 3. Between 1972 and 1980, the CPI increased 104.6%, while the PCE Price Index only 84.9%. From 1992 to 1997, the CPI increased 14.1% while the PCE Price Index increased 12.5%. *Id.* pp. 5-6. The Dallas Federal Reserve Bank publishes what it calls the “trimmed mean PCE inflation rate,” as a measure of core inflation. The trimming involves ignoring the top 25.4% and the bottom 19.4% of the price changes, which the Dallas bank thinks historically has made the index more accurate. <www.dallas fed.org/data/pce/des cr.html>. The trimmed mean PCE inflation rate for May was an annualized 1.3%. <www.dallas fed.org/data/pce/index.html>.

c. Producer Price Index. The Producer Price Index (PPI) is a family of indexes that measure the average change over time in selling prices received by domestic producers of goods and services. PPIs measure price changes from the seller’s perspective The PPI is a much broader measure than the CPI, because it measures the wholesale prices of approximately 3,000 items. A primary use of the PPI is to deflate revenue streams in order to measure real growth in output. The PPI contrasts with measures of price changes from the buyer's perspective, such as the Consumer Price Index and the PCE Price Index. Sellers' and buyers’ prices may differ due to government subsidies, sales and excise taxes, and distribution costs. <www.bls.gov/bls/glossary.htm >. See the BLS’s FAQs on the PPI at <www.bls. gov/ppi/ppicpippi.htm>.

d. GDP Implicit Price Deflator. The GDP Implicit Price Deflator (IPD) is the multiplier used to adjust the current year in prices to the base line of 1992 prices. Technically, the IPD is Nominal GDP ÷ Real DGP x 100. Unlike the CPI, the IPD is not based on a fixed basket of goods and services. The “basket of goods” for the IPD is the set of all goods that were produced domestically, weighted by the market value of the total consumption of each item. As a result, changes in

consumption patterns appear in the IPD as they occur. The IPD is the broadest of the three price indexes, and the prices included range from constructing a space shuttle to manufacturing a paperclip. Another distinction is that the IPD is revised after initial publication and the CPI is not. IPDs are published for different categories, like the IPD for personal consumption expenditures (PCE Price Index), which differs from the CPI in that the index uses the current bundle of purchases and not a fixed bundle of goods and services. The State of Washington uses this last index as a measure of inflation for purposes of state law. The GDP IPD is probably more representative of economy-wide price changes, but it is not as relevant to consumers because it includes non-consumer goods like business equipment and excludes consumer items that are imported. The IPD was 2.8 in May of 2009, down from 7.6% a year before.

e. Yield on TIPS. Investors' views on the expected rate of inflation can be inferred by comparing the yield on an indexed bond (like a TIPS) with the nominal yield on a conventional bond. For example, if the annual nominal yield on a convention bond is 9%, and the average annual yield on a TIPS is 5%, then the expected inflation rate is 4%.On October 31, 2008, the Federal Reserve Bank of Cleveland announced:

> We have discontinued the liquidity-adjusted TIPS expected inflation estimates for the time being. The adjustment was designed for more normal liquidity premiums. We believe that the extreme rush to liquidity is affecting the accuracy of the estimates.

<www.clevelandfed.org/research/data/tips>. In June of 2009, the spread between Treasury bonds and TIPS suggested investors' belief that inflation would be 1.6% over 5 years and 1.9% over 10 years. Alan S. Blinder (June 21, 2009).

14. Federal Reserve Beige Books. Eight times a year, each of the twelve Federal Reserve Banks 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. This information is published in a report called Summary of Commentary on Current Economic Conditions, commonly known as the Beige Book. <www.federalreserve.gov/fomc/beigebook/2008>. The April 15, 2009 summary for all federal reserve districts is at: <www.federalreserve.gov/fomc/beigebook/2009/20090415/default.htm>. Dallas is the headquarters of the Eleventh Federal Reserve District. The Eleventh District April 15, 2009 Beige Book is available at: <dallasfed.org /research/beige/2009/bb090415.html>.

15. Other Indexes. There are countless other indexes of economic activity and economic circumstances.

For example, the Aruoba-Diebold-Scotti Business Conditions Index is disseminated by the Philadelphia Federal Reserve Bank. The ADS Index tracks business conditions using up-to-the-minute data, some measured daily. Its underlying economic indicators (weekly initial jobless claims; monthly payroll employment; industrial production; personal income less transfer payments; manufacturing and trade sales; and quarterly real GDP) blend high- and low-frequency information and stock and flow dynamics using a mathematical formula. <www.philadelphiafed.org/research-and-data/real-time-center/business-conditions-index/>. According to the web site, "The average value of the ADS index is zero. Progressively bigger positive values indicate progressively better-than-average conditions, whereas progressively more negative values indicate progressively worse-than-average conditions. The ADS index may be used to compare business conditions at different times." *See* <www.philadelphiafed.org/research-and-data/publications/working-papers/2008/wp08-19.pdf>. The model uses four business conditions

indicators: yield curve term premium (i.e., the difference between ten-year and three-month Treasury yields); initial claims for unemployment insurance; employees on non-agricultural payrolls; and real GDP. *Id.* at p. 10. There are many, many other indexes, some of which are discussed at different places in this Article.

B. SURVEYS OF SENTIMENT ABOUT THE ECONOMY. There are a number of surveys that reflect various groups' views about the economy.

1. Surveys of Economists, Businessmen, and Investors. Warren Buffet said: ""I don't read economic forecasts. I don't read the funny papers." But some people do, especially business planners.

a. The Fed. Beginning in 1979, the FED's Open Market Committee (FOMC) began making economic projections, every February and July, of nominal GDP, real GDP, and inflation. Gavin & Pande (2008), p. 150. In November of 2007, the FOMC announced it would issue four forecasts a year, and would increase the forecast horizon from two to three years. *Id.* at 149. Forecasts include GDP, unemployment, and two measures of consumer price inflation. *Id.* The published forecast is a combination of the individual forecasts of the twelve Federal Reserve Bank presidents and the FED Governors. *Id.* at 150.

b. Survey of Professional Forecasters. The Survey of Professional Forecasters (SPF) is the oldest quarterly survey of macroeconomic forecasts in the United States. The survey began in 1968 and was taken over by the Federal Reserve Bank of Philadelphia in 1990. Participants are economic forecasters from Wall Street, banks, universities, and private firms. The SPF publishes a one-year-ahead and 10-year-ahead annual average inflation forecast. The survey also asks its panel of forecasters to estimate the probability that real GDP will decline in the quarter in which the survey is taken and in each of the following four quarters. <www.phil.frb.org/research-and-data/real-time-center/survey-of-professional-forecasters>. The survey for the second quarter of 2009 has been released. The 51 forecasters surveyed by the Federal Reserve Bank of Philadelphia are more pessimistic about the economy than they were in February. The forecasters raised their estimate of the shrinking of economy activity, from -2% to -2.8%. They projected growth in 2010 to be 2%, down from 2.2%. The forecasters predicted that unemployment would rise to 9.8% in the first quarter of 2010. The forecasters projected that, over the next 10 years (2009 to 2018), headline CPI inflation will average 2.5% per year, and that headline PCE Price Index inflation will average 2.3%. <www.phil.frb.org/research-and-data/real-time-center/survey-of-professional-forecasters/2009/survq209.cfm>.

c. The Blue Chip Survey. Since 1976, the Blue Chip Survey of Economic Indicators has polled America's top business economists, to get their forecasts in terms of economic growth, inflation, interest rates, and a host of other critical indicators of future business activity. The forecasters include economists from major investment banks, corporations, consulting firms, and academic institutions, a number of whom have participated in the survey for several years. One study of the accuracy of the Blue Chip Survey determined that "the Blue Chip Consensus Forecast consistently performs better than any of the individual forecasters do." Bauer et al. (2003) p. 27. Several forecasters were "indistinguishably close" to the consensus forecast, and of the forecasters had average scores well above 50 percent. *Id.* The May 10, 2009 Blue Chip Survey had an average forecast of a 1.7% decline in GDP during the current quarter and weak positive growth during the second half of 2009. Elmendorf (May 21, 2009) p. 3. The average of the ten most optimistic forecasters predicted mildly positive growth, and the average of ten most pessimistic indicated that the economy would begin to recover in the fourth quarter. *Id.* An analysis of the disagreement among the forecasters in the Blue

Chip Survey is at <macroblog.typepad.com/ macroblog/2009/06/private-sector-forecasts-at-variance.html>.

d. The Livingston Survey. The Livingston Survey, started in 1946 by the late columnist Joseph Livingston, is the oldest continuous survey of economists' expectations. It summarizes the forecasts of economists from industry, government, banking, and academia. The Federal Reserve Bank of Philadelphia took responsibility for the survey in 1990. The survey is conducted twice a year. <www.philadelphiafed.org/ research-and-data/real-time-center/livingston-survey>. The December 2008 survey included 36 participants, not all of whom voted in each category. The numbers reflect the median values of the participants' predictions. The forecasters predicted that America's GDP would fall at a 0.9% rate during the first half of 2009. They also expected the unemployment rate to rise from 6.8% in December 2008 to 7.8% in December 2009. They expected Consumer Price Index (CPI) inflation to be 0.5% in 2009, and then to increase 2.1% for 2010. They predicted that interest rate on 3-month Treasury bills would be 0.5% on June 30, 2009, 1% by the end of 2009, and 2.45% at the end of 2010. The interest rate on 10-year Treasury notes is predicted to be 3.5% on June 30, 2009, 4% at the end of 2009, and 4.7% at the end of 2010. They predicted the prime lending rate to be 3.5% on June 30, 2009 and to rise to 4% by the end of 2009 and to 5% by the end of 2010. The forecasters expect real GDP to grow 2.6% over the next ten years, and they expect CPI inflation to average 2.5% over the next ten years. The forecasters expect the S&P 500 Index to rise to 950 by June 30, 2009, 1,052.5 by the end of 2009, and to $1,165 by the end of 2010. <www.philadelphiafed.org/research-and-data/real-time-center/livingston-survey>.

Back in 1986, two economists associated with the Federal Reserve Bank of Cleveland compared the accuracy of the Livingston Survey of 50 economists in predicting inflation against the household survey of inflation compiled by the University of Michigan, which is based on random surveys of 1,000 different households. See <http://www.clevelandfed.org/research/Review/ 1986/86-q3-bryan.pdf>. They determined that neither survey was very accurate, but that the Michigan survey was more accurate than the Livingston Survey. They posed several possible reasons: 1) the household survey is more representative of people buying the market basked of goods measured by the CPI; 2) the Livingston Survey is more homogenous, consisting mostly of well-paid males; 3) the high degree of communication between economists about their forecasts makes the Livingston Survey less diverse than might first appear; 4) the inflation estimates from academia and the finance industry is less accurate than estimates from operating businesses since businesses are motivated to put more time and money into inflation projections; 5) economists rely on econometric models which project the future based a weighted average of past inflation rates, as opposed to evaluating the future based on present data.

e. The CEO Confidence Survey. The Conference Board (see Section VI.E.2) publishes a "CEO Confidence Survey." The survey involves 100 CEOs, representing 10 industries (5 service industries and 5 manufacturing industries). The survey asks the CEOs four questions: 1) "How are the current economic conditions compared to six months ago?" 2) "What are your expectations for the economy six months ahead?" 3) "What are your expectations for your own industry six months ahead?" 4) "What are the current conditions in your own industry compared to six months ago?" The answers are given as a numerical score, which is then averaged. The survey asks two subsidiary questions: 1) "What are your firm's profit expectations for the next 12 months?" and 2) "If you expect profits to increase, which do you foresee as the prime source of improvement?" The survey appears to be a leading indicator of GDP by about 6 to 9 months. <www.investopedia.com/university/conferenceb

oard/conferenceboard6.asp?viewed=1>. The July 8, 2009 release of the CEO Confidence Survey improved from 30 in the first quarter of 2009 to 55 in the second quarter. A score of over 50 indicates more positive than negative responses. Of the CEPOs polled, 55% said that they expected economic conditions to improve in the next six months, up from approximately 17% in the first quarter of 2009.

f. Index of Investor Optimism. UBS and the Gallup Organization publish the monthly UBS/Gallup Index of Investor Optimism. The survey polls U.S. households with at least $10,000 in investable assets. Baumohl, p. 104. These households constitute 40% of all households and more than 80% of financial wealth in the U.S. *Id.* During the first two weeks of each month, Gallup conducts telephone interviews of 800 randomly-selected households. They are asked whether they are optimistic or pessimistic about achieving their investment goals over the next 12 months and over the next five years. They are also asked about their expectations over the next 12 months for current income, economic growth, the employment rate, stock market performance, and inflation. They are also asked about investing in real estate, whether stocks are overvalued or undervalued, whether interest rates will go up or down, the expected return on their investment portfolio, and which currencies are attractive and unattractive. Baumohl, p. 105. Because the perception of investment wealth affects the propensity of households to spend, there is a positive correlation between investment prospects and future spending. Baumohl, pp. 104-105. See <ubs.com/investoroptimism>. The Index last peaked at 178 in January of 2000, right before the dot.com bubble burst, and declined to a low of -64 in February of 2009. In June of 2009, the Index was at -42.

2. Surveys of Consumer Sentiment. Consumer sentiment is watched closely since consumers' views about the economy, and their own little slice of the economy, affect their willingness to spend.

a. Consumer Confidence Index. The Consumer Confidence Index is published monthly by the Conference Board (see Section VI.E.2). Baumohl, p. 92. It is based on responses from 5,000 households, but only about 3,500 actually respond. Baumohl, p. 94. The survey questionnaires focus on consumer reactions to labor market conditions. Baumohl, p. 93. Because the labor market is slow to react to changing conditions, it is not a good leading indicator of change in directions. *Id.* The Conference Board surveys an entirely different group of people every month, so it is more erratic from month-to-month. *Id.* The Conference Board seeks expectations over the next 6 months. *Id.* The details of the surveys are available only to subscribers, but the Conference Board issues a monthly press release which is available at <www.conference-board.org/economics/ConsumerConfidence.cfm>. The index moved from 40.08 in April 2009 to 54.9 in May, then down to 49.3 in June, measured against a base of 100 in 1985. The Index is up from negative -3.33 a year ago.

b. Survey of Consumer Sentiment. The Survey of Consumer Sentiment has been conducted by the University of Michigan since 1946. Some economists believe this Survey to be more accurate than the Consumer Confidence Survey. Baumohl, p. 97. This survey is one component of the Conference Board's Index of Leading Economic Indicators. *Id.* This survey has a good record of predicting a downturn, but not so good at predicting the beginning of an economic recovery. *Id.* The survey is taken on weekends, and asks 500 individuals to answer 50 questions about their personal finance and plans to buy big-ticket items. Baumohl, p. 98.

c. Consumer Comfort Index. ABC News and the Washington Post conduct a weekly survey of consumer attitudes called the Consumer Comfort Index. Between Wednesday and Sunday of each week, 250 new adults are polled by telephone, and

asked to comment on three topics: whether they feel better or worse about the nation's economy and their personal finances, and whether they are presently "in a buying mood." Baumohl, pp. 100-101. The results are combined with the previous three weeks' surveys, creating a rolling four-week average of 1,000 people. *Id.* The Index is calculated by subtracting the number of negative responses from the number of positive responses to the three questions, and then dividing by three. The Index ranges from plus 100 (everyone is positive on all three questions) and negative 100 (everyone is negative on all three questions). Baumohl, p. 191. The report on the Index is available at <abcnews.go.com/sections/us/PollVault/PollVault.htm>.

d. Comparing the Consumer Surveys. The correlation between consumer confidence measures and consumer spending is not good, and spending is what counts for the economy. Baumohl, p. 93. The Consumer Confidence Index is volatile, because the Conference Board surveys an entirely new group of people every month, Baumohl, p. 93, while only 60% of the persons polled by the University of Michigan for its Survey of Consumer Sentiment are new, and 40% are interviewed for a second time. Baumohl, p. 98. The Consumer Confidence Survey focuses on labor market conditions, while the Survey on Consumer Sentiment focuses on feelings about financial and income situations. Baumohl, p. 93. The Consumer Comfort Index, the newest of the three polls, is published weekly, and so is a preview of the other two less frequent polls. Baumohl, p. 100. Consumer expectations are better at predicting downturns than upturns in the economy. Baumohl, p. 97.

C. CYCLICAL INDICATORS. In 1938, Wesley C. Mitchell and Arthur F. Burns published *Measuring Business Cycles*, in which they suggested that an upturn in the business cycle could be predicted using certain data about the economy, called "leading indicators." The indicators have been revised and expanded so that, today, The Conference Board regularly publishes composite indexes of leading, coincident, and lagging indicators. See The Conference Board, *Business Cycle Indicators* (2001) ["the Handbook"] <www.conference-board.org/publications/describebook.cfm?id-852>. The use of indicators reflects a view that different business cycles are sufficiently similar that economic indicators which correlated to past cycles can be relied upon to predict or confirm the peaks and troughs of future business cycles. The indicators are sometimes combined into indexes that are composit, in that they are a weighted average of several different indicators. A "leading" composit index reflects a cyclical turning point before the turn in aggregate economic activity; the change in a "coincident" index occurs about the same time as the economy; and a "lagging" composit index turns after the economy has turned. The Handbook, p. 69.

1. Leading Indicators. "Leading Indicators" are economic variables which contain useful information for predicting future developments in other economic variables. <www.ecb.europa.eu>. The Conference Board has ten leading indicators, called leading because they tend to reflect where the economy will be in the months ahead. The Conference Board's ten leading indicators are: (1) average work week in the manufacturing sector; (2) initial claims for unemployment; (3) manufacturer's new orders for consumer goods; (4) vendor performance; (5) manufacturer's new orders for capital goods; (6) building permits issues for new private housing; (7) S&P 500 stock index; (8) the money supply (M2); (9) the interest rate spread between 10-year Treasury bonds and the Federal Funds rate; (10) the Index of Consumer Expectations. <http://www.federalreserveeducation.org/fed101_html/policy/indicators_print.htm>. The leading indicators can be conveniently accessed at <www.newyorkfed.org/education/bythe.html>. The Conference Board is careful not to claim a high correlation between the leading index and the economy. One economist writing in the Handbook said: "As a forecasting

tool, the leading index must be used with caution and supplemented with other data and information." The Handbook, p. 30. Even the originator of the leading indicator approach to economic projections wrote that each business cycle is unique and that "a thoroughly adequate theory of business cycles, applicable to all cycles, is . . . unattainable." The Handbook, p. 32. The average work week in manufacturing is included in the leading index in the belief that employers will shorten or lengthen work weeks before they fire or hire employees. The Handbook, p. 32. The FED uses 12 leading indicators in its review of the economy. <www.newyorkfed.org/education/bythe .html> These are real gross domestic product (gdp), consumer price index (cpi), nonfarm payroll employment, housing starts, industrial production/capacity utilization, retail sales, business sales and inventories, advance durable goods shipments, new orders and unfilled orders, lightweight vehicle sales, yield on 10-year treasury bond, S&P 500 stock index, and M2. The cited web page explains the significance of each indicator. The Index of Leading Indicators was 100.2 in May of 2009, down a negative -1.57 from a year before.

2. Coincident Indicators. Coincident indicators reflect the current status of the economy. Because they reflect current conditions, and do not signal future conditions, they are not used to forecast where the economy will go. They can be used to compare the economy at different times. Coincident indicators include employees on nonagricultural payrolls, personal income less transfer payments, the index of industrial production, and manufacturing and trade sales. <http://www.federalreserveeducation.org/fed10 1_html/policy/indicators_print.htm>. The Index of Coincident Indicators was at 100.7 in May of 2009, down -5.71 from a year before.

3. Lagging Indicators. Lagging indicators change months after a downturn or upturn in the economy has begun, and therefore have no predictive value. However, they can be used to predict the duration of economic downturns or upturns. Lagging indicators include average duration of unemployment, average prime rate charged by banks, ratio of manufacturing and trade inventories to sales, consumer installment credit outstanding to personal income, change in labor cost per unit of output, manufacturing, commercial and industrial loans outstanding, and change in consumer price index for services. A lagging indicators index is compiled by the Bureau of Labor Statistics. It measures the rates of change in the services component of the consumer price index. Service sector inflation tends to increase in the initial months of a recession and to decrease in the initial months of an expansion. <http://www.federalreserveeducation.org/fed10 1_html/policy/indicators_print.htm>.

D. GOVERNMENTAL RESEARCH BODIES. There are a host of governmental entities who perform research, do analysis, and publish economic statistics, especially the Department of Commerce <www.commerce.gov/ economic_analysis.html> and the Department of Labor <www.dol.gov/dol/topic/statistics>. A listing of executive department statistics pages is at <www.fedstats.gov/agencies>. Two other sites with important statistics and analysis are the Office of Management and Budget (OMB) and the Congressional Budget Office (CBO). The OMB assembles the President's proposed budget each year, and states its projections about the economy. The CBO evaluates the President's proposed budget, and makes its own projections about the economy. The Author of this Article senses that the CBO may be more immune from political pressure in what it says about the economy. Unlike the OMB, the CBO doesn't have one boss, it has many, and they are in both political parties. The CBO's forecasts are reviewed by a Panel of Economic Advisers, composed of some of CBO's previous directors and eminent economists who serve two-year terms. The CBO projections do not attempt to forecast the business cycle. Instead it makes long-term projections based on trends in the labor force, productivity, and saving.

Another important survey is the Survey of Consumer Finance (SCF), conducted by a government entity aligned with neither; the executive nor the legislative branch: the FED. Every three years the FED (in conjunction with the Treasury Department) conducts a survey of 4,500 families to determine their income, their assets, and their debt. The focus of the survey is not the economy as a whole, or even individuals; instead it focuses on families. The SCF permits an analysis of the way income and wealth are spread in society, which aggregate measures of the economy as a whole do not permit. The SCF permits the reviewers to see the financial condition of the poor, and the wealthy, and the in-between–the middle class. The SCF 2007 is available at <http://www.federalreserve.gov/pubs/bulletin/2009/pdf/scf09.pdf>. The financial condition of the middle class is discussed in Section VIII.

E. NON-GOVERNMENTAL RESEARCH ORGANIZATIONS. There are countless private economic research organizations, some embrace the entire economy, some embrace sections of the country, some embrace individual states and individual communities, and some embrace specific aspects of the economy, like poverty, the middle class, charitable organizations, crime, etc.

1. National Bureau of Economic Research. The National Bureau of Economic Research (NBER) is a private, nonprofit, nonpartisan economic research organization, founded in 1920, dedicated to promoting a greater understanding of how the economy works. The Business Cycle Dating Committee of the NBER is the official determiner of the beginning and end of each business cycle, and thus the start and end of recessions. <www.nber.org>.

2. The Conference Board. The Conference Board Inc. is a not-for-profit organization headquartered in New York City, that conducts active programs of research, conferences, and council meetings on economic topics for the benefit of businesses. Membership consists of nearly 2,000 companies representing more than 50 countries. The Conference Board was founded in 1916 in response to growing labor unrest. It has branch offices in a number of countries around the world. Participants in its research projects and conferences involve some of the biggest names from business and government, and the scope of its participants is worldwide. *See* <www.conference-board.org>. The Conference Board sponsors the monthly Consumer Confidence Survey, based on a representative sample of 5,000 U.S. households, which results in the Consumer Confidence Index. The Conference Board also publishes indexes of leading, coincident and lagging economic indicators for the United States, CEO Confidence Survey, and an Employment Trends Index.

3. National Association for Business Economics. The National Association for Business Economics, founded in 1959, is an association of professionals who have an interest in business economics. Its 2,500 members represent more than 1,500 businesses and other organizations from around the world. The *NABE Outlook* is a quarterly consensus forecast compiled from a panel of NABE members. <www.nabe.com/press>. The NABE published an Industry Survey on April 20, 2009, which "provides fresh evidence that the U.S. economy's recession is abating." <www.nabe.com/press/ind0904.pdf>. However, 93% of the respondents expected real GDP to decline in 2009, up from 78% in the January survey. *Id.*

F. OTHER INDICATORS. Different segments of our economy focus on indicators that are more specific to their concerns as opposed to the general economic indicators outlined above. For example, the Center for Philanthropy at Indiana University keeps track of data on philanthropic giving from-year-to-year. This Center reports that charitable giving has ranged between 1.7% and 2.4% of GDP since 1955. Year-end indicators used to estimate annual charitable giving include:

S&P 500; personal income; corporate income; individual and corporate tax rates; and prior levels of giving. The Center on Philanthropy at Indiana University, *Briefing on the Economy and Charitable Giving* (December 2008) p. 2 <www.philanthropy.iupui.edu/Research/docs/December2008_BriefingOnTheEconomyAndGiving.pdf>. The Center notes that the average annual increase in charitable giving is 2.8% (adjusted for inflation), and outside of recessions the rate of increase has been 4.3% per year. *Id.* For a comprehensive treatment of the effects of the economy on charitable giving, see <www.alford.com/atf/cf/%7BA502C9D8-35EE-4926-B09E-492FE95313E3%7D/Giving%20USA%20Spotlight%202008%20-%20The%20Economy.pdf>.

G. POPULATION DATA. Population data is gathered by the Census Bureau, and figures prominently in evaluations of the solvency of the Social Security Trust Fund and the future cost of Medicare. <www.census.gov>.

Birth. The "fertility rate" is the number of children that would be born to a woman in her lifetime, at normal rates and assuming a full life. 2009 Social Security Trustees Report [2009 S.S. Report], p. 76 n.1. A fertility rate of 2.15% gives a constant population, ignoring immigration.

Death. Death rates have declined since 1900, at an average rate of decline of 1.07% per year. 2009 S.S. Report, p. 77. A declining death rate results in an increasing percentage of older people in the population. In 2006, heart disease and cancer were the first and second leading causes of death, together accounting for almost half of all deaths. <www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_14.pdf> p. 2.

Life Expectancy. The Center of Disease Control publishes information on life expectancy. Life expectancy reflects the average number of years of life that a person is expected to live if current death rates were to remain constant. Life expectancy at birth was 77.7 years in 2006, an all-time high. Broken down, white females have the highest life expectancy at birth (80.6 years), followed by black females (76.5 years), white males (75.7 years), and black males (69.7 years). <www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_14.pdf> p. 18. Average life expectancy at age 65 will be: for people born in 1950, 12.8 years for white males, 15.1 years for white females, 12.9 years for African-American men and 14.9 years for African-American women. For people born in 1960, the figures are white males 12.8 years, white females 15.8 years, for African-American males 12.7 years, and African-American females 15.1 years. <www.cdc.gov/nchs/data/hus/hus08.pdf#0 26>.

Baby Boomers. The "Baby Boom" refers to the period from 1946 to 1965 when the fertility rate (the average number of children born to a woman in her child-bearing years) for American women was above historical norms. Fertility troughed at 2.15 in 1936, during the Great Depression, and rose to a peak of 3.68 in 1957, when it started to decline again. There were an estimated 78.2 million baby boomers, as of July 1, 2005. The Baby Boomers constitute a large demographic bulge that will affect the economy in profound ways when they retire. According to the Census Bureau, the average annual expenditures on health care in 2004 for people ages 45 to 54 was $2,695. The Census Bureau suggests that baby boomers, when budgeting medical expenses, should expect increased health-care spending as they age; for instance, those age 55 to 64 spent $3,262 and those 65 and over, $3,899. At the present time, there are 3.3 workers for each Social Security beneficiary. The projected number of workers for each Social Security beneficiary in 2031, when all baby boomers will be over age 65, is 2.1. <www.census.gov/Press-Release/www/releases/archives/facts_for_features_special_editions/006105.html>.

Texas. Texas gained more people than any other state between July 1, 2007, and July 1, 2008

(484,000). <www.census.gov/Press-Release/www/releases/archives/population/013049.html>. Texas' rate of growth was third, behind Utah and Arizona. *Id.*

VII. STATE AND LOCAL GOVERNMENT ECONOMICS.

A. DIMINISHING REVENUES. "States are facing a great fiscal crisis," says an article at the Center on Budget and Policy Priorities website. <www.cbpp.org/cms/?fa=view&id=711>. The article continues:

> The states' fiscal problems are continuing into the next two years. At least 46 states have looked ahead and anticipate deficits for fiscal year 2010 and beyond. These gaps total $133 billion — 19 percent of budgets — for the 45 states that have estimated the size of these gaps and are likely to grow as gaps are re-estimated in the next few months.

Falling real estate prices reduce property tax revenues. Falling consumer purchases reduce sales tax revenues. Shrinking travel reduces hotel and rental car tax revenues. Rising unemployment reduces personal income tax revenues. Declining business profits and the closing of businesses reduces corporate income tax revenues. At the same time that state and local revenues are falling, the need for state-sponsored public programs is increasing, due to loss of jobs, income, and health insurance. The article continues:

> The vast majority of states cannot run a deficit or borrow to cover their operating expenditures. As a result, states have three primary actions they can take during a fiscal crisis: they can draw down available reserves, they can cut expenditures, or they can raise taxes. States already have begun drawing down reserves; the remaining reserves are not sufficient to allow states to weather a significant downturn or recession. The other alternatives — spending cuts and tax increases — can further slow a state's economy during a downturn and contribute to the further slowing of the national economy, as well.

B. REDUCING EXPENDITURES. In June of 2009, the National Association of State Budget Offices and the National Governors Association published a Fiscal Survey of States ["NASBO Fiscal Survey"] <www.nga.org/Files/pdf/FSS0906.PDF>. The Executive Summary begins:

> The 50 states are facing one of the worst fiscal periods in decades. Fiscal conditions deteriorated for nearly every state during fiscal year 2009, and weak fiscal conditions are expected to continue in fiscal 2010 and possibly into fiscal years 2011 and 2012.

The Survey indicates that states collectively allocated expenditures in their 2008 budgets in the following percentages: Elementary and secondary education, 20.9 percent; Medicaid, 20.7 percent; higher education, 10.3 percent; transportation, 8.1 percent; corrections, 3.4 percent; public assistance, 1.6 percent; and all other expenditures, 35.1 percent. *Id.* p. 1. As of June 2009, 42 states were forced to reduce their enacted fiscal 2009 budgets by a collective $31.6 billion.

State general fund expenditures were down -1.4% for 2008, in real (inflation-adjusted) terms. *Id.* pp. 6-7. They were down -4.6% for 2009, in real terms. For 2010, projected general fund expenditures will be down 2.5% from 2009 spending. State general fund expenditure increases were close to zero in 2003, but the last time the increases were negative was 1983. *Id.* pp. 6-7.

Many states have reduced spending, in public health programs, benefits for the elderly and disabled, education (K-12 and colleges and universities), and in the number of compensation for state employees. Sixteen states have raised taxes, and fifteen more are considering it. <www.cbpp.org/cms/index.cfm?fa=view&id=1214>.

The Survey notes that at the very time that state revenues are declining as a result of an weakened economy, pressure is increasing on states to increase expenditures on social programs and health care. *Id.* Executive Summary.

C. DECLINING PUBLIC WELFARE SPENDING. A May, 2009 article on the retrenchment of state and local welfare spending analyzed trends in public welfare spending. Gais (2009). Public spending falls into three categories: cash assistance; medical assistance; and social services. In fiscal 2006, medical assistance comprised 73% of total public welfare spending, while social services comprised 21%, and cash assistance was 6%. *Id.* p. 559. Of total welfare spending in 2006, 61% came from Federal sources and 39% from state-funded sources. *Id.* Public welfare spending dropped in 2006, the first decline since 1983. *Id.* Inflation-adjusted spending per poor person dropped by 3.1% from 2005 to 2006. *Id.* The long term trend is away from cash assistance and toward health and social services. *Id.* p. 563. Other important trends are declining federal assistance to states and growing differences in public welfare spending among states with different fiscal capacities. *Id.* p. 557.

D. SELLING ASSETS. In these hard times, some state and local governments are considering selling assets, or privatizing government responsibilities. California Governor Arnold Schwartzenegger in May 2009 suggested selling San Quentin State Prison, the Los Angeles Memorial Coliseum and the California State Fairgrounds, to raise money for the state's budget. In June, after learning that distress in the commercial real estate market would result in low prices, the Governor said that now is not the right time to sell such assets. In the past five years, the City of Chicago has sold the Chicago Skyway toll road ($1.83 billion), underground garages beneath Grant and Millennium Parks ($563 million), and city parking meters ($1.15 billion). In Texas, the North Texas Tollway Authority has contracted with a Spanish company, Cintra, to build a tollway in north Fort Worth, for $2 billion. The State of Texas will contribute $570 million, and Cintra will raise the rest through issuing a mixture of equity and debt. The North Texas Tollway Authority will operate the toll road, but the tolls will go to Cintra for 52 years, and Cintra will be obligated to maintain the roadway for 52 years. A similar contract is set to be signed with Cintra, to rebuild LBJ Freeway in Dallas, by adding six tolled lanes. It is not your tax dollars at work!

E. FEDERAL STIMULUS LAWS. The American Recovery and Reinvestment Act (ARRA) is the most recent comprehensive federal stimulus bill. The second largest category of funding is for state and local fiscal relief. <www.recovery.gov/?q=content/investments>. Under the ARRA, all states receive a temporary increase of 6.2% in their Federal contribution to Medicaid expenditures, with additional amounts for those states facing the highest unemployment rates. NASBO *Fiscal Survey* p. 8.

Texas is to receive $8.894 billion in federal funds under the ARRA. Of these funds, 29.4% will go to health and human services, 28.4% to education, 12.9% to transportation, and 7.7% to energy/ water/environment. <www.window.state.tx.us/recovery>.

F. THE 366 MICRO ECONOMIES. The Brookings Institution, a nonprofit public policy organization based in Washington, D.C., publishes what it calls the "MetroMonitor," which monitors the economic conditions of the nation's largest 100 metropolitan areas. Brookings says that America is a nation of 366 different economies, each one with different conditions. Unemployment in March 2009 ranged from a low of 5.1% in Provo, Utah to a high of 17.5% in Modesto, California. McAllen, Texas is the only metropolitan area that saw growth in both employment and output in the first quarter of 2009. In Texas, employment also rose in Austin. Areas dependent on auto manufacturing declined greatly, while other types of manufacturing

declined slightly. There are two Sun Belts: Florida, Arizona, Nevada and inland California have suffered severe declines in employment, output, and home values, while New Mexico, Texas, Oklahoma, Arkansas, and Louisiana have (until recently) had fewer job losses, large wage gains, and modest house price increases. The two great banking centers, Charlotte and New York, have had different experiences: Charlotte has suffered deep unemployment while New York's unemployment rate was less than the national average. Austin, Dallas, Houston, and San Antonio were in the top 20 metropolitan areas in terms of economic performance. See <www.brookings.edu/~/media/Files/rc/reports/2009/06_metro_monitor/06_metromonitor.pdf>.

G. TEXAS. Texas has the twelfth largest economy in the world. The State of Texas publishes economic indicators for the state at <www.texasahead.org/economy/tracking>. Texas is faring better than the U.S. economy in the current economic downturn. According to State Comptroller Susan Combs, in fiscal 2008 Texas' gross product expanded more than twice as fast as the nation's. <www.texasahead.org/economy/outlook.html> (accessed 6-7-09). Ms. Combs estimated that the Texas gross state product will expand by 1.8% throughout fiscal 2009 while the U.S. economy is expected to shrink by 0.9% over the fiscal year. *Id.* In April 2009, nationwide unemployment was 9.4%, versus 6.7% in Texas. The national consumer price index in April 2009 was 213.2, versus 195.1 in Texas. The April 2009 year-on-year number of mortgage foreclosures for the U.S. was up 40.6% while it Texas it was down -0.8%.

The FDIC publishes economic data for Texas at <www.fdic.gov/bank/analytical/stateprofile/Dallas/tx/TX.pdf>. Among other things, the Dallas bank publishes a Texas Index of Leading Indicators. <www.dallasfed.org/data/data/leadi.htm>. In April 2009, the Index was 101.7, down from the most recent peak of 128.2 in October of 2007. The last time the Index was this low was October-November 1988.

According to the Tax Foundation, during the past three decades Texas' state and local tax burden has been consistently below the national average. While the national average of state taxes is equivalent to 9.7% of income, Texas's state and local tax burden is estimated to be 8.4% of income, which ranks Texas 43rd highest nationally. This translates to $3,580 per capita in state and local taxes. <www.taxfoundation.org/research/topic/60.html>. Texas' fiscal problems are too numerous to discuss, but among other problems state highway department projects it will run out of money to build new roads in 2012.

H. TEXAS CITIES. Texas has more than 1,200 cities. These cities fund their operations from several sources. On average, about 35 percent of city funding comes from property taxes, and about 30 percent from sales taxes. The remainder is earned through utility revenues, user fees, federal grants, hotel and motel taxes, etc. <www.window.state.tx.us/comptrol/checkup/cities.php>.

VIII. THE MIDDLE CLASS. "Middle Class" is a socioeconomic term for the group in society between the lower class and the upper class. One proposed measure for middle class is based on income of two to six times the Federal Poverty Guideline ($40,000-$120,000 for a family of four). Over 90% of Americans polled in one poll saw themselves as belonging to the Middle Class. The Middle Class doesn't fit neatly into Karl Marx's notion of classes, which was based on relationship to the means of production (landowners, owners of capital, and laborers). Many workers today are capitalists by virtue of their IRAs and 401ks.

Some say that middle class America is losing ground economically. Some studies suggest that large number of middle class families are in danger of dropping out of the middle class. You can get a different perspective on the economy by

looking at the economics of the family, as opposed to the economy as a whole. The Institute on Assets and Social Policy, part of the Heller School for Social Policy and Management at Brandeis University, in Waltham, Massachusetts, has been studying American middle class households, in conjunction with Demos, a non-partisan public policy research and advocacy organization located in New York City. They have developed a measure of financial vulnerability for middle class families that they call the "Middle Class Economic Security Index." See Wheary, Shapiro, and Draut, *By a Thread – The New Experience of America's Middle Class* (2007) <http://www.demos.org/ pubs/BaT112807.pdf>.

The difficult condition of some middle-class families has been most successfully brought into focus by a Harvard bankruptcy professor Elizabeth Warren, whose book, THE TWO-INCOME TRAP: WHY THE MIDDLE CLASS MOTHERS AND FATHERS ARE GOING BROKE (2003), co-authored with her daughter, has gained wide attention. Professor Warren was selected by Congress to chair the Congressional Oversight Panel, which is tasked to monitor the Executive Department's expenditure of funds under the TARP program, a massive vehicle for the bailout of financial interests and large-scale manufacturing companies. Professor Warren's perspective is derived from her study of families who seek relief from their debts in bankruptcy. See Professor Warren's speech on "The Coming Collapse of the Middle Class" at <www.youtube.com/watch ?v=akVL7QY0S8A>, and in her article *The Growing Threat to Middle Class Families*. Warren (2003).

Based on data gathered in Consumer Bankruptcy Projects I (1981) and II (1991), Professor Warren has concluded that the families in the worst financial trouble are not the young, or the old, or the profligate spenders. Instead they are families with children. Warren (April 2003) p. 2. The Bankruptcy projects have shown that married couples with children are more than twice as likely to file for bankruptcy as their childless counterparts. *Id.* p. 2. Divorced mothers with children are nearly three times more likely to file for bankruptcy than unmarried women with no children. *Id* . p. 4 n.6. Comparing 1998 and 2002, the number of automobile repossessions doubled from 1.2 million to 2.5 million. *Id.* p. 4 n. 8. Comparing 1979 to 2002, the number of homes in foreclosure more than tripled, from 0.31% to 1.1%. *Id.* p. 4 n. 9. The percent of home foreclosures is certain to have climbed since the collapse of housing prices since 2007.

Despite increasing levels of college education, the emergence of two-worker families, and the improved earning capacity of women (since 1973 median earnings for men have risen 1%, while median earnings for women have risen 30%), *Id.* p. 11 n. 26, 1.5 million families file for bankruptcy each year. *Id.* p. 13. Three principal reasons have emerged for these financial failures: job loss, medical problems, and family breakup. *Id.* pp. 13-14. A 1998 study found that the odds of losing a job have increased by 28% since the 1970s. *Id.* pp. 15-16. Having two working adults in a family has increased the income and lifestyle of families, but it has doubled the risk that a job loss will jeopardize family finances. *Id.* p. 17. By 2000, two-income families were more likely to file for divorce than their one-worker counterparts. *Id.* p. 18. As for medical problems, over the past 20 years the number of families who filed bankruptcy due to medical bills has multiplied twenty fold (more than 2,000%). *Id.* p. 20. This is partially due to loss of medical insurance, and partly due to the portion of medical costs that are not covered by existing insurance, and partly due to a lack of long-term disability insurance. *Id.* p. 21. As for divorce, when intact families are barely getting by financially, making one household into two will bring financial distress. Two-worker families are 40% more likely to divorce than one-worker families. *Id.* p. 25. These three factors can have a compounding effect. A job loss can lead to loss of health insurance, and deteriorating finances increase the

chances of divorce. *Id.* p. 28. See also Warren, *The Middle Class on the Precipice – Rising Financial Risks for American Families*, Harvard Magazine (Jan. 2006) <http://harvard magazine.com/2006/01/the-middle-class-on-the/html>.

Yale University political science professor Jacob Hacker testified to the House Committee on Education and Labor on January 31, 2007. Hacker (2007). Professor Hacker explained that thesis of his 2006 book THE GREAT RISK SHIFT, which described a "massive transfer of economic risk from broad structures of insurance, whether sponsored by the corporate sector or by government, onto the fragile balance sheets of American families." Hacker (2007) p. 1. He noted that private employment based health plans and pensions have been transformed to shift more risk "onto workers' shoulders." *Id.* p. 1. While noting a greater inequality of family incomes, he emphasized instead the *instability* of family incomes, or "how far people slip down the ladder when they lose their financial footing." *Id.* p. 2. Comparing a study done in the 1970s and another done in the 1990s, he found that about half of the families in each study experienced a drop in real income. But the median drop in income in the 1970s was 25% of prior income, while in the late 1990s the median drop in income was 40%. The probability of experiencing a 50% or greater drop in family income rose from 7% in 1970 to over 16% in 2002. *Id.* p. 3. Professor Hacker noted that the U.S. spends a smaller percent of GDP on government benefits than do other "rich capitalist economies," but after factoring in tax-incentive-based private workplace benefits, such as healthcare and pensions, the U.S. "framework of economic securities" is slightly larger than those other countries. *Id.* p. 4. However, Professor Hacker noted that America's "unique employment-based system is coming undone." *Id.* p. 4. Health insurance coverage has shrunk from 80% in the 1970s to less than 70%. *Id.* p. 5. What policies cover is narrowing. One out of six working-age adults carry medical debt, and 70% had medical insurance when the healthcare cost was incurred. *Id.* p. 5. In 1982, 83% of medium and large firms provided defined benefit retirement plans (DBP); the number has shrunk to less than a third. *Id.* p. 5. Today half the workforce has no pension benefits, and the half that does is mostly defined contribution plans (DCP). *Id.* p. 5. See Section X.A & B. Hacker cites the Center for Retirement Research at Boston College for the statistic that the share of working-age households at risk of being financially unprepared for retirement at age 65 has gone from 31% in 1983 to 43% in 2004. *Id.* p. 6. The same Center found younger Americans to be at greater risk: for those born from the mid-1960s through the early 1970s, the risk of being financially unprepared for retirement is close to 50%. *Id.* p. 6. Professor Hacker noted the rise in personal bankruptcies, increased home foreclosures, the decline in personal savings, and the increase in levels of debt. *Id.* pp. 7-8.

Economist Stephen Rose has a different perspective. He says that the U.S. economy has risen steadily since World War II at 2.1% per year, for a 240% gain (measured in 2007 dollars). Rose (Jan. 2008) p. 4. In 1948, GDP (see Section VI.A.1) per person was $13,300 (in 2007 dollars) compared to $45,000 in 2007. *Id.* p. 4. Dr. Rose attributes this increased wealth to technological change and increased education (i.e., increased productivity). *Id.* p. 4. He notes that real (inflation- adjusted) GDP per person has grown by 66% since 1979. Using GDP as a measure (which includes employee benefits, a factor excluded by the Census Bureau calculations), he finds that median household incomes rose 33% between 1976 and 2005. *Id.* p. 9. As to distribution of income, Dr. Rose compared 1979 to 2006 and found shrinkage in the number of people in each income class except one: the poor (less than $30,000 per year) shrank - 0.6%; the middle and lower middle class ($30-75,000 per year) shrank - 13.1%; the upper-middle class ($75-100,000 per year) shrank - 0.7%; and the upper-middle and well-off (more than $100,000 per year) rose by

14.4%. *Id.* p. 14. Citing the 2004 Survey of Consumer Finance (SCF) (see Section VII.D), Dr. Rose noted that 54% of households had no credit card debt, and that for households with such debt the median debt was $2,150, with 7.7% of total households having credit card debt above $9,300, and 30% of all households having credit card debt under $1,000. Dr. Rose said that the often-used figure of $9,300 in household credit card debt is drawn from Federal Reserve Board numbers of daily credit card balances, which includes the "float" of charges that will be paid off in one billing cycle, where as the SCF numbers are based on the credit card balance after payment of the last bill. *Id.* p. 18. Dr. Rose also cautions against comparing the rate of increase in debt to the rate of increase in income. The better comparison is debt to assets or debt payments to incomes. *Id.* p. 19. From 1989 through 2004, assets grew faster than debts, and median net worth increased 35%. *Id.* p. 19. For those aged 55 to 64 years, net worth grew 73%. *Id.* p. 20. Debt breaks down into 79% for mortgage debt, 12% for goods and services, and 3% for student loans. Up until the drop in real estate values starting in 2007, the mortgage debt was offset by the wealth of the home. *Id.* p. 20. This will have to be recalculated in the 2010 SCF, to bring the picture up-to-date. Dr. Rose says that even with a 20% drop in housing prices, the net worth of 55 to 64 year olds would be up 45% from 1989. *Id.* p. 20. In 2004, the median household debt from all sources, including mortgages, was $22,000. This number is so low because 30% of households own no home, while 25% of homeowners owe no mortgage. *Id.* p. 20. Dr. Rose also notes that some persons have estimated the present value of Social Security payments that is $250,000 for the median worker. *Id.* p. 21. As to private pensions, Dr. Rose notes that under the DBP framework, many employees did not work long enough at one employer to receive generous benefits. Some 80% of the benefits went to 20% of the workers. *Id.* p. 22. Dr. Rose cites one University of Michigan study that concluded that people are better off with DCPs than if everyone worked for a company with DBPs. *Id.* p. 22. As to an oncoming waive of bankruptcies from the current economic downturn, Dr. Rose notes that the 2004 SCF showed that only 11% of 50 year-olds had ever filed for bankruptcy. So a large percentage increase in filings is still a small number. *Id.* p. 23. Dr. Rose concludes that "the real losers in the last several decades have been the bottom twenty percent of the population." *Id.* p. 35.

IX. HEALTHCARE COVERAGE AND COST. Healthcare-related spending in the United States has grown rapidly in recent decades. Health care spending rose from $27.5 billion in 1960 to $912.6 billion in 1993, increasing at an average rate of 11.2% annually. This rate of increase boosted health care's share of the overall economy from 5.2% of GDP to 13.7% of GDP. From 1993 to 1999, health spending rose at a slower average annual rate of 5.6%. Between 1999 and 2002, the growth rate increased to an average of 8.2% per year, which raised the share of GDP devoted to health care from 13.7% to 15.3%. From 2003 to 2006, health care spending increased at an average annual rate of 7%, while its share of GDP increased from 15.8% to 16.0%. The U.S. Department of Health and Human Services projects that, from 2006 through 2017, health care spending will grow at an average annual rate of 6.7%,which is roughly 1.9 percentage points faster than the expected rate of growth in GDP. As a percentage of GDP, national health care spending is expected to increase from 16% in 2006 to 19.5% in 2017. *Brief Summaries of Medicare & Medicaid (as of November 1, 2008)* p. 4 <http://www.cms.hhs.gov/MedicareProgramRatesStats/Downloads/MedicareMedicaidSummaries2008.pdf>.

In 2006, the average per capita expenditure on health was $7,026. See *Health, United States* (2008).

A. WHO PAYS WHAT? Health care in America is funded through a variety of private payers and public programs, including private

health care insurance, Medicare, Medicaid, State Children's Health Insurance Program,The Department of Defense, the Department of Veterans' Affairs, etc. *Brief Summaries* p. 4. In 2006, Medicare, Medicaid, and SCHIP financed slightly more than one-third of the country's total health care expenditures. In 2006, national health care expenditures were paid 34.4% by private health insurance, 19.1% by Medicare, and 14.8% by Medicaid. *2008 Actuarial Report on the Financial Outlook for Medicaid* (Oct. 17, 2008) <www.cms.hhs.gov/ActuarialStudies/downloads/MedicaidReport2008.pdf>. Medicaid covers more people than Medicare: in FY 2007, Medicaid covered an average of 49.1 million persons, while Medicare covered an average of 44.1 million persons. *Id.* p. 21.

B. EMPLOYER-BASED HEALTH INSURANCE. The major source of health insurance for American not covered by a Federal program 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 than coverage that is offered through a job-related group plan. An excellent source of information regarding private health insurance is the Henry J. Kaiser Family Foundation, Employee Health Benefits: Annual Survey; the most recent is for 2008 <http://ehbs.kff.org/pdf/7790.pdf> ["*2008 Kaiser Survey*"]. The Survey found that the average cost of premiums for single person coverage in 2008 was $392 per month (or $4,704 per year), while the average cost of premiums for family coverage was $1,057 per month (or $12,680 per year). *Id.* p. 20. The 2008 premium represented a 5% increase over 2007, a 27% increase since 2004, and a 119% increase since 1999. *Id.* p. 21. Many employers have moved part of the cost of health insurance to the employee, called "cost sharing," which takes the form of premium contributions, payment of a general annual deductible, copayments (in a fixed dollar amount), and/or coinsurance (a percentage of the charge for the service). *Id.* p. 92.

From 2000 to 2007, the proportion of working-age Americans covered by employer-based health insurance fell from 66% to 61%. Much of this decline stemming from small business: the percentage of small businesses offering coverage dropped from 68% to 59%, while large firms held stable at 99%. <www.healthreform.gov/reports/helpbottomline>. In one national survey, nearly three-quarters of small businesses that did not offer benefits cited high premiums as the cause. *Id.*

Under the Internal Revenue Code, employers can pay for and deduct health insurance premiums to employees without the employees having to pay tax on this form of compensation. This has caused health care coverage to be associated with employment. Losing a job or being unemployed for most families means no health insurance coverage. This job-related paradigm for health insurance needs to be changed, so that changing jobs or losing a job does not deprive workers and their families of health insurance coverage.

C. RETIREE MEDICAL BENEFIT PLANS. According to the 2008 Kaiser Family Foundation Study, 32% of large firms (200 or more workers) that offer health benefits to their employees offered retiree coverage in 2008, down from 33% in 2007 and down from 66% in 1988. *2008 Kaiser Survey* p. 62. Medical benefit retirement plans are distressed. They are not governed by ERISA, have no uniform vesting rules, and employers are not required to pre-fund these benefits. Therefore the promises are vulnerable to cancellation. Keating (2007) p. 446. A case-in-point is General Motors. In 2007, GM was faced with $54 billion in future health care costs obligation for retirees. In negotiations with the UAW, GM established the Voluntary Employment Beneficiary Association (VEBA trust), and agreed to fund it at about 60 cents on the dollar. About $14 billion of assets in an existing health care fund were transferred to VEBA, with a promise that GM would make periodic cash contributions to complete the funding. GM is now in bankruptcy, and the status

of VEBA is now part of the bankruptcy process. The details are at <www.uaw.org>.

D. GOVERNMENT EMPLOYEE MEDICAL PLANS. Government employees have reason to be concerned about their medical benefits. The Government Accounting Standards Board has issued a requirement for certain governmental agencies to disclose their retiree medical benefit obligations. These disclosures may reflect untenable obligations, with the possible effect of raising the public employers' bond ratings, raising the cost of borrowing. Keating (2007) p. 448. In response, these agencies may scale back coverage or implement greater cost sharing.

E. MEDICARE. The Medicare program was established during President Johnson's tenure by the 1965 Social Security Act. As originally enacted, Medicare covered most persons age 65 and older. Statutory amendments in 1973 and 2001 expanded coverage to include persons entitled to Social Security or Railroad Retirement disability payments for two years, persons with end stage renal disease, persons with Lou Gehrig's disease, etc. *Brief Summaries* p. 6. In 2008, Medicare covered 45.2 million people: 37.8 million who were age 65 and older, and 7.4 million who were disabled. *2009 Social Security Trustees' Report* p. 2 <www.cms.hhs.gov/Reports TrustFunds/downloads/tr2009.pdf>.

Medicare has four plans, called Parts A, B, C and D.

Part A, also called Hospital Insurance (HI), is provided automatically, free of premiums, to persons age 65 or older who are eligible for Social Security or Railroad Retirement benefits. Some ineligible people can voluntarily pay a monthly premium to get Part A coverage. Part A pays for inpatient hospital care, skilled nursing facility care, some home health agency care, and hospice care. *Id.* Pp. 7-8. Part A is paid for out of the HI Fund. The HI trust is funded by a 2.9% payroll tax, half paid by the employer and half paid by the employee. This tax is levied on all wages and self-employment income without limit.

Part B helps pay for physician, outpatient hospital, home health, and other services, subject to a deductible and coinsurance requirements. To be covered by Part B, an eligible person must pay a monthly premium (in 2009, it varies between zero and $211.90 per month, depending on taxable income). The premium is set at 25% of the average expenditures for aged beneficiaries, so the bulk of Part B must be funded out of the United States government's annual budget.

Part C is an alternative to the pay-for-service approach of Parts A and B. You can elect Medicare Advantage coverage, which then pays for HMO or PPO coverage under approved plans.

Part D provides partial-subsidization of prescription drug costs. This coverage is available to individuals entitled to Part A coverage or enrolled in Part B. There are premium and cost-sharing subsidies for low-income enrollees. Part D is funded from the general fund of the U.S. Treasury, and to a small extent by beneficiary premiums and payments from the States whose Medicaid recipients receive coverage under Part D.

At the outset in 1965, 19 million people enrolled in the Medicare program. In 2008, almost 45 million people are enrolled in one or both of Parts A and B, and over 9 million of those have chosen to participate in a Medicare Advantage plan.

The Hospital Insurance (HI) Trust Fund pays for Part A in-patient hospital and related care. As noted above, the HI trust is funded by a 2.9% payroll tax, half paid by the employer and half paid by the employee. According to the May 12, 2009 Trustee's Report, the HI Fund will become insolvent in eight years (2017). This projected insolvency of the HI Fund will have to be handled no later than 2017 by (i) reducing Part A benefits,

(ii) increasing the Medicare payroll taxes or (iii) appropriating more of the federal budget to HI. Failing that, Medicare Part A will convert to a pay-as-you-go system based on Medicare Tax, at a greatly reduced level.

The Supplemental Medical Insurance (SMI) Trust Fund pays for Part B and Part D. The SMI obligation is funded 79% 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. Parts B and the SMI Part D (prescription drugs) programs are not pre-funded, and draw on the federal budget and a small amount of premiums each year. The Trustees suggest that "[s]uch financing, however, would have to increase rapidly to match expected expenditure growth under current law." *Id.* p. 4. This presents a problem, considering the large government deficits which must be funded through bond sales and the eventual 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.

The cost of Part B is projected to grow on average roughly 8.5 to 9.0% per year, for the next five years (if Congress continues to override prescribed fee reductions for doctors). For Part D, the average annual increase in expenditures is estimated to be 11.1% through 2018. *Trustees Report* p. 2.

The 2009 Trustee's Report, p. 4, sums up the solvency of Medicare in this way:

> HI tax income and other dedicated revenues are expected to fall short of HI expenditures in all future years. The HI trust fund does not meet our short-range test of financial adequacy, and fund assets are projected to be exhausted in 2017. In the long range, projected expenditures and scheduled tax income are substantially out of balance, and the trust fund does not meet our test of long-range close actuarial balance.

F. MEDICAID. Enacted with the 1965 Social Security Act, Medicaid is a joint Federal-State program that provides health care assistance to low-income people. It is one of the largest payers for health care in the United States. *2008 Actuarial Report on the Financial Outlook for Medicaid* (Oct. 17, 2008) ["2008 Actuarial Report"]. Participation by states is voluntary, but all states have chosen to participate in the program. The Federal government establishes requirements for each State's Medicaid program, and each State administers its own program, determining the eligibility, deciding which health services to cover, setting provider reimbursement rates, paying for a portion of the total program, and processing claims.

In 2007, Medicaid expenditures were 7% of the Federal budget, and 21% of state government spending. Medicaid has been the largest category of state spending since 2003, although after excluding Federal reimbursements Medicaid is second after elementary and secondary education. *Id.* p. 23. In FY 2007, the Federal government and the States together spent $333.2 billion for Medicaid, of which the Federal government paid 57% percent and States paid 43%. 2008 *Actuarial Report* p. 9. From 1994 through 1999, Medicaid experienced slow growth averaging 6.2% per year. *Id.* p. 13. The Actuarial Report attributes this to strong economic growth, welfare reform, and lower increases in health care costs attributable to the development of managed health care. *Id.* From 2005 through 2006, Medicaid grew at 8.9% per year. The Actuarial Report projects that Medicaid will grow at an average annual rate of 7.9%, over the next 10 years (2008-2017), faster than the 4.8% annual growth rate projected for GDP. *Id.* pp. 15 & 25. The increased rate of growth is partly attributable to an expected increase in the number

of aged and disabled individuals. The Actuarial Report projects that the Federal government will continue to pay 57% of the expense. If these projections hold, Medicare will assume a steadily increasing portion of both Federal and State budgets. *Id.* p. 25.

Since Medicaid does not have a trust-based fund, it cannot be said to be insolvent. However, the ability of the Federal government and states to afford the cost of providing Medicaid coverage will pressure both levels of government to scale back Medicaid coverage. President Obama's healthcare initiative has prompted bills in Congress attempting to raise Medicaid up to 133% or 150% of the poverty line. Both governors and U.S. senators say the states cannot afford this, so mandating that states pay more to extend healthcare coverage is facing political difficulties.

G. SCHIP. State Children's Health Insurance Program is a healthcare program that provides health insurance for children. When Medicare and SCHIPs are combined, coverage is offered for children in families up to 200% of the poverty line.

H. THE UNINSURED. Most elderly Americans have coverage through Medicare. Over 60% of non-elderly Americans receive health coverage through employer-sponsored plans. However, many persons are unemployed, and some workers and their families are uninsured, either because their employer does not offer coverage or the workers cannot afford the cost of coverage. Medicaid and the State Children's Health Insurance Program (SCHIP) provides coverage for indigents. Still, it is estimated that 46 million Americans have no health care coverage. The USA spends a higher percent of its annual budget on health care than any other country, and yet these other countries provide medical coverage to all of their citizens. <www.nchc.org/ facts/cost. shtml>.

I. FAILURE TO PREVENT DISEASE. In January 2008, a group in London published a study of deaths from certain causes (treatable cancers, diabetes, and cardio-vascular disease) before age 75 that are potentially preventable with timely and effective health care. Ellen Nolte, and C. Martin McKee *Measuring the Health of Nations: Up-dating an Earlier Analysis*, Health Affairs (Jan./Feb. 2008). Using World Health Organization data, they found that, between 1997–98 and 2002–03, this type of avoidable mortality fell by an average of 16% in all countries except the U.S., where the mortality rate fell only 4%. By 2003, the United States was dead last out of 19 countries in terms of its rate of deaths from these preventable causes. <www.commonwealthfund.org/~/media/Files/Publications/In%20the%20Literature/2008/Jan/Measuring%20the%20Health%20of%20Nations%20%20Updating%20an%20Earlier%20Analysis/1090_Nolte_measuring_hlt_of_nations_HA_01%202008_ITL%20web%20%20pdf.pdf>.

J. FUTURE DEMOGRAPHICS. In America, the ratio of workers to elderly persons is expected to drop from 4.1 in 2005 to 2.9 in 2010. This rise in elderly is expected to have the effect, especially between 2010 and 2030, of slowing economic growth and increasing the cost of age-related programs, including health care coverage. This demographic trend will affect the viability of both employer and government-provided health care coverage.

Lifestyle choices are also bad news for future health care costs. In March of 2008, then-Deputy HHS Secretary Tevi Troy said that "preventable chronic diseases cause seven in 10 deaths and consume three out of four dollars spent on healthcare." <www.pd-go.com/files/upload-20653.pdf>. According to the Centers for Disease Control and Prevention, in 2005-2006 more than one-third of U.S. adults--over 72 million people--were obese (body mass index of 30+). This included 33.3 percent of men and 35.3 percent of women. Adults aged 40-59 had the highest obesity prevalence, and there were

racial/cultural difference, as well. <www.cdc.gov/nchs/pressroom/07newsreleases/obesity.htm>.

X. OLD AGE AND RETIREMENT. The golden years of retirement are based on the "three-legged stool" of employer-sponsored retirement benefits, Social Security benefits, and savings. All three legs are wobbly, and there are indications that many older Americans will have to retire later, reduce their post-retirement lifestyles, and perhaps work at less desirable jobs after retirement. Pensions provide 18% of the aggregate income for people age 65 and older; asset income provides 15%; Social Security provides 37%; and earnings provide 28%. Orszag (Oct. 7, 2008).

A. DEFINED BENEFIT RETIREMENT PLANS (PRIVATE). A defined benefit pension plan (DBP) is a retirement plan that uses a specific predetermined formula to calculate the amount of an employee's future benefit. The formula usually involves the number of years of credited service (similar to, but not always identical to, the number of years worked) multiplied by average final salary (such as, for example, the average of the annual salaries for the highest three out of the last ten years of employment). In private industry, DBPs are typically ERISA-qualified plans that are funded exclusively by employer contributions. DBPs for government employees often require employee contributions. From a policy perspective, an important feature of DBPs is that the employer bears the risk of meeting the employee's retirement needs if the plan's investment history will not support the required retirement payments. Keating (2007) p. 440.

The biggest news in recent years about DBPs is (i) the reduction in prevalence of DBPs compared to the growing use of defined contribution plans; and (ii) the serious under-funding of DBPs for private company employees. While DBPs used to be considered one of the three legs of the retirement stool, many employers have frozen or terminated their DBPs. A good overview of the DBP situation is *The Coverage of Employer-Provided Pensions: Partial and Uncertain* (Oct. 2008) by the AARP Public Policy Institute <http://assets.aarp.org/rgcenter/econ/d19108_pensions.pdf>.

DBPs–An Endangered Species. DBPs in America are primarily a product of the post-WWII economy, where stable companies, encouraged by tax policy, offered pension benefits as an inducement for employees to spend their entire career working for one employer. Befort (2007) p. 947. In 1979, half of all private-sector workers were covered by a pension. Befort (2007) p. 947. DBPs were particularly prevalent in heavy industries, like mining, manufacturing, and transportation, where laborers were unionized. By 2007, the percentage of private sector employees covered by a DBP had shrunk to 17%. Keating (2007) p. 445. Some companies have closed existing DBPs to new employees, while others have frozen further contributions to their DBPs or converted them to cash balance plans (which requires Texas to rethink its *Taggart* and *Berry* formula approaches to characterizing DBPs). An important factor contributing to the decline of DBPs is the need for companies to eliminate the risk associated with guaranteeing a stream of payments over time, because the company must transfer assets from the company to the DBP sufficient to make up for any shortfalls in investment caused by fluctuations in the stock market or changes in interest rates. By establishing defined contribution plans, the employer can transfer this risk to the employee.

Many DBPs are in older industries, where workers were represented by labor unions, and where a substantial number of covered employees have retired. In 2006, GM had four retirees per active worker, while Ford had two retirees per active worker. Keating (2007) pp. 462-463. As DBPs tilt toward fewer workers supporting more retirees, there is pressure on employers to apply profits to retirees and not current employees. The interests of current workers in present income can be pitted against the interests of retirees. Retirees typically

have no vote in labor contracts. Keating (2007) pp. 438-439.

Failed Plans. A number of corporate bankruptcies have resulted in underfunded DBPs being offloaded to the Pension Benefit Guarantee Corporation (PGBC). These bankruptcies include airlines, which account for 38% of the PBGC's deficit (Braniff, Eastern, Pan American, Trans World Airlines, United Airlines, US Airways, Aloha Airlines, Delta Airlines), financial (Lehman Brothers), and manufacturing (Allis-Chalmers, Bethlehem Steel, LTV, Steel, National Steel Corporation, Kaiser Aluminum).

The mechanics of a plan sponsor's bankruptcy on a DBP is discussed in Rosenberg (2006).

When the PBGC takes over a DBP, it will not fully replace the retirement income of higher-paid retirees. Instead, payments are capped at the maximum benefit guarantee for the year in which the plan is terminated. For plans terminating in 2009, the maximum benefit guarantee is $4,500 a month, or $54,000 a year, for a single life annuity beginning at age 65. <http://pbgc.gov/workers-retirees/benefits-information/content/page789.html>.

DBPs–Underfunding. For a DBP, the risk of underperforming investments is born by the sponsor of the plan, not the employee. Therefore a DBP is supposed to represent a more reliable source of retirement money than a defined contribution plan or personal savings. However, many DBPs are in financial difficulty, and their sponsoring employers likewise are suffering, so that the actuarial soundness of some DBPs is in jeopardy. The actuarial soundness of a DBP is determined by comparing the current value of the plan's assets to its projected benefit obligation. Standard & Poor's (1998) p. 100. Standard & Poor's April 22, 2009, *The Outlook* newsletter, contained an article on the financial condition of DBPs in the S&P 500 companies. According to the author, the market downturn that started in October 2007 has greatly reduced the value of assets needed to cover the present value of future obligations of these plans. Standard & Poor's found that 60% of companies in the S&P 500 Index had underfunded DBPs at the end of the most recent fiscal years for which data was available. ExxonMobile Corporation's (XOM) DBP was underfunded by $15 billion. However, XOM has $31.4 billion in cash and $9.4 billion in debt, so the article says the money is there to fund the plan. The article listed the following DBPs as being troubled: CBS Corp., Eastman Kodak Co., General Motors Corp., Hershey Co., Kraft Foods Inc., News Corp., Southwestern Energy Co., Time Warner Inc., and Time Warner Cable Inc. The Director of the Congressional Budget Office (CBO) testified to a Congressional committee in October of 2008 that the value of assets in DBPs declined 15% in the twelve months ending October 2008. This decline was partially offset by increased interest rates, which increased the discount rate used by actuaries to calculate the present value of pension obligations, which therefore declined. Orszag (Oct. 7, 2008). Standard & Poor's estimates that for each percentage point increase or decrease in the discount rate, the degree of funding or underfunding moves by 10% to 15%. Standard & Poor's (1998) p. 100. However, bond yields have fallen since the Director testified, driving plans further into actuarial insolvency. Mercer, a wholly-owned subsidiary of Marsh & McLennan Companies, keeps track of the total combined funded status of DBPs operated by S&P 1500 companies on a monthly basis. The ratio of assets to liabilities, which was 104% at the end of 2007, stood at 75% at the end of 2008. The aggregate deficit for DBPs was $409 billion. This shortfall must be reflected on corporate financial statements as a debt-like component, which reduces net worth and will adversely affect capital expenditures, loan covenants, and corporate credit ratings. And if funding falls below 80%, the plan sponsor must provide additional funding, restrict benefits, or freeze the plan. Mercer projects that pension expense will go from $10 billion in 2008

to $70 billion in 2009. <www.mercer.com/summary.htm?siteLanguage=100&idContent=1332250>. Under a process called "smoothing," companies can average fluctuations in value and in the discount rate over several years to avoid wide swings. However, even though DBP underfunding will improve if stock prices climb again, even at the high in October 2007, DBPs were only 107% overfunded, compared to being 25% underfunded now. Although interest rates will certainly rise at some point, thus reducing the present value of future payouts, underfunding will continue to be a concern in the future for many plans. And the drag on corporate profits will prompt companies to freeze or terminate their DBPs.

In 1974, in adopting ERISA, the U.S. Congress created the Pension Benefit Guarantee Corporation (PBGC), to serve as an insurer of DBPs. The PBGC capitalizes its insurance fund by assessments on DBPs operating in the United States. There have been some spectacular failures of DBPs in the past (for example Bethlehem Steel in 2002), and in these instances the PBGC covered only part of the defaulted pension obligations. The PBGC is presently insolvent (See Section IV.E.4) and, until the insolvency is corrected, PBGC's ability to fund its guarantees must be considered suspect. While some may expect the U.S. government to bail out the PBGC, there may be political resistance to this preferential use of government funds for a select group of citizens while so many other Americans have no retirement benefits, and questions arise as to the ability of the U.S. government to fund all the bailouts it has undertaken and may in the future undertake.

B. DEFINED CONTRIBUTION PLANS. A defined contribution plan (DCP) is a retirement plan in which the amount of the employer's annual contribution is specified. Individual accounts are set up for participants and benefits are based on the amounts credited to these accounts (through employer contributions and, if applicable, employee contributions) plus any investment earnings on the money in the account. In a DCP, future benefits are not guaranteed by the employer. This is an important distinction from DBPs, where the investment performance risk is shouldered by the employer, backed up by the PBGC. Participation in many DCPs is voluntary on the part of the employee. In DCPs, future benefits are determined by (i) contributions, (ii) investment earnings, and (iii) the retirement-age values of the investments in the plan. The most common type of defined contribution plan is a savings and thrift plan. Under this type of plan, the employee contributes a predetermined portion of his or her earnings (usually pretax) to an individual account, all or part of which is matched by the employer." DCPs are generally ERISA-qualified 401k plans. There are three big problems with DCPs as retirement security: (i) under-participation by employees; (ii) inadequate funding to meet retirement needs; and (iii) non-optimal investment decisions.

Under-Participation. In contrast of DBPs, where employee participation is mandatory, participation in a DCP is voluntary. Congress is presently looking at a possible way to boost participation in DCPs such as mandating automatic inclusion in a company's DCP, subject to "opting out," but no law has been passed. Another problem with DCPs is withdrawal of funds before retirement, which can occur at the time the employee changes jobs or in order to meet certain financial needs.

Failure to Diversify. In most DCPs, the employee is free to direct the investment of some or all of that assets held in his/her account. Employees often do not manage the investments in their DCP account, in which case the default investment allocations put in place when the account is established continue. Employees whose funds are in cash or CDs generally lose value each year against inflation. Employees who are invested entirely in stocks are at risk of a stock market downturn at the time investment funds are withdrawn. And plan participants who do actively

invest will put their money in individual stocks rather than a well-diversified portfolio, thereby assuming greater risk without greater reward. A better choice would be index funds that mimic a broad stock market index like the S&P 500. Another problem exists where the DCP assets are invested in the employer's stock. This can happen when the employee elects to invest in his/her employer's stock or when the employer's matching contribution to the DCP is made in company stock, sometimes with transfer restrictions. The danger is exemplified in the Enron collapse. Enron's contribution to employee 401k plans was in company stock, and Enron employees were prohibited from selling those shares prior to age 50. Befort (2007) p. 958. Sixty-two percent of the funds in Enron 401(k) plans was invested in Enron stock, which was wiped out in bankruptcy. Befort (2007) p. 956. Analogous declines befell employees of Lucent, Polaroid, and Global Crossing. *Id.* These employees failed to, or could not, diversify their financial risk, and thus lost part of their retirement savings when they lost their jobs. ERISA limits DBPs from investing more than 10% of Plan assets in stock of the employer, but no statutory limit exists for DCPs. Befort (2007) p. 959. The Director of the Congressional Budget Office wrote on October 8, 2008, that 47% of 401(k) participants were enrolled in plans that offered company stock as an option, and that 7.3% of those participants held more than 90% of their assets in their employer's stock, and over 15% held more than half of their assets in their employer's stock. Fortunately, that number has been declining, since the percent of total 401(k) assets held in employers' stock has fallen from 19.1% in 1999 to 11.1% in 2006. The 2006 Pension Protection Act limits the amount of time that an employer can require participants to stay invested in company stock. See Orszag (October 8, 2008).

Decline in the Value of DCP Assets. The Director of the Congressional Budget Office (CBO) testified in October of 2009 that over two-thirds of the assets in DCPs are invested in equities, either directly or through mutual funds. Orszag (Oct. 7, 2008). The recent severe decline in the stock market has lowered DCP asset values. Fidelity Investments, which manages plans for 11 million participants, said that their average work-related savings account dropped from $69,200 at the end of 2007 to $50,200 at the end of 2008. VanDerhei (Feb. 2009) p. 4 n. 8. A study by the Employee Benefit Research Institute found that from the beginning to the end of 2008, participants with plan balances of $10,000 or less made up for losses with contributions, while those with $50-100,000 broke even, and plans with balances in excess of $200,000 lost 25%. *Id.* pp. 5-6. The study also found that 22% of the oldest participants had 90% or more of their 401(k)s in equities. Forty-three percent had 70% or more invested in equities. *Id.* p. 11. These are people who have the least amount of time to rebuild their balances before retirement.

C. SOCIAL SECURITY. President Roosevelt signed the Social Security Act on August 14, 1935. Monthly benefits began in January 1940. Since that time Social Security has been a blessing to many retired people of limited means. However, in the future, the Social Security program will deplete its reserves and be unable to pay scheduled benefits to retirees.

The Social Security Trust Fund is funded by a 12.4% tax on gross earnings, paid half by the employer and half by the employee (or 12.4% self-employment income). The Social Security tax applies only to the first $106,800 in income.

Congress provided for cost of living adjustments (COLAs) to Social Security benefits in 1950. The COLAs were tied to inflation in 1975 as reflected by the Consumer Price Index-all workers (CPI-W). Based on the CPI-W, for third quarter 2007 to third quarter 2008, the COLA for 2009 was 5.8%. That is the largest increase since 1982, due mainly to increases in gas and energy. The Congressional Budget Office is currently projecting no COLAs for 2010, 2011 and 2012. Inflation has a negative

impact on taxation of Social Security benefits. Individuals earning less than $25,000, and married couples filing jointly with less than $32,000 annual income do not have to pay income tax on their Social Security benefits. Above those threshholds, benefits are taxed all the way up to 85%. Those threshholds are not indexed for inflation, meaning that with inflation more people will have to pay tax, just because of inflation. Munnell and Muldoon (Oct. 16, 2008) p. 4.

The Social Security Trust Fund is supposed to contain $ 2.4 trillion. <www.ssa.gov/OACT/ProgData/investheld.html>. However, the Social Security Trustees by law are required to invest only in non-marketable securities issued by the U.S. Treasury. The Social Security Trust Fund now consists of U.S. Treasury bonds, the sum total of which is contained in a small three-drawer filing cabinet filled with ring binders containing these special Treasury bonds. See <www.chrismartenson.com/files/u4/Bush_holding_SS_bond.jpg>.

Everyone who has examined the issue agrees that the Social Security Trust Fund is actuarially unsound. In America we have people who are living longer and having fewer children. Additionally, the Baby Boom generation of Americans will soon reach retirement age, increasing the percentage of American who are over age 65. Because of these factors, the number of workers paying into the Social Security system for each beneficiary (the “dependency ratio”) will decline. In 2005, the number of workers per elderly person was 4.1. This is projected to fall to 2.9 in 2020. The Social Security Administration explains it this way:

> People are living longer, the first baby boomers are nearing retirement, and the birth rate is lower than in the past. The result is that the worker-to-beneficiary ratio has fallen from 16.5-to-1 in 1950 to 3.1-to-1 today. Within 20 years it will be 2.1-to-1. At this ratio there will not be enough workers to pay scheduled benefits at current tax rates.

<www.ssa.gov/qa.htm>. In April of 2009, the Congressional Budget Office (CBO) projected that the outflow of Social Security benefits will exceed Social Security tax revenue in 2017 (that’s only 8 years from now). The 2009 Social Security Trust Fund Trustees Report pegs that date at 2016. That shortfall will have to be financed by interest paid by the federal government on the bonds it required the Trust Fund to buy. <cboblog.cbo.gov/?p=239>. At this point, the combination of Social Security tax revenues and the income on the Social Security Trust Fund “investments” (i.e., IOUs from the U.S. government) will exceed Trust Fund outflows until 2024. At that point, the Social Security Trustees will have to start redeeming the Fund’s federal bonds. Unfortunately, at that time the federal budget will be in deficit, so repayments to the Social Security Trust Fund will have to be financed with new government borrowing from investors competing with corporate bond issuances and putting upward pressure on interest rates. The negative cash flow condition will continue until the U.S. government pays back all the money it has borrowed from the Trust Fund since the 1970s, and from that point forward, absent a change in the law, Social Security will convert to a pay-as-you-go program. The Trustees project that this will occur in 2020 for the Disability Insurance Fund (the CBO says 2019; See <cboblog.cbo.gov/?p=239> and in 2037 for the Old Age and Survivors Insurance Fund. The CBO projects that revenue at that time will be only 84% of scheduled outlays, so that benefits will have to be lowered 16% below the scheduled amount. See *Updated Long-Term Projections for Social Security*, p. 3. <www.cbo.gov/ftpdocs/96xx/doc9649/08-20-SocialSecurityUpdate.pdf>; Munnell (March 2008). The Social Security Administration web site says that, without changes in the law, in 2037 only 76% of benefits will be paid. <www.ssa.gov/qa.htm>.

Social Security, Medicare, and Medicaid presently

amount to of 8% of GDP; by 2030, it is estimated that that will rise to 15%. Befort (2007) p. 946.

Social Security benefits are indexed to "headline inflation." See Section III.L.1.c. That means that Social Security benefit increases are correlated to increases in price for food and energy.

Options to "fix" Social Security include: increasing payroll tax; raising the payroll tax ceiling ($102,000 in 2008); increasing the portion of Social Security benefits subject to income tax; reducing benefits; raising the retirement age; altering the indexing of initial benefit amounts; reducing cost-of-living adjustments; investing part of the Social Security Fund in the stock market; creating private accounts. Befort (2007) p. 966-969. Any increase in Social Security taxes may be expected to reduce consumer spending and thus economic activity. One study found that raising payroll tax by 1% (to 13.4%), increasing the normal retirement age from 66 to 69 years, and investing 25% of Social Security Trust funds in equities, the Fund balance would remain positive until 2101. <http://www.mrrc.isr.umich.edu/publications/findings/pdf/SOCIALSECURITY.pdf>.

The sooner we implement changes, the fairer they will be, as the tax increases or reduced benefits will be spread over more age groups. The government will also need to induce workers to postpone retirement, which both increases contributions and reduces benefits.

D. MAINTAINING STANDARD OF LIVING DURING RETIREMENT. The Health and Retirement Study conducted in 1992 showed that 80% of families then aged 51-61were on track to maintain their standard of living after retirement and 20% would fall short. Munnell, Webb and Golub-Sass (2007) pp. 1 & 6. The National Retirement Risk Index (NRRI) study conducted in 2004 found that 35% of households that age were at risk of not being able to maintain pre-retirement living standards. *Id.* p. 3. In the NRRI 2004 study, the risk varied for different "cohorts" (age groups). For early Baby Boomers (born 1946-1954), the "at risk" figure was 35%. For Late Baby Boomers (born 1955-1964), the percent at risk was 44%. *Id.* p. 2. Of the Generation Xers (born 1965-1972), 49% were "at risk." The later groups' increasing risk was influenced by 1) increased longevity, 2) a "contracting retirement income system," partly due to Social Security's Normal Retirement Age rising from 65 to 67 years of age, and 3) declining interest rates diminishing investment income. *Id.* pp. 2 & 5. Also, while the percent of employees covered by private retirement benefits remained the same, the coverage has shifted from defined benefit plans to defined contribution plans, for which the median plan balance at retirement was $60,000. *Id.* Considering all families combined, the NRRI 2004 study found that 43% of families sampled were "at risk" of not being able to maintain their standard of living if they were to retire at age 65 (which is later than the average actual retirement age of 63). When the NRRI was updated to 2006, it found that 44% of all households were "at risk," and that the cohorts broke down as follows: Early Baby Boomers were 35%; Late Baby Boomer were 44%; and Generation Xers were 48% at risk. Munnell, Soto, Webb, Golub-Sass, and Muldoon (Feb. 2008) p. 2. In a later study, Munnell et al. factored in the projected increases of health care costs. That raised the the "at risk" percentages as follows: Early Baby Boomers went from 35% to 50%, the Late Baby Boomers from 44% to 61%, the Generation Xers from 48% to 68%, and the overall average from 44% to 61%. *Id.* p. 4.

An Ernst & Young report, in July 2008, mentions two concerns for Baby Boomers: the risk of reduced standard of living in retirement; and outliving their wealth. Ernst & Young (2008) p. 1. The report identified four major retirement risks: replacement rate risk; longevity; risk; investment performance risk; and inflation risk. *Id.* p. 2.

Replacement Rate. "The replacement rate is a basic measure of the performance of retirement

income systems. It gauges the extent to which benefits replace earnings before retirement and thereby allow workers to maintain a reasonable approximation of their pre-retirement standard of living." Munnell and Soto (August 2005) p. 2. Retirement planners say that people should assume a replacement rate of 70 to 85% of pre-retirement income, meaning that expenditures during retirement will be 70 to 85% of pre-retirement income. Scholz and Seshadri (2008) p. 3. Scholz and Seshadri argue that the true replacement rate depends on a number of different factors, including lifestyle before retirement. Then there is a terminology question as to what income "replacement" is measured against: is it income in the year immediately prior to retirement, or average income during the working life, or income in "n" years immediately prior to retirement? *Id.* p. 3, n. 4. A comprehensive analysis of replacement rates is at Biggs and Springstead (2008). Biggs and Springstead indicate that there is no uniform measure of pre-retirement income, so that replacement rate calculations vary widely. "Replacement rate risk" is the possibility that retirement income will not be enough to cover needs. This could result from insufficient guaranteed income, insufficient assets, insufficient real (inflation-adjusted) rates of return, and living beyond the point retirement assets are consumed. Munnell, Webb and Golub-Sass (2007) p. 2. The NRRI study conducted in 2004 used a replacement rate of 65% to 85% of pre-retirement income as a benchmark for adequate replacement, depending on household income and marital status. Munnell, Webb and Golub-Sass (2007) p. 7 n. 1. The replacement rate is less than 100% because retirees pay less in taxes, no longer need to save for retirement, work-related expenses decline, mortgages are paid off, and children have left the home. In the NRRI study, if the family annuitized all of its wealth on the day of retirement, including the receipts from reverse mortgages on their homes, and the resulting income fell more than 10% below the target pre-retirement income replacement rate, then the family was considered to be "at risk." Munnell, Webb and Golub-Sass (2007) p. 1. The Social Security Administration has published an analysis of the replacement rates of private and federal pensions. See <www.ssa.gov/policy/docs/ssb/v65n1/v65n1p17.html>.

Inadequate Saving. There is a widespread concern that Americans are not saving enough for retirement. Given that the saving rate has been so low in recent years (see Section III.H), it makes sense.

One study, conducted under the auspices of the University of Michigan Retirement Research Center, found little evidence that Americans born prior to 1954 have prepared poorly for retirement, and found that only 4% of households have a net worth below their optimal targets. See Scholz and Seshadri (2008). Scholz and Seshadri criticize the use of the NIPA aggregate of consumer saving (see Section III.H) as a measure of individual saving for retirement. *Id.* p. 3. NIPA saving excludes not only accrued but also *realized* capital gains. Also, investing in consumer durables is not part of NIPA personal savings. And the NIPA numbers say nothing about how total savings is distributed across families. *Id.* p. 3.

Accumulated Wealth. The combination of wealth and income compared to expenses is what counts during retirement. Unrealized capital gains in stock or housing contribute to retirement security. In the study, Scholz and Seshadri have assumed that "housing wealth is fungible and can be used to support consumption in old age." *Id.* p. 17. This could be accomplished through home equity loans or reverse mortgages. The recent decline in the stock markets and in real estate values has wiped out much capital gain and wealth. This would certainly change the assessment of preparedness in the Scholz and Seshadri study. For younger workers, time will allow them to repair the damage by restoring stock and home values. For those who must liquidate during the downturn, the losses will be permanent. In the study, Scholz and

Seshadri found that in most age ranges 95% to 98% of families exceed their "optimal Net Worth Target," as defined in the study. The exception is early Baby Boomers, of whom 10.2% are below the optimal net worth target, presumably because their children have recently become self-supporting. *Id.* p. 17.

Longevity Risk. "Longevity Risk" is the risk that you will outlive your wealth. This is a function of wealth at the time of retirement, the amount of Social Security and private pension payments, expenses during retirement, and length of life. A study released in July, 2008, by Ernst & Young entitled *Retirement Vulnerability of New Retirees: the Likelihood of Outliving Their Financial Assets*, found that 60% of middle-class retirees will probably outlive their financial assets if they try to maintain their current pre-retirement standard of living. Ernst & Young (July, 2008) p. 1. Middle-Income Americans would have to reduce their standard of living by an average of 32% to avoid outliving their financial assets. *Id.* p. i. Near retirees (those within 7 years of retirement) without a guaranteed source of income (like an annuity or deferred contribution plan) would have to reduce their standard of living by 45% to avoid outliving their financial assets. This is assuming a replacement rate of 59 to 71% of pre-retirement wages. *Id.* p. i. In June of 2009, Ernst & Young released an update of the study. Ernst & Young (June 2009). The updated study noted that from July 1, 2008, to December 31, 2008, large cap stock values declined 28%, small cap stocks declined 34%, and international stocks declined 37%. *Id.* p. 2. After these market declines, a married couple with pre-retirement income of $75,000 and no defined benefit plan had a 96% chance of outliving their retirement assets. To avoid this, the couple would have to reduce retirement expenditures to 49% of pre-retirement income. *Id.* p. 3. If the couple has a defined benefit plan, the chance of outliving their financial assets is 69%, and it would require a reduction of 28% of pre-retirement standard of living to avoid this. *Id.* p. 3.

Investment Performance Risk. "Investment Performance Risk" is the danger that investments will not perform at the level required to meet post-retirement needs. This is a function of the choice of investments and market conditions. Lack of diversification of investments has a large impact on investment performance risk. Ernst & Young points out that investing over a long horizon permits wealth to be invested in a diversified way, with a balanced composition of equity and bond investments. *Id.* p. 2. Financial advisors recommend a greater weighting of equities for a long investment horizon, shifting to bonds as retirement gets closer. *Id.*

Health Care Costs During Retirement. According to the Center for Retirement Research, the major health care expenses faced by retired households include premiums for Medicare Part B (physicians and outpatient hospital services) and Part D (medications), plus co-payments under Medicare, and services not covered by Medicare. Munnell, Soto, Webb, Golub-Sass, and Muldoon (Feb. 2008) pp. 2-3. In 2007, the Centers for Medicare and Medicaid Services estimated that out-of-pocket expenses under Medicare would average $3,800 per year for a single individual. *Id.* p. 3. Add to that things not covered by Medicare, like dental care, eye glasses, hearing aids, etc., estimated to cost $500 per year. *Id.* These costs are expected to grow at the rate of 5.9% per year for the next 20 years. *Id.* The same paper indicates that more than two-thirds of persons over age 65 will need long-term care at some point in their lives. *Id.* p. 5. Of that group, they project that over 40% will require care for more than two years. *Id.* Those costs are not included in the NRRI "at risk" calculations. *Id*. Inflation is a problem, too. Medicare Part B premiums are automatically deducted from Social Security payments. The average rate of increase of premiums in Medicare Part B over the last three decades has been 9% per year. The average cost of living increase in Social Security has been 3.8%. So over time, Social Security benefits, after deducting Part B premiums, have been declining. Munnell and

Muldoon (Oct. 16, 2008) p. 3.

E. POOR FINANCIAL LITERACY. Several researchers have assessed the financial literacy of Americans and they tested poorly. Lusardi and Mitchell in 2004 conducted a survey on the financial literacy of Early Baby Boomers (ages 51-56 years). They were asked three simple questions: 1) "If the chance of getting a disease is 10 percent, how many people out of 1,000 would be expected to get the disease?"; 2) "If 5 people all have the winning number in the lottery and the prize is 2 million dollars, how much will each of them get?"; and for respondents who answered either the first or the second question correctly, the following question was asked: 3) "Let's say you have 200 dollars in a savings account. The account earns 10 percent interest per year. How much would you have in the account at the end of two years?" The survey showed that 83.5% got the first one right, 55.9% got the second right, and 17.8% got the third one right. Expressed differently, 13% of people surveyed cannot calculate ten percent of something, more than a third cannot divide two million by five, and more than eight out of ten don't understand compound interest. Lusardi and Mitchell, *Policy Brief* (March 2008) p. 2. Lusardi and Mitchell's other studies show that financial literacy declines with age, and that women have lower comprehension than men, particularly when tested about risk diversification. They also found that persons more financially knowledgeable were more likely to plan (and therefore save) for retirement. *Id.* p. 3. Other studies have shown that home mortgage borrowers, particularly those with adjustable rate mortgages, underestimate the amount by which their interest rates can change, and that low-income, low-educated households are least knowledgeable about their mortgages. *Id.* p. 3. One might think that the solution for this problem would be more employer-sponsored seminars, but studies have shown that there is little follow-through on investment behavior after such seminars. *Id.* p. 3. The 2007 Survey of Consumer Finances conducted by the FED*, indicated that 42.3% of respondents get their investment advice from friends, relatives, and associates, while 38.3% get it from bankers, brokers and sellers of financial services, followed by 28.3% from the internet and 21.5% from material in the mail. Bucks, Kennickell, Mach, and Moore (March 6, 2009) p. A12.

F. WORSENING FINANCIAL CONDITION OF THE ELDERLY. The financial condition of the elderly in America is increasingly a cause for concern. For years it was expected that the elderly would make ends meet during retirement years through the "three-legged stool" of Social Security, pensions, and personal savings. All three legs of this stool are diminishing or disappearing, and older Americans are having to support themselves after retirement with low-paying jobs, and are falling on the social safety net reserved for the poor.

<u>Loss of Wealth.</u> The Institute on Assets and Social Policy of the Heller School for Social Policy and Management at Brandeis University, in collaboration with a New York foundation called Demos publishes the "Senior Financial Stability Index" which is a composite index designed to measure the long-term economic security of senior households throughout their retirement years. The index is based on national data for seniors age 65 or above and includes measures of housing costs, healthcare expenses, household Budget, home equity, and household assets. Using fairly modest standards (home equity of $75,000+, medical expenses are less than 10% of pre-tax income, $10,000 left over after annual essential expenses, sufficient assets to cover lifetime expenses in excess of Social Security), the Demos study found that 78% of all senior households are financially at risk. Demos, *Living Longer on Less* (Feb. 18, 2009) <www.demos.org/pubs/seniors_brief.pdf>.

<u>Social Security.</u> More than 90% of Americans age 65 or older receive Social Security benefits. Befort (2007) p. 941. The average monthly Social Security benefit payment in 2004 was $955.00. *Id.*

The Social Security Act was amended in 1983 to cause the retirement age of 65 years to gradually increase to age 67 by 2022. The United States already has a low "net replacement rate" for its Social Security system. The "net replacement rate" is the portion of economy-wide average earnings that are replaced by Social Security. Luxembourg has a 110% net replacement rate. The average OECD (see Section IV.F.7) net replacement rate is 70%. The U.S.'s net replacement rate averages only 55.3% (ranging from 82% of low wage earners to 40% of high wage earners). See Biggs and Springstead (2008) p. 8. Despite the fact that the U.S.A's net replacement rate is low, the Social Security system is actuarially unsound and a cut in benefits is unavoidable. The Social Security program provides more than half of the income of retirees collectively, more than 90% of income for one-third of retirees, and 100% of income for 21% of retirees. Befort (2007) p. 945.

Health and Long-Term Care Costs. Healthcare costs are expected to increase at the annual rate of 9% in 2010. The cost of long-term care is rising faster than the rate of inflation. Social Security benefits rise at the inflation rate, since healthcare costs and long-term care costs will take an increasing portion of retirement income. See Section IX above.

XI. INVESTMENT STRATEGIES.

A. INVESTMENT RISKS. "Risk is the quantifiable likelihood of loss or less-than-expected returns." <www.venturechoice.com/glossary>. "Risk includes the possibility of losing some or all of the original investment." *Id.* Investment risk falls into two main categories: systematic risk and unsystematic risk.

1. Systematic Risk. "Systematic risk," also called "market risk" or "nondiversifiable risk," is risk that is common to an entire class of assets or liabilities. It is the risk of an event or condition that affects the overall economy or securities markets. It cannot be avoided by diversifying investments. Systematic risk includes the risk that an overall market will decline, reducing the value of a company's stocks or bonds regardless of that company's growth, revenues, earnings, management, and capital structure. In investment theory, systematic risk is the component of the risk of an investment, or portfolio of investments, that is correlated with the overall market.

a. Country Risk. "Country Risk" is Sociopolitical Risk tied to the foreign country in which investment is made. It could involve, for example, regime change, nationalization of assets, social unrest, civil war, or foreign war. Also, sovereign default in the country of the investment can affect investments in corporations in that country. Standard & Poor's found that in 68% of the sovereign defaults, private-sector borrowers defaulted on their foreign debt. Standard & Poor's (1998) p. 51.

b. Currency Risk. "Currency Risk" is the risk that money will needs to be converted to a different currency to purchase or sell an investment at a time when the conversion is disadvantageous. Currency Risk impacts an investor who owns securities issued by non-U.S. companies or countries, or funds that invest in international securities.

c. Foreign Investment Risk. Foreign investment risk covers different aspects of investing in securities of foreign governments or foreign businesses. These include: 1) smaller securities markets with a limited number of companies representing a smaller number of industries; 2) less complete and less reliable regulation of issuers of foreign securities; 3) reporting, accounting, and auditing standards inferior to U.S. standards; 4) nationalization, expropriation, or confiscatory taxation destroying the entire investment; 5) events causing currency blockage; 5) political changes or diplomatic developments that adversely affect investments in a foreign country; 6) adverse developments in a

region of the world that adversely affects securities of other countries whose economies appear to be unrelated. <www6.ingretirementplans.com/custom/833.pdf>.

c. Inflation Risk. "Inflation Risk" is the risk that general increases in prices of goods and services will reduce the value of money, and negatively impact rates of return and the value of investments on maturity. One way for an investor to avoid inflation risk is to purchase an inflation-indexed government security, like the U.S. Treasury's TIPS bonds. See IV.C.1.a. An "inflation premium" is the portion of the overall rate of return an investor will require, as a condition to making an investment, that is attributable solely to expected increases in the general price level of goods and services.

d. Interest Rate Risk. "Interest Rate Risk" is the risk that fixed income securities will decline in value due to an increase in interest rates. Interest rate changes directly affect bonds—as interest rates rise, the price of a previously issued bond falls; conversely, when interest rates fall, bond prices increase. Interest rate changes operate more indirectly on stocks. Long- term bonds are more sensitive to fluctuations in interest rates and their values are therefore more volatile than short-term bonds. The bond market and the stock market sometimes react differently to changes in the interest rate. <www6.ingretirementplans.com/custom/833.pdf>.

e. Legal Remedies Risk. "Legal Remedies Risk" is the risk that the investor will have no effective or affordable legal recourse if s/he must resort to the legal system in connection with an investment.

f. Legislative Risk. "Legislative risk" is the risk that a change in the tax code could affect the value of taxable or tax-exempt interest income.

g. Sociopolitical Risk. "Sociopolitical Risk" involves the impact of political and social events such as a terrorist attack, declarations of war, pandemic, or elections. Those types of events affect investor attitudes, resulting in system-wide fluctuations in the value of investments (stocks, bonds, commodities, etc.). Furthermore, some events can lead to wide-scale disruptions of financial markets, further exposing investments to risks.

2. Unsystematic Risk. "Unsystematic risk" or "business risk" is risk associated with a particular company or industry (such as a labor strike, nationalization, targeted changes in the tax law, cancellation of a government program, etc.). Unsystematic risk can be reduced by diversifying investments among a number of firms and industries, or by spreading investments into different geographical markets or into different types of investments (stocks, bonds, commodities, precious metals, cash, etc.).

a. Call Risk. "Call risk" relates to a provision in some bonds, named a "call provision." A call provision permits the issuer of a bond to redeem the bond at a specified price sometime prior to maturity. If interest rates decline, so that the coupon rate on the bond exceeds market rates, the bond issuer might decide to prepay the bond, sometimes by issuing new bonds at the lower market interest rate. This deprives the investor of the "upside" of having an investment that pays more than market rate interest.

b. Competitive Risk. "Competitive Risk" is the risk of loss from a decline in a firm's competitiveness.

c. Credit Risk. Credit Risk (or default risk) is the chance that a bond issuer or other borrower will fail to make required interest payments or pay the principal in full when a bond or loan matures. Credit Risk also includes the risk that a counterparty to a derivatives contract or repurchase agreement is unable or unwilling to make timely principal or interest payments on the contract. In recent years, the mathematicians

working for Wall Street firms have developed arrangements to transfer credit risk. A "*credit risk transfer*" is a contract or arrangement designed to transfer credit risk, through financial guarantees, credit insurance, credit derivatives such as "credit default swaps," etc. The risk seller pays a premium in order to transfer the credit risk. See <www.bis.org/publ/cgfs20.pdf?noframes=1>. See Section XI.M. When the risk of holding a bond issued by a company that defaults is compared to the matching risk of owning shares in the same company, bonds are considered to be safer because they are paid in bankruptcy before shareholders receive any value. Looked at another way, however, the bondholder has a risk of loss with no chance of a comparably large gain, whereas the shareholder has a somewhat greater risk of a loss but also a prospect of gain if the company is successful. Amato and Remolona, *The Credit Spread Puzzle* (Dec. 2003) p. 56.

d. High Yield Risk. "High yield risk" associated with "junk bonds" recognizes that the companies issuing these bonds are subject to greater levels of credit (or default) risk and liquidity risk than safer bonds. If the company has economic troubles, or if rising interest rate reduce the yield on these securities, they may be difficult to sell, (liquidity risk).

e. Industry Risk. Industry risk is risk that companies face by virtue of being in a certain industry. Industry risk can be broken down into three components: risk arising from within the industry itself (structural risk), risks arising from the expected future performance of the industry (growth risk), and risk arising from forces external to the industry (external sensitivity risk). <www.marketresearch.com/product/display.asp?productid=1677519&g=1>. Examples of external sensitivity risks for U.S. manufacturing are exchange rates, interest rates, commodity prices and government regulations. *Id.* Firms in the same industry are more likely to improve or degrade together than firms in different industries; for this reason, diversification across industries helps to reduce risk in a portfolio.

f. Legal Remedies Risk. Legal risk is risk from uncertainty due to legal actions or uncertainty in the applicability or interpretation of contracts, laws or regulations. <http://www.riskglossary.com/link/operational_risk.htmJune 5, 2009>.

g. Liquidity Risk. "Liquidity Risk" is the risk of not being able to buy or sell investments quickly for a price that reflects the true intrinsic value of the asset. This could force the investor to continue owning the asset longer than s/he wanted, or if the investor must sell it could result in a sacrifice sale at less than the real value of the investment. Liquidity Risk is higher in over-the-counter markets and with small-capitalization stocks or private placements. Liquidity risk leads to a "liquidity premium," which is the additional yield a financial asset must carry to compensate the investor for having to trade in less-liquid markets. Applied to financial institutions, liquidity risk is "the potential that an institution will be unable to meet its obligations as they come due because of an inability to liquidate assets or obtain adequate funding." <www.chicagofed.org/banking_information/liquidity_risk.cfm>. Recent events have shown that investments believed to have no liquidity risk can develop liquidity overnight due to panic or crisis. An example is when the money market fund Reserve Primary Fund broke the buck on September 16, 2008, and dropped below $1 net asset value as a result of Lehman Brothers Holding, Inc.'s bankruptcy.

h. Management Risk. "Management risk" is risk associated with ineffective, destructive or underperforming management, which hurts investors in the company or fund being managed. For example, managers at Enron and Worldcom managed the companies in a way that ultimately destroyed those companies. Management risk also applies to managed investment funds, and reflects the risk that managers will underperform the market.

i. Operational Risk. "Operational risk" is the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events. <www.riskglossary.com/link/operational_risk.htm>.

j. Project Risk. "Project Risk" is risk that a project will not be completed on schedule and within budget. See <www.finra.org/Investors/ProtectYourself/InvestorAlerts/TradingSecurities/p018891>.

3. Leveraging Risk. "Leveraging risk" is risk associated with incurring liability in connection with an investment. The use of leverage may result in an investor having to liquidate the investment to satisfy a credit obligation when it may not be advantageous to do so. Buying investments on margin is leveraging risk, but the leverage is limited to the amount originally borrowed (plus interest and commissions paid). Short selling has leveraging risk that can extend beyond the amount originally invested, because the loss on a short sale is set by the amount that the security rises in value after the short sale, and there is no limit on that rise. Leveraging risk on a short sale can be limited by selling short only securities already owned (i.e., a covered short sale) or purchasing call options that permit you to buy the security at a set higher price in order to close the short sale and stop further losses. Selling swaps also brings with it leveraging risk up to the "nominal value" (maximum payment obligation) stated in the swap.

4. Risks Connected to Bonds. For bonds, risks include Interest Rate Risk (the risk that changes in interest rates may reduce the market value of a bond), Call Risk (the risk that a bond with a call provision may be redeemed by the issuer in advance of maturity, because market interest rates have fallen), Refunding Risk and Sinking Funds Provisions (a sinking fund provision in industrial and utility bonds requires the bond issuer to retire a certain number of bonds periodically, so this risk is the risk that the bond will be paid early), Default or Credit Risk (the risk that the bond will not be paid on maturity, e.g., Enron or WorldCom), Inflation Risk (the risk that the yield on a bond will not keep pace with inflation), Liquidity Risk (the risk that the holder may have to a bond when it is disadvantageous to do so), Event Risk (the risk that an unforseen event may affect the bond, such as buyouts, takeovers, corporate restructurings, revelation of accounting fraud, announcement of a criminal investigation, etc.), Market Risk (decline in value of a bond due to), Issuer Risk (the risk that the bond will decline in value for reasons that relate to the issuer, such as management performance, financial leverage, or reduced demand for the company's goods or services, High Yield Risk (higher credit risk and liquidity risk), <apps.finra.org/investor_Information/smart/bonds/000100.asp>; <http://www6.ingretirementplans.com/custom/833.pdf>.

An investment-grade bond is a bond that has been given a relatively high credit rating by a major rating agency, e.g. "BBB" or above by Standard & Poor's. A speculative-grade bond is a bond that has a credit rating that is not investment grade, i.e. below that determined by bank regulators to be suitable for investments, currently "Baa" (Moody's) or "BBB" (Standard & Poor's). Investment grade bonds are less risky than speculative-grade bonds.

B. BUBBLES, CRASHES, AND BOOM/BUST CYCLES.

Bubbles. Economic bubbles have existed in many times and places. Bubbles can be attributed to the fact that a rising price attracts the attention of investors, who buy more of the investment which causes the price to rise even more, attracting new investors, creating a positive feed-back loop. Bubbles were analyzed in Charles Mackay's famous book, *Extraordinary Popular Delusions and the Madness of Crowds* (1841). Great economic bubbles include the Dutch tulip craze in the 1630s, and the Mississippi Scheme in France

and the South Sea Bubble in England, both of which burst in 1720. The run-up of stock prices in the U.S.A. in the late 1920s, and of the dot.com stocks in the late 1990s, are considered to be bubbles. Some claim that the FED's reduction of the short term interest rate after the dot.com collapse in 2001 led to an unsupportable expansion of consumer and mortgage credit that created bubbles in real estate and the stock market which popped in 2007, leaving us in our unfolding and dangerous recession. Many people blame Alan Greenspan for creating or not pricking this bubble. Some say that oil and other commodities were in a bubble in 2008, and that U.S. Treasury bonds and bills are in a bubble right now. There is some disagreement over whether the FED should intervene to curtail asset price bubbles. See the May 15, 2008 speech of FED Governor Frederic S. Mishkin at <www.federalreserve.gov/news events/speech/mishkin20080515a.htm>.

Greater Fool Theory. The Greater Fool Theory is the view that an asset or investment is safe to buy because it can always be sold later to a bigger fool. The basis for such a purchase is not intrinsic worth, but rather the belief that it can be sold for a higher price to someone else. This thinking induces people to buy into bubbles.

Excessive Credit. The view that excessive credit feeds bubbles is widespread. Former FED chairman said: "Financial crises typically emerge after a self-reinforcing process of market exuberance marked by too much lending and too much borrowing, which in turn develop in response to underlying economic imbalances." Volcker (April 8, 2008) p. 3.

Crashes. A "crash" is a severe collapse in prices of stock, a commodity, or of an entire market (e.g., stock market, oil market, real estate market, etc.). Great stock market crashes are known in Wall Street lore and in financial history. More technically, they can be measured by a decline in a stock market index such as the Dow Jones Industrial Average (30 industrials), the Standard and Poor's 500 (500 large cap stocks), and the NASDAQ Composite Index (for small cap stocks). Whether a reduction in stock prices is a "crash" and not just a "correction" depends on the stock index chosen and the period of time included in the decline. In one study, which defined crashes as a decline in stock prices of 20% or more, only two crashes occurred in a two-day period: October 28-29, 1929 and October 19, 1987. Mishkin and White (2002) p. 6. Expanding the period to one month resulting in capturing two more crashes, one in April 1932 and the other in December 1931, although April 2000 came very close with a 19.6% decline. *Id*. p. 7. At a period of three months, additional crashes in the DJIA include October-November 1907, several intervals in 1930-1932, October-December 1937, June 1962, and November and December 1987. Considering the S&P 500 at three months adds 1974. Considering the NASDAQ at three months adds 1990, 2000, and 2001. *Id.* p. 7. Expanding the period to one year includes even more stock market crashes. One-year crashes in the NASDAQ that were not reflected in the DJIA or S&P 500 occurred in 1973, 1975, 1982, 1983, and 1984. Using this approach, there were fifteen major stock market crashes in the Twentieth Century. *Id.* p. 7. The 1929 crash was the worst, reaching its peak in September 1929 and declining 81.8% to its trough in May 1932. *Id.* p. 8. In the second great crash in October of 1987, the high occurred in August 1987, and the decline of 26.8% troughed in December 1987. *Id.* p. 9. (Thus, the October 1987 crash, although the greatest in one day, was less both in terms of total decline in stock values and in duration than the 1929 crash.)The NASDAQ declined 50.7% from July 2000 to December 2001. *Id.* p. 10. Crashes transmit shocks to the economy, via: a large loss of wealth which reduces consumer spending; an increase in the cost of capital which reduces borrowing; and the dysfunction of markets interfering with the transmission of information normally relied upon by bankers and businessmen. Mishkin and White (2002) p. 3. Some people have therefore advocated that central banks raise

interest rates to keep stock market bubbles from getting out of control. *Id.* p. 3. FED economists don't think that's their job, and further don't think that standards exist for when the FED would act and what it would do.

Boom/Bust Cycles. "Boom/bust" has been defined as the alternation in an economy or market between immoderate growth and collapse and recession. In the stock market, booms are associated with "bull markets," and busts with "bear markets." The principle underlying boom/bust analysis is that economic patterns are cyclical, meaning that they rise to a peak, then descend to a trough, then rise to a peak, then descend to the next trough, etc. Much of modern economic theory is concerned with the proper role of government in smoothing out the extremes of the boom/bust cycle. Marxian economics sees boom/bust cycles as inherent in capitalism, and expects them to get worse and worse until the capitalist system is overturned by revolution. The financial system has inadvertently developed positive feedback mechanisms that exacerbate boom/bust cycles, in a mechanism called "procyclicality." As stated by the Financial Stability Board: "The key problem here is that the financial system has not built up sufficient buffers during benign economic conditions, when it is easier and cheaper to do so, to face more challenging times. This prevents it from absorbing losses without causing amplifying retrenchment. As a result, the system acts as a shock amplifier rather than playing its usual shock absorber role." <www.financialstabilityboard.org/publications/r_0904e.pdf>. Omitted from the statement, however, is the possibility that government, and in particular the FED, may create or at least allow the conditions that feed the boom. If the boom phase is controlled, then maybe there would not be a bust phase.

Emotional Parts of Investing. There are a number of human psychological An informational cascade occurs when people observe the actions of others and then follow their example, independently of their own private information signals. "Informational cascade" is distinguished from "herd behavior." "An informational cascade is said to occur when an infinite sequence of individuals ignore their private information when making a decision, whereas herd behavior occurs when an infinite sequence of individuals make an identical decision, not necessarily ignoring their private information. . . . When acting in a herd, a group settles on a single pattern of behavior and, at the same time, the behavior is fragile in the sense that a strong signal may cause behavior to shift suddenly and dramatically. In contrast, a cascade is stable, i.e., no signal can cause a change in the pattern of behavior." Çelen and Kariv, *Distinguishing Informational Cascades from Herd Behavior in the Laboratory* (2003) <http://emlab.berkeley.edu/~kariv/CK_II.pdf>. John Maynard Keynes used the term "animal spirits" to describe emotionally-based (non-rational) decisions:

> Even apart from the instability due to speculation, there is the instability due to the characteristic of human nature that a large proportion of our positive activities depend on spontaneous optimism rather than mathematical expectations, whether moral or hedonistic or economic. Most, probably, of our decisions to do something positive, the full consequences of which will be drawn out over many days to come, can only be taken as a result of animal spirits--of a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities. . . .Thus if the animal spirits are dimmed and the spontaneous optimism fades, enterprise will fade and die. . . . It is our innate urge to activity which makes the wheels go round, our rational selves choosing between the alternatives as best we are able, calculating where we can, but often falling back for our motive on whim or sentiment or chance.

John Maynard Keynes, THE GENERAL THEORY OF EMPLOYMENT, INTEREST, AND MONEY 161 (1936).

I Told You So. The Author's favorite economic analyst is Stephanie Pomboy, back in 2002, wrote a piece entitled *The Great Bubble Transfer*, in which she sagely observed that FED Chairman Alan Greenspan had successfully resurrected the $3 trillion in wealth lost in the stock market after March 2000 into the form of housing wealth, which appreciated by $2-3 trillion dollars in the same period. She noted that the home had become the "new margin account" due to refinancing, leading to a plunge in homeowners' equity stake. This wealth extracting propped up consumer expenditures and kept the economy humming along. Ms. Pomboy warned: **"With homeowners' equity near all-time lows, any softening in home prices could engender the risk of a cascade into negative equity."** <http://www.macromavens.com/reports/the_great_bubble_transfer.pdf>. She saw it coming.

C. DIVERSIFICATION. In *The Merchant of Venice*, William Shakespeare wrote: "My ventures are not in one bottom trusted, nor to one place: nor is my whole estate upon the fortune of this present year: Therefore, my merchandise makes me not sad." Diversification reduces firm specific risk by (i) reducing the portion of the portfolio affected by one investment, and by (ii) creating offsets, where positive investments balance negative investments, resulting in zero on the entire portfolio of investments. Damodaran (Nov. 2003) p. 7.

"Horizontal diversification" is when a portfolio is diversified between same-type investments. "Vertical diversification" is when a portfolio is invested in different types of securities.

Non-professional investors are counseled to allocate their investments between stocks, bonds and cash. The allocation depends on the trade off between the desire for capital preservation (favoring cash and bonds) and growth (favoring stocks). As an investor gets older, the advice is to shift from stocks to bonds, in recognition that the stock market goes through periodic lows, and the investor does not want to be forced to sell assets to pay living and health expenses when the assets are at a low value. The rule-of-thumb for long term portfolios is 60% equities and 40% bonds.

A commonly-overlooked risk is having retirement assets invested in the company where you work. In that situation, both your current income and your retirement wealth depend on one company. The financial well-being of many Enron employees was destroyed by that lack of diversification. Lack of diversification hurt many investors in Bernard Madoff's Ponzi scheme. The investors were no doubt lured into concentrating their wealth in his fund because his rate of return was extraordinarily high. But many lost their entire life's savings to that fraud because they didn't diversify.

D. PORTFOLIO MANAGEMENT THEORY. Prior to the 1950s, there were no comprehensive theories about financial markets. It was believed that an investment with a high risk of failing to maintain the desired rate of return required a high risk premium. Beginning in the 1950s, Harry Markowitz suggested that each investment does not stand alone, but rather that an investment should be evaluated based on the risk it adds to an existing investment portfolio. See Harry M. Markowitz, *Foundations of Portfolio Theory* (Nobel Lecture) (December 7, 1990) <nobelprize.org/nobel_prizes/economics/laureates/1990/markowitz-lecture.pdf>. In 1958, James Tobin suggested that by mixing risk-free investments into the portfolio and using them to leverage additional investments, the investor could adjust the overall risk of the portfolio to an attractive level. In 1964, William F. Sharpe suggested that the ultimate portfolio mix was the stock market itself. He promulgated the Capital Asset Pricing Model (CAPM), as a way to determine the rate of return required before an

investment should be added to an existing well-diversified portfolio.

According to portfolio management theory, risk of an investment is broken down into firm-specific risk and market risk. An investor tries to diversify away as much firm-specific risk as possible. Firm-specific risk is diversified away by spreading investments throughout the entire market, in the extreme leading to an investment portfolio that includes every asset in the market in proportion to that asset's share of the market. Such an investment strategy (at its theoretical extreme) eliminates all risk but market risk. Market risk can be reduced by diversifying the array of markets in which investments are made.

In portfolio management theory, risk is measured statistically as the variance around an expected rate of return. In theory, assuming a well-diversified investor, the only risk of variance in the portfolio is systematic or non-firm specific risk that cannot be diversified away.

Under the CAPM, the correct price for an investment is determined by discounting to present value on its expected rate of return, after adjusting that rate of return by a risk factor. That risk factor is known as the beta coefficient (β). Beta is a measure of the volatility of an investment, which is determined by determining how much the stock price moved when the entire market moved up and down by one percent, viewed over a historical 5-year period. A market index, like the S&P 500 or Wilshire 5000, is used to reflect movements of the entire market. Higher betas mean more volatility. A beta of more than one means the stock is more volatile than the market; a beta of 1 means that the stock has moved up and down in step with the market; a beta between one and zero means the stock is less volatile than the market. A beta of zero means there is no correlation between the investment and the market, which would apply to a cash and to risk-free investments like Treasury bills. A negative beta means that the investment moves inversely to the market (i.e., decreases in value when the market goes up, or vice versa). See www.businessdictionary.com/definition/beta.html>.

For an investment, the difference between the actual rate of return and the risk free rate is called "excess return." Under CAPM, the expected return of an investment is equal to the risk free rate, plus the product of beta times the investment's excess return. The Arbitrage Pricing Theory (posited in 1976) determines overall beta for an individual investment by comparing the investment's volatility to multiple macro-economic factors (GDP, inflation rate, etc.), determining a beta for each factor, and combining these measures into an overall beta for that investment.

Even assuming that perfect diversification eliminates all firm-specific risk, portfolio management theory leaves the investor exposed to market risk. This problem is magnified in the present situation, where a panic-driven flight to quality (see Section XI.H.2) has moved investors from the stock market into cash and U.S. Treasury Securities, thus depressing stock prices and causing many investment portfolios to lose value.

"Alpha" is the name for an additional return above the beta-adjusted return of the market. Since a beta return can be obtained by investing in an index fund, the success of fund managers is measured by the alpha of their funds. The question of whether to invest in a managed fund is whether beta + expected alpha - fees is more or less than beta. Most often it is less than beta. <www.ilukacg.com/articles/Tao%20of%20Alpha.pdf> At the individual investor level, investing in individual stocks can be entertaining, which may justify using part of investment wealth in self-guided investing.

The original CAPM model was based on simplifying assumptions that made the model perform poorly against empirical data. Successive

efforts to make the model more robust have addressed particular criticisms, but on the whole, according to Professor Eugene F. Fama (who originated the "random walk hypothesis" discussed in Section XI.G.14 below), "the empirical record of the model is poor–poor enough to invalidate the way it is used in applications." Fama and French (2004) p. 1.

E. THE STOCK MARKET. Common stock is securities that represent an ownership interest in a corporation, initially issued to raise capital for the corporation to conduct business. Once shares are issued, they have a second life--they are traded on a stock exchange. A "stock exchange" is an organized marketplace for securities. Investing in the stock market means buying or borrowing shares in corporations, or derivatives of those shares, in order to earn dividends and make a profit when the investment is later liquidated.

1. Bull Market. A "bull market" is a prolonged period in which investment prices rise faster than their historical average. Bull markets result from an economic recovery, an economic boom, or investor psychology. <www.investorwords.com/616/bull_market.html>. Great Bull Markets occurred from 1924 to 1929, and from 1982 to 1987. See <http://research.stlouisfed.org/publications/review/87/11/Bull_Nofkv1987.pdf>.

2. Bear Market. A "bear market" is an extended period in which investment prices fall, accompanied by widespread pessimism. Bear markets can occur during a recession when unemployment is high, or when inflation is rising quickly. Price downturns of short duration are called "corrections." <www.investorwords.com/443/bear_market.html>. The ten Bear Markets since 1950 are depicted at <http://www.businessinsider.com/bear-market-1950present>.

A "bear market rally" is an increase in investment prices during a bear market (i.e., falling investment prices). Bear market rallies typically begin suddenly and end with a return to price declines. They have the reputation of drawing into the stock market investors who want to participate in a new bull market, only to find out that further stock declines lie ahead. There was a bear market rally of 48% between November of 1929 and April of 1930. A bear market rally of 72% occurred between July 1932 and September 1932. People endlessly debate whether the increase in stock prices in May and June of 2009 are a bear market rally or the start of a bull market.

3. Dow Jones Industrial Average. The Dow Jones Industrial Average (DJIA) is the oldest continuing U.S. stock market index. The index was created in 1896 by Charles Dow to follow the share prices of industrial companies of his era. Dow chose 30 industrial companies, and averaged their stock prices each trading day. The only original DJIA company around today is General Electric. The 30 companies that make up the DJIA today include: financial (Bank of America Corp., Citigroup and J.P. Morgan Chase), oil majors (Exxon and Chevron), tech stocks (Hewlett-Packard, Microsoft, Intel and IBM), communications (AT&T and Verizon), drug companies (Merck and Pfizer), merchandisers (Wal-Mart and Home Depot), GE, Caterpillar, Alcoa, Du Pont, Walt Disney, McDonald's, Coca Cola, American Express, and others. The DJIA was below 2,000 until 1987 when it started an upward trend continuing through 2000, when it peaked just under 12,000, troughed in 2003 at around 8,000, and peaked again in 2007 at 14,000. On June 30, 2008, the DJIA was at 8,422.29. In 2008, the biggest percent declines for DJIA companies were for GM (-87.14%), Citigroup (-77.21), Alcoa (-69.19%), Bank of America (-65.87%), American Express (-64.34%). The only two increases in 2008 were Wal-Mart (+17.95%) and McDonald's (+5.57%). So far, in 2009, all of the DJIA 30 have declined except for IBM, which is up 2.07%. The DJIA 30 has changed over time. Goodyear and Chevron were replaced in 1999 by Microsoft and Intel. Chevron was restored in 2008. On June 8, 2009, GM and Citigroup were replaced in the DJIA by Cisco Systems and

Travelers Companies. There are exchange traded funds ("index funds") that invest in the DJIA companies collectively, like Dow Diamonds, an ETF that attempts to emulate the DJIA price and yield performance, *before expenses are subtracted*.

The ten biggest one-day percent drops in the DJIA occurred on the following dates: 10/19/1987 (-22.61%), 10/28/1929 (-12.82%), 10/29/1929 (-11.73%), 11/06/1929 (-9.92%), 12/18/1899 (-8.72), 8/12/1932 (-8.40%), 3/14/1907 (-8.29%), 10/26/1987 (-8.04%), 10/15/2008 (-7.87%), and 7/21/1933 (-7.84%). The ten biggest one-day percent gains in the DJIA occurred on the following dates: 3/15/1933 (15.34%), 10/6/1931 (14.87%), 10/30/1929 (12.34%), 9/21/1932 (11.36%), 10/13/2008 (11.08%), 10/28/2008 (10.88%), 10/21/1987 (10.15%), 8/3/1932 (9.52%), 2/11/1932 (9.47%), 11/14/1929 (9.36%). Note that a large percentage rise is easier to achieve after a great decline, since the denominator of the fraction used to calculate the percentage rise is much smaller. In other words, a 20% rise after a 20% fall is a net reduction of 4% (100-20% = 80; 80+20% = 96; 96-100=4%). Stated differently, after a 25% drop in the DJIA, it takes a 33⅓% rise to return the DJIA to its original point. You can view a chart of the DJIA 24/7 on Bloomberg, <www.bloomberg.com>, enter symbol "INDU:IND".

4. S & P 500. The Standard & Poor's 500 (S&P 500) is an index of 500 stocks selected by a team of analysts and economists at Standard & Poor's, based on market size, liquidity and industry grouping, among other factors. The S&P 500 is designed to represent the market value of large cap stock in the U.S. stock market. There are several mutual funds that represent the same mix of investments as the S&P 500; you would invest in one if you wanted to have the same risk-reward profile as this group of large cap stocks, with minimal cost for managing the portfolio. The S&P 500's most recent peak was also its highest level ever, 1,565.15 on October 9, 2007. On June 30, 2009, the S&P 500 Index was at 915.05, a decline of 42% from the last peak.

5. Famous Stock Market Crashes. There were two famous stark market crashes in the 20th century.

Black Tuesday. In the United States, during the 1920s, the U.S. enjoyed an economic boom (the Roaring Twenties). In September and October, 1929, some firms announced disappointing earnings figures. On Monday, October 28, 1929 ("Black Monday"), share prices dropped 13%. The following Tuesday, there was another reduction in shares. In the economic decline that followed, stock prices fell further. By 1932, the stock market had declined 89% from its September 1929 peak. By comparison on "Black Monday," October 19, 1987, share prices fell by 22% (much greater than Black Tuesday), but the economic circumstances were much different and no economic depression followed. See <http://archives.cbc.ca/economy_business/stock_market/clips/16257/>.

Black Monday. "Black Monday" refers to Monday, October 19, 1987, when stock markets crashed around the world, resulting in the large one-day percentage decline in stock market history. The decline started in Hong Kong, and spread during the day to Europe and North America. The DJIA* dropped 22.61%. The DJIA finished out the year higher than it started (1,939 vs. 1,897), but it took two years for the DJIA to reach its previous peak of 2,722, reached on August 25, 1987. No consensus has been reached on the cause of this market crash. Prize-winning stock technical analyst Paul Desmond studied the numbers and says the panic started on the three previous trading days: October 13th, 14th, and 15th, and was preceded by a "whole series of classic warnings signs that the market was weakening." <www.thestreet.com/print/story/10269345.html>.

6. Short Selling. A short sale is a transaction in which the investor borrows and then sells

securities he does not own, in hopes that the market price of the security will decline and the loan can be repaid by purchasing the security at a lower price. In the typical short sale of stock, a stock trader borrows stock from a brokerage house and immediately sells it for cash. In a covered short sale, the trader borrows and sells stock in a company in which he already owns shares. In a naked short sale, the trader borrows and sells stock in a company he does not own. From the investor's point-of-view, naked short selling entails a risk that if the value of the underlying investment rises, the investor will have to cover the position by buying the security at a higher price, thus losing the price differential, plus interest and commissions paid. Since the loss on a short sale is determined by the rise in price of the security, the investor in a naked short sale can lose more money than the actual cost of the investment. The risk can be curtailed with a stop loss order which automatically liquidates the short position when share prices rank a certain level.

Some people criticize short-selling, because it motivates investors to take steps to drive down the value of the investment. However, the SEC approves of short-selling. On May 6, 2009, an SEC Commissioner said: "Short selling contributes to liquidity, capital formation, and more efficiently allocated risk. Short selling can buttress buying by allowing investors going long to hedge their positions; and short selling can encourage market participation by leading to improved price discovery. Short selling helps ensure that securities prices are not systematically biased higher than the fundamentals warrant, as could be the case if prices did not reflect the less optimistic views of short sellers." <www.sec.gov /news/speech/2009/spch050609tap.htm>. It is widely believed that some short sellers engage in underhanded and sometimes illegal tactics to cause stock prices to artificially fall, in order to profit from the fall. This could be through the spreading of unfounded rumors, artificially driving down a company's stock price by constantly selling at a lower and lower price without waiting for an intervening purchase, which creates the appearance that a stock is dropping in price, which frightens some "longs" into panicked selling which further reduces the stock price, allowing the "shorts" to cover their stock debts at a lower price (a so-called "bear raid"); etc. After a bad bear market decline in 1937, beginning in 1938 the SEC banned bear raids through the "uptick rule," which permitted short sales only following a trade where the traded price was higher than the previously traded price (i.e., an uptick). The SEC abandoned the uptick rule as of July 6, 2007, but is now considering re-instituting a modified version of the uptick rule. *Id.*

7. FINRA. The Financial Industry Regulatory Authority (FINRA) is the largest non-governmental regulator of securities firms doing business in the United States. FINRA was created in July 2007 through the consolidation of NASD and the member regulation, enforcement and arbitration functions of the New York Stock Exchange. FINRA oversees nearly 5,000 brokerage firms, about 173,000 branch offices, and approximately 653,000 registered securities representatives. It also has a website with helpful investor information. See <www.finra.org/About FINRA/index.htm>.

8. Brokerage House Failures. What stock you pick is more important than who you pick to hold it for you. Just in case, however, this section discusses the risks of holding securities in street name.

Street Name. Securities held in the name of a broker instead of a customer's name are said to be carried in "street name." This occurs when the securities have been bought on margin or when the customer wishes the security to be held by the broker. If legal title to your investments is in your brokerage house, what happens if the brokerage house becomes insolvent?

Brokerage House Collapses. The most spectacular

and tragic brokerage house failure in recent years was Bernard Madoff's brokerage firm. The deadline for depositors to file claims was July 2, 2009. The trustee is attempting to recover as much wealth as possible, but it will be a fraction of what was lost by investors. Lehman Brothers Holdings Inc. filed for Chapter 11 bankruptcy on September 15, 2008. The brokerage arm of Lehman Brothers was put in SIPC (see below) receivership on September 19, 2008. There were no losses to investors. However, initially some hedge funds complained that their accounts were frozen. Merrill Lynch nearly collapsed and was taken over by Bank of America on September 14, 2009. Stanford Financial, centered in Houston, was put in receivership on February 16, 2009. The brokerage part of the business had approximately 51,000 accounts. These accounts were initially frozen, but all but 4,000 accounts have been released. The accounts that are still frozen may become involved in the unraveling of the Ponzi scheme surrounding CDs in Stanford's Antigua bank. See <www.stanfordfinancialreceivership.com/documents/Interim_Report_Dated_April_23_2009.pdf>.

Insurance Against Broker Bankrupcty. The Securities Investor Protection Corporation (SIPC) is a non-profit federally-chartered corporation, created pursuant to the Securities Investor Protection Act of 1970 (SIPA) to offer financial protection for customers of securities broker-dealers. The corporation has members, nearly all of whom are registered with the SEC as securities broker-dealers. The need for SIPC arises from the common practice of investors having their brokerage firms hold legal title to their cash and investments made through the brokerage firm. Thus, in many instances the investor is really a creditor of the brokerage firm, rather than the record owner of the cash or securities. SIPC maintains the SIPC Fund, from which it compensates investors when their money and securities are stolen by a broker or brokerage firm or are not recoverable because of financial insolvency of the brokerage firm. The SIPC Fund is supplied by assessments on SIPC members.

SIPA provides that customers of a failed brokerage firm will receive all nonnegotiable securities-- such as stocks or bonds -- that are already registered in their names or in the process of being registered. To the extent that cash and securities are missing from customer accounts, funds from the SIPC reserve are available to satisfy the remaining claims of each customer up to a maximum of $500,000, including a maximum of $100,000 on claims for cash. The SIPA protection does not extend to market losses and does not cover annuities. Nor does it cover claims for churning the account on negligent mismanagement of the securities.

A good snapshot of the SIPC is the President and CEO Stephen Harbeck's testimony to a Senate Committee on January 27, 2009. <banking.senate.gov/public/_files/HarbeckStatementSenateBanking12709.pdf>. Mr. Harbeck said the SIPC Fund was $1.7 billion, and that the SIPC has a commercial line of credit as well as a $1 billion line of credit with the U.S. Treasury. On March 2, 2009, SIPC announced today that SIPC members' assessments will be increased from a flat $150 per year to one-quarter of 1 percent of the net operating revenues of member firms. Through 2007, SIPC has liquidated 317 brokerage firms, returned to investors over $15.7 billion in cash and securities, and used $322 million from the SIPC Fund. The SIPC has never drawn on its lines of credit. In 2008, SIPC had three small liquidations, but huge liquidations relating to Lehman Brothers Inc. and Bernard L. Madoff Investments Securities, LLC. Harbeck said that these two failures "call into question the sufficiency of SIPC's statutory line of credit with the United States Treasury," and said his staff would work with Congress regarding the possible need for changes in that credit. In other words, the SIPC is threatened with insolvency.

F. LEVERAGED INVESTING. "Financial leverage" is incurring debt in order to make an

investment. Companies and investors with X amount of dollars to invest can invest more by using those funds to purchase assets or investments, and then using those newly-acquired assets or investments as collateral to borrow more money to make additional investments. For example, in an hypothetical margin account, an investor with $100,000 in stock can borrow an additional $50,000 against that stock to buy more stock, and thus have $150,000 invested in the stock with only $100,000 in cash to invest. Leverage can also be obtained using derivatives, like options. For example, by buying a stock option an investor can position himself to profit from a rise in a company's stock by investing only a portion of what it would cost to buy the shares themselves. However, if the investor buys stock and it goes down in value, you still own the stock. If you buy options in the stock and the stock goes down in value, your option will expire unexercised and you will have nothing.

In a company, leverage can be seen from the balance sheet, as the ratio of assets to net worth. Or leverage can be measured as economic risk relative to capital. Too much leverage in an industry, or in the economy, can create systemic risk. High leverage increases a person's or an entity's risk of failure in a volatile market, because downward movements in the value of investments are magnified by leverage, and worried lenders who call loans secured by investments can force the investments to be liquidated in a declining market which depresses values further, leading to more margin calls, creating a vicious cycle that can quickly deplete capital. "Deleveraging" is the process of liquidating investments in order to pay down existing leverage.

Margin. A margin account is a brokerage account in which the brokerage firm lends the customer cash with which to purchase securities. The margin is the amount actually paid by the customer when using a broker's credit to buy or sell a security. Under Federal Reserve regulations, the initial margin requirement since 1945 has ranged from down to 100% the current rate of 50% of the purchase price. A "margin call" is a demand made by the broker to the customer to put up money or securities with the broker. The call is made when a purchase is made; also if a customer's ratio of margin debt to assets declines below a minimum standard set by the exchange or by the firm. The "margin rate"is the interest rate that brokers charge their margin customers for their margin loans.

Regulation T. Regulation T is a Federal Reserve Board regulation that governs customer cash accounts and the amount of credit that brokerage firms and dealers may extend to customers for the purchase of securities. Since 1974, under Regulation T an investor can borrow up to 50% of the purchase price of securities that can be purchased on margin (known as "initial margin"). A higher margin requirement would reduce leverage in the financial system, reducing volatility and risk. Regulation T originated in 1934, and has been changed 22 times.

G. SELF-GUIDED INVESTING: STOCKS. According to the FED's 2007 Survey of Consumer Finances (SCF) 20.7% of all families directly owned corporate stock, while only 1.8% of families directly owed bonds. Corporate stock represents 17.9% of financial assets held by families, compared to only 4.2% invested in bonds. Bucks, Kennickell, Mach, and Moore (March 6, 2009) p. A15. As family net worth rises, so does the percentage of families who own stocks, so that 31.6% of families in the 75-89.9 percentage directly owned stock, and 52.3% of the 90-100 percentage directly owned stock. *Id.* p. A18. Of families who directly owned stock, 36.4% owned stock in just one company, 47.6% owned between 2 and 9 companies, and only 16% owned stock in 10 or more companies. *Id.* p. A23. For stock-owning companies, 36.1% owned shares in the household's employer or former employer. *Id.* p. A23.

The following quotation from the Wharton School of Business web site summarizes the challenges of investing in company stock.

> The connection between a firm's share price and its true value is not as tight as many people assume. Companies sell stock to the public to raise money. Once the shares are in circulation, the price tends to rise and fall to reflect the ups and downs of the firm's earnings, but other forces are at play as well -- the overall trend in the market or industry, the firm's performance relative to its industry peers, and speculation about how the firm's business strategy, products and competitiveness will affect future earnings.
>
> At times, enthusiastic investors may push the share price up even though there is no hard evidence the earnings will grow. At other times, investor sentiment can turn negative, driving the share price down even though the firm appears perfectly healthy.
>
> Because the relationship between a firm's business performance and stock price can be so loose, it has long been felt that the fate of the stock does not necessarily have any direct impact on a firm's real economic value, measured by things like assets and earnings.

<http://knowledge.wharton.upenn.edu/article.cfm?articleid=1939>.

1. Quality Investing. "Quality investing" is based on the idea that if you buy a quality investment, as time passes it will increase in value and give you a good rate of return. In bond investments, bond quality is judged based on the ratings given to the bond by several large bond rating companies. No such large rating agencies exist for stocks. Benjamin Graham, the earliest proponent of Quality Investing, in his book *The Intelligent Investor* (1949), divided stocks into two classes: Quality and Low Quality. Graham said that the greatest losses result not from paying too much for Quality stocks, but rather buying Low Quality stock at a bargain price. Determining quality requires the investor to investigate the details of the company, including its financial statements, its business model, its market environment, and its management.

2. Value Investing. "Value investing" is buying stock in companies that are trading for less than their intrinsic worth. Value investing looks for an increase in price based on an increase in the underlying value of a company. Value investors are looking for stocks that are temporarily undervalued. Value investing was popularized with the 1934 publication of the book *Security Analysis*, authored by Columbia Business School professors Benjamin Graham and David Dodd. In *Security Analysis*, Graham wrote: "investment in apparently undervalued common stocks can be carried on with a fair degree of over-all success, provided average alertness and good judgment are used in passing on the future prospect question, and provided also that commitments are avoided at the times when the general market is statistically too high." Graham also said: "The chief losses to investors come from the purchase of low-quality securities at times of favorable business conditions." In 1949, Graham published *The Intelligent Investor*, which Warren Buffett called "the best book about investing ever written." Graham differentiated investment from speculation: "An investment operation is one which, on thorough analysis, promises safety of principal and a satisfactory return. Operations not meeting these requirements are speculative." Graham divided speculation into intelligent speculation and unintelligent speculation. Intelligent speculation puts the emphasis on changes in value which are expected to give rise to changes in price. Unintelligent speculation puts the emphasis on price changes alone. Graham gave the example about "the oil man who went to Heaven and asked St. Peter to let him in. St. Peter said, 'Sorry, the oil men's area here is all filled up, as you can see by looking through the gate.' The man said, 'That's too bad, but do you mind if

I just say four words to them?' And St. Peter said, 'Sure.' So the man shouts good and loud, 'Oil discovered in hell!' Whereupon all the oil men begin trooping out of Heaven and making a beeline for the nether regions. Then St. Peter said, 'That was an awfully good stunt. Now there's plenty of room, come right in.' The oil man scratches his head and says, 'I think I'll go with the rest of the boys. There may be some truth in that rumor after all.'" <http://www.wiley.com/legacy/products/subject/finance/bgraham/benlec10.html>. In that same lecture, Graham gave his view about timing the market:

> [T]he only principle of timing that has ever worked well consistently is to buy common stocks at such times as they are cheap by analysis, and to sell them at such times as they are dear, or at least no longer cheap, by analysis. . . . [I]f you buy securities cheap enough, your position is sound, even if the market should continue to go down. And if you sell the securities at a fairly high price you have done the smart thing, even if the market should continue to go up.

Graham said: "In the short run, the market is a voting machine but in the long run it is a weighing machine." Sir John Templeton was a student of Ben Graham who was a famous American/British value investor, who died at age 95 in 2008. With a Yale economics degree, Templeton became a Rhodes Scholar and earned a Master in Laws from Oxford after which he traveled to 35 countries in 7 months. During his lifetime, he favored investments in world markets. Templeton said:

> I never ask if the market is going to go up or down because I don't know, and besides it doesn't matter. I search nation after nation for stocks, asking: 'Where is the one that is lowest-priced in relation to what I believe it is worth?' Forty years of experience have taught me you can make money without ever knowing which way the market is going.

3. Growth Investing. "Growth investing" focuses on companies that are expected to enjoy above-average growth, even if they would currently seem expensive to a value investor due to a high price-to-earnings ratio or price-to-book value ratio. Growth investing can therefore deviate from value investing in certain situations, although Warren Buffet rejects the distinction. With growth investing, you buy to hold for a long time. Growth investing is most identified with Philip Arthur Fisher (1907-2004), and his book *Common Stocks and Uncommon Profits*, published in 1958. Fisher was called by Morningstar "one of the greatest investors of all time." Warren Buffett is a devotee of Philip Fisher, saying that his own investment philosophy is 15% Philip Fisher and 85% Benjamin Graham. Fisher is famous for buying Motorola in 1955, and never selling it. Fisher said: "I don't want a lot of good investments; I want a few outstanding ones." He also said: "If the job has been correctly done when a common stock is purchased, the time to sell it is almost never."

4. Dividend-Paying Stocks. Nearly all stock pay dividends, and portfolio growth is often evaluated based on total return, which is appreciation (or depreciation) plus dividends. Some investors invest in stock based on its current yield. See <http://www.dogsofthedow.com/dogs2009.htm>. Corporations are evaluated by their dividend yield, which is the company's annual dividend per share divided by its current share price. Recently, the highest yield was for a time for Bank of America, and that is because its stock price has dropped so low. The problem is that the drop was for a reason. So a high yield in some companies may be the result of weaknesses that have depressed stock price. Some index funds are centered on stocks with a solid record of paying dividends. The S&P 500 Dividend Aristocrats Index measures the performance of large cap, blue chip companies within the S&P 500 that have followed a policy of increasing dividends every year for at least 25 consecutive years. The total return from the S&P Dividend Aristocrats has

been somewhat better than the S&P 500 over the last 15 years or so, but the index has reduced significantly less than the S&P 500 in the current downturn. A comparable fund is pegged to the Dow Jones U.S. Select Dividend Index. High dividend yield stocks tend to be less volatile than the market, because in a downturn investors will hold on the high dividend paying stocks. Recently, some companies with a reliable record of paying dividends have had to cut dividends. Having the diversity of investing in index such as the Dividend Aristocrats would better protect against the risk of individual companies reducing dividends. Those who are investing for dividends should remember that dividends are presently subject to an income tax of 15%, but that will rise to the personal tax rate beginning January 1, 2011, when the "Bush tax cuts" expire.

5. Fundamental Analysis. Fundamental analysis suggests that an individual security has an intrinsic value (equilibrium price) that depends on the security's earning potential. Fama (1965) p. 3. This earning potential depends on fundamental factors such as the quality of management, outlook for the industry, outlook for the economy, etc. *Id.* p. 3. Fundamental analysis proceeds through the study of an investment by looking at the firm's (1) competitive advantage, (2) earnings growth, (3) sales revenue growth, (4) market share, (6) financial reserves, and (6) quality of management, all as reflected in its financial statements. <www.businessdictionary. com/definition/fundamental-analysis.html>. By this form of analysis the investor can determine whether the current price of the security is above or below its intrinsic value. Because the actual price tends to move toward intrinsic value, the investment can be made so as to profit from the move of the price to intrinsic value. Fama (1965) p. 3. Burton Malkiel, in Chapter 7 of his book A RANDOM WALK DOWN WALL STREET (1973), points out that fundamental analysis cannot protect against random events, misleading financial data issued by companies, and human emotional factors.

6. Technical Analysis. With "fundamental analysis," the investor examines the fundamental information of a company to determine whether it is a good investment. "Technical analysts" assume that the stock market is filled with investors who have already done that investigation, and that the stock price of a company reflects everything already publicly known or expected about the company. Technical analysts believe they can forecast future stock prices by analyzing past trading action. This type of analytical work is sometimes called "charting." Technical analysts deal with concepts like "support and resistance levels." A support level occurs when a stock's price, or even the entire stock market, stops a decline and turns back upward, often on higher than average volume. The "support level" is the price at which investors stand ready to buy after a decline. A "resistance level" is the opposite: it is the point where a stock or market rise stalls, or turns around. Charters also discuss "trend analysis," according to which a trend is expected to continue unless significant evidence indicates otherwise. See <www.mta.org/eweb/docs/pdfs/whatis_techanalysis.pdf>. Technical analysts disagree with the Random Walk Hypothesis. (See Section XI.G.14) "Most technical analysis is short- or intermediate-term, and is based on three major tenets: (1) history repeats itself what goes around comes around, (2) prices move in trends and usually follow known patterns, and (3) current market price of a stock (share) or commodity reflects the effect of all available information about it." <www.businessdictionary.com/definition/technical-analysis.html>. "Technical Analysis" contrasts with "Fundamental Analysis."

7. Insider Transactions. Under U.S. securities laws, anyone who is a corporate officer, director, or owns 10% or more of a publicly-traded company, is an "insider." Under the 2002 Sarbanes-Oxley Act, insider purchases or sales of company securities must be reported to the SEC by filing a Form 4 before the end of the second day following the trade. This information is available publicly, and significant events are

reported weekly by *Barron's*. For example, you can see most of General Motors' insiders selling all their GM stock at <www.secform4.com /insider-trading/ 40730.htm>. You can see Warren Buffett's recent insider transactions at <www.secform4.com/insider-trading/315090.htm>. Or you can see that Bill Gates has been buying stock like crazy in a company called Republic Services, Inc., since the beginning of 2009. What does it do? It operates 400 waste collection companies in 40 states and Puerto Rico. So Bill Gates is investing in trash removal. Carl Icahn has slowly been buying more and more stock in Cadus Corporation. <www.secform4.com/insider-trading/921669.htm>. Why? With a little investigation you find that Cadus is a company with no employees, cash of $24 million, and a market cap of only $19.7 million, which pays no dividends. The outstanding stock is worth less than the cash in the company. Look further and you find that, in 2005, Cadus had a net operating loss carryforward of $29,260,000. In other words, Carl Icahn is putting money in Cadus so he can use it as a vehicle to take over or merge with a profitable company. If you want to go along for the ride, buy some Cadus stock.

Barron's also publishes a weekly "Insider's Transactions Ratio," of insider sales divided by inside buys. *Barron's* charts the ratio to indicate a "bearish" or "bullish" outlook.

8. Follow the Winners. Another approach to managing your own investments is to follow good money managers. Money managers who oversee more than $100 million in equities must file withe the SEC a Form 13F within 45 days of each quarter's end, to list their U.S.-traded securities. John A. Paulson, #78 on the Forbes 400 list of wealthiest Americans, worth $6 billion, made some serious money by using CDOs to sell sub-prime mortgages short. At the start of 2008, Paulson heavily shorted Fannie Mae and Freddie Mack. Paulson Advantage Plus, the largest fund Paulson manages, with roughly $7 billion under management, in 2008 had an eye-popping positive 37.6% rate of return, net of fees, while other fund managers were jumping from windows. Regulatory filings in May, 2009, revealed that, in the first quarter of 2009, funds under Paulson's management invested heavily in ETFs* that own physical gold, and in gold mining stocks. Paulson's investment philosophy: 1)"Watch the downside, the upside will take care of itself"; and 2) "Risk arbitrage is not about making money, it's about not losing money." <www.pionline.com/article/20070709/FACETOFACE/70705017>. In that interview, Paulson explained how he risked little for great potential gains in shorting subprime mortgages.

9. Talking Heads. Turn on the television and you will see lots of people talking to (sometimes shouting at) each other about good and bad investments. Do you remember the people who advertise that you can learn how to make a million dollars in your spare time using very little capital? If they knew how to do that, they wouldn't be selling investment strategies for $100 a pop. How many of the talking heads would do their TV gigs if they could sit in front of their computer and make tons of money investing?

10. Web Pundits; Emails. The WWW has a limitless supply of web sites on financial matters and investments, with all perspectives known to man. Wikipedia is very informative and they don't try to sell you anything. Economic concepts are clearly explained at the Library of Economics and Liberty <www.econlib.org>.The WWW also can supply an endless stream of emails designed to make you rich. You may already receive emails from the Motley Fool <www.fool.com>, or from <elliottwave.com>. One email newsletter the Author particularly likes is from <www.frontlinethoughts.com/gateway.asp?ref=reprint>, issued by John Mauldin, a Dallas-based investment expert. The web pundits are usually selling something. You can also sign up for Google notices on investments of your choice. <www.google.com/intl/en/options>.

11. Timing the Market. Brokers and wealth managers often say "you can't time the market." Of course, many people do try to time the market, and they make and lose a lot of money doing it. One man who thinks the market can be timed is Paul F. Desmond, who won the Market Technicians Association's Charles H. Dow Award for his article "Identifying Bear Market Bottoms and New Bull Markets," available at the web site of the Market Technicians Association, <www.mta.org/eweb/docs/2002DowAwardb.pdf>. The article discusses signals of market crashes and bottoms.

For those who are wanting to enter the stock market at its current low level, beware the "dead cat bounce," where stock prices have a temporary rise after a spectacular fall.

12. Dollar Cost Averaging. "Dollar-cost-averaging" is a system of buying securities at regular intervals with a fixed dollar amount. Under this system investors buy by the dollars' worth rather than by the number of shares. If each investment is of the same number of dollars, payments buy more shares when the price is low and fewer when it rises. Thus temporary downswings in price benefit investors if they continue periodic purchases in both good and bad times, and the price at which the shares are sold is more than their average cost. Dollar-cost-averaging does not assure a profit and does not protect against loss in declining markets. Since dollar-cost-averaging involves continuous investment in securities regardless of fluctuating price levels of such securities, investors should consider their financial ability to continue purchases through periods of high price levels.

13. Some Other Resources. One useful web site is Wall Street News Network <wsnn.com>. This website presents current information on a variety of issues involving stock and bonds. Another good source of information on business and investments is <www.marketwatch.com>, which also issues email updates. And of course www.bloomberg.com is a great source of business and investment news.

14. Random Walk Hypothesis. Random walk theory has existed in science for some time. The principle has been applied to investing with the "random walk hypothesis" theory, stating that stock market prices evolve according to a random walk and thus the prices of the stock market cannot be predicted. The name comes from a doctoral dissertation of Eugene F. Fama, published in 1965. Dr. Fama also published a non-technical article explaining random walk analysis in 1965. He explained that random walk analysis is based on the theory of "efficient markets" with large numbers of investors and where important current information is freely available to all participants. Fama (1965) pp. 3-4. Since the intrinsic value of investments can never be determined exactly, discrepancies will exist between actual prices and intrinsic values, with the result that "actual prices will wander randomly around their intrinsic values." *Id.* p. 4. Therefore, a simple policy of buying and holding is as good as using complicated calculations based on historical prices to time purchases and sales of securities. *Id.* p. 4. This theory is wrong, however, if certain investors are better than others at using past behavior of a series of price changes to predict future price movements. *Id.* p. 6. A book authored by Burton G. Malkiel, a Princeton economics professor, entitled *A Random Walk Down Wall Street,* published in 1973 popularized the concept as applied to investing. Malkiel asserted:

> No one can consistently predict either the direction of the stock market or the relative attractiveness of individual stocks, and thus no one can consistently obtain better overall returns than the market. And while there are undoubtedly profitable trading opportunities that occasionally appear, these are quickly wiped out once they become known. No one person or institution has yet to produce a long-term, consistent record of finding

money-making, risk-adjusted individual stock-trading opportunities, particularly if they pay taxes and incur transaction costs.

Professor Malkiel was interviewed in the July 6, 2009 edition of *Barron's*. The professor stuck to his message. He said that two-thirds of active wealth managers are beaten by the stock indexes, and those that beat the indexes in one year do not beat the indexes in the following year. "Most investors would be better off having at least the core of their portfolio in a lower-cost index fund."

H. SELF-GUIDED INVESTING: BONDS. A "bond" is an interest-bearing security (with either a fixed or floating rate and with a maturity of at least one year) that companies and governments issue to raise capital for investment or spending. <www.ecb.europa.eu>. Bonds are issued with a maturity date of one year or more. The market for bonds is national and even international. Fixed-rate bonds account for the largest share of this market. Bonds are considered to be a safer investment that stocks, because in a bankruptcy or liquidation bondholders get paid before shareholders. Different bonds have different degrees of risk, and the issuers of risky bonds have to offer higher interest rates than the issuers of safer bonds. Also, the length of the term of the bond affects the interest rate. Ordinarily, the longer the bond, the more risk there is to holding the bond, whether inflation risk, risk of economic downturn, etc. So, ordinarily longer bonds have higher interest rates than shorter bonds. See "Yield Curve," Section VI.A.12. The primary risk in holding a bond is the credit risk of the issuer (the risk of late or non-payment). See Section XI.A.2.c. Other risks to holding bonds include interest rate risk, inflation risk, and other systematic and unsystematic risks. See Section XI.A.

1. Yields; Premiums. When a bond is issued, the rate of interest (coupon rate) divided by the purchase price is the rate of return on the investment. Once a bond has been issued, and is being traded on the open market, the rate of return on the bond is no longer the coupon rate divided by the initial purchase price of the bond. Instead, the rate of return is called the "yield." The "current yield" is the future interest to be paid on the bond divided by the purchase price of the bond. The current yield ignores the amount to be paid on maturity of the bond. For this reason, to correctly assess the value of the bond the current yield needs to be adjusted to reflect whether you will receive on maturity more or less than you paid for the bond. The "yield to maturity" is the present value of all future interest payments, plus the amount paid on maturity.

Premium; Discount. If the coupon rate on a bond is greater than the market interest rate, the bond will sell for more than its face amount; this is called a "premium." If the coupon rate of the bond is less than market interest rate, then the bond will sell for less than its face amount; this is called a "discount."

Tutorial. An on-line tutorial on bond investing is at <www.investopedia.com/university/bonds> and <www.investopedia.com/university/advancedbond/>.

2. Federal Government Securities. U.S. government securities are described in Section IV.C.1.a of this Article. Investment perspectives are discussed below.

"Risk Free." U.S. government securities are considered to be the safest investment in America, and many people consider them to be the safest investment in the world. They are backed by the wealth of the Untied States government, and they are traded in the most liquid market in the world. They are often said to be "risk free," although there is in fact a credit default swap market that reflects that people are paying a premium to cover the risk of default by the U.S. Treasury. Because these securities are "risk free," there is no default premium built into the interest rates for U.S. Treasury securities. The biggest risk for the holder

of Treasury securities is that future interest rates will rise, reducing the value of the bond prior to maturity. The longer the term of the Treasury security, the greater the risk of inflation, so long-term Treasury securities normally have a higher interest rate than short-term securities.

Flight to Quality. Strange things happen when there is a flight to quality. "Flight to quality" describes the flow of invested funds from riskier to safer investments in times of uncertainty or fear. Sometimes the flight to quality can occur with a sense of panic. Since U.S. Treasury securities are considered to be risk-free, they are often the safe haven for people engaged in a flight to quality. The flight to quality manifested itself on December 9, 2008, when the yield on 3-month U.S. Treasury bills turned negative, meaning that investors were paying more for U.S. Treasury bills than the future interest income warranted, meaning that they would be worse off than holding cash. However, deposited cash is only insured to FDIC limits, and to absolutely guarantee the safety of large sums of money, while still maintaining liquidity, the best place to go was short-term U.S. Treasury securities. The demand for U.S. Treasury bonds was so high that investors paid more than the bonds were worth, creating a negative yield. In other words, investors' desire to preserve their wealth outweighed their desire to increase their wealth, so they essentially paid out part of their money just for the safety of U.S. bonds.

When a flight to quality causes investors to stampede into risk-free investments it causes U.S. Treasury Securities to be overvalued, permitting the U.S. government to sell its securities at too low an interest rate. When interest rates rise to a more reasonable level, low-interest rate Treasury securities will drop in value. Any investor who sells such a security before maturity will suffer an investment loss. Holders of long-term U.S. securities at lower-than-market interest rates must hold an underperforming asset until maturity, or must sell before maturity at a loss.

Inflation Protection. One way for a bond investor to avoid "inflation risk" is to purchase securities that are indexed for inflation, so that the principal value is periodically adjusted to the rate of inflation and the interest is paid on this constantly-adjusting principal value. The coupon rate at issuance for inflation-indexed bonds is lower than the rate of typical bonds because inflation risk is eliminated. The U.S. Treasury sells such a security, called a TIPS (Treasury Inflation Protection Security). With a TIPS, the principal is indexed to grow with the Consumer Price Index, while the coupon rate of the security is fixed at issuance. Since the nominal (i.e., stated amount of) principal of the security increases with inflation, and since the interest paid is the product of nominal principal multiplied times the coupon rate, the amount of interest paid on the security will also rise with inflation. Upon maturity, the principal paid is the original principal, adjusted upward for inflation. So this investment has a rate of return that is constant in terms of purchasing power. See Shen (2009) p. 90. TIPS are issued annually, with 5-year, 10-year, and 20-year maturities. TIPS account for a large portion of new issuances in long-term Treasury securities, but due to the Treasury's heavy reliance on short-term debt (5 years or less), TIPS account for only 11% of total government debt.

Taxation. Interest earned on Treasury securities is subject to Federal income tax but not state income tax. This causes the yield (calculated after-tax) on Treasury securities less than the yield on corporate bonds to the extent of state taxation.

3. State, Municipal, and Utility Bonds. A municipal bond is a bond issued by a state or a political subdivision, such as county, city, town or village. The term also designates bonds issued by state agencies and authorities. In general, interest paid on municipal bonds is exempt from federal income taxes and state and local taxes within the state of issue. However, interest may be subject to the alternative minimum tax.

4. **Corporate Bonds.** Corporations issue bonds to fund the construction of plant and equipment, the take over other companies, and other activities that the company wants to finance through long-term borrowing rather than by issuing stock or borrowing from commercial banks. Corporate bonds have different degrees of risk, and the higher the risk the higher the interest rate on the bond at the time it is issued. The risk of corporate bonds is usually gauged by the issuing company's credit rating from private rating agencies. These ratings range from AA (the highest) to D (the lowest). An "investment grade" bond is a bond issued by a company that has received a rating from a rating agency in the top four rating categories. Under Standard & Poor's rating system, investment-grade bonds are from companies rated BBB or higher. Under Moody`s rating scheme, investment grade is Baa or higher. Lower-rated bonds are called "speculative." Investment grade categories indicate relatively low to moderate credit risk, while a "speculative" rating signals a higher level of credit risk or that a default has already occurred

5. **Foreign Bonds.** Investing in foreign bonds is like investing in American bonds, except that additional risks are encountered. These additional risks include country risk, currency risk, foreign investment risk, sociopolitical risk, legal remedies risk, liquidity risk, and sociopolitical risk. See Section XI.A.1. Standard & Poor's noted that in the 69 sovereign defaults between 1975 and 1995, private sector borrowers defaulted on their debt. Standard & Poor's (1998) p. 51.

6. **Rating Agencies.** Private rating agencies rate various kinds of risk associated with investments. Their primary activity is to rate credit risk of entities (corporations, countries and supranational and sub-national organizations), banks, insurance companies, municipalities and other public finance entities, and the ratings are used by bond investors to help price bonds issued by the companies. The three primary rating agencies are Moody's, Standard & Poor's, and Fitch. The rating agencies measure only credit risk, not other market risks of investing in bonds, such as interest rate risk, liquidity risk, etc. The rating agencies rate more than entities; they also rate derivatives, such as mortgage backed securities.* The rating agencies chronically overvalued MBSs*, swaps, and other derivatives, setting up the trillions of dollars in losses associated with the current financial crisis. So far in this crisis, inadequate attention has been paid to the rating companies' fault in creating the current mess.

7. **Diversification.** Some analysts have suggested that it is difficult to achieve diversity of risk in a bond portfolio because "there is a small but significant probability of a large loss without any chance for a comparably large gain." Amato and Remolona (Dec. 2003) p. 56. In other words, in equity portfolios the probability of large losses is matched to the probability of large gains, permitting diversification with as few as 30 stocks. *Id.* Because bonds have no "upside" to offset the "downside," diversity of credit risk requires the portfolio to include a large number of bonds (more than 300), which is difficult to achieve. *Id.*

I. MONEY MARKET FUNDS. A "money market fund" is an investment fund that primarily invests in money market instruments and/or other transferable debt instruments with a residual maturity of up to one year, and/or that pursues a rate of return that approaches the interest rates on money market instruments. <www.ecb.europa.eu>. The "money market" is the market in which short-term funds are raised, invested and traded, using instruments which generally have an original maturity of up to one year. <www.ecb.europa.eu>.

Very occasionally, a money market fund will "break the buck." "Breaking the buck" means that a money market fund's net asset value falls below $1 per share. Community Bankers US Government Fund, an institutional money fund, broke the buck back in 1994, paying 96¢ share.

Reserve Primary Fund broke the buck on September 16, 2008, the day after Lehman Brothers Holding Inc. filed for bankruptcy, forcing Reserve Primary to write off the Lehman debt it held for investment. Lehman debt constituted only 1.2% of the Fund's assets, but by mid-morning investors had pulled more than $10 billion out of the Fund, which caused the Fund's custodian, State Street Bank, to freeze redemptions. This event triggered a run on other money market funds. On September 18, 2008, Putnam investments' Prime Money Market Fund, a $15 billion fund, announced it would liquidate due to the pressure of redemptions. On September 19, 2008, the U.S. Treasury announced that it would insure for 60 days a $1 net asset value for money invested as of the close of business that day in money market funds that chose to pay a fee to participate in the insurance program. That eased the demand for redemptions. (Note that money deposited into money market funds after September 19, 2008 is not insured). On March 31, 2009, the Treasury's Money Market Funds Guarantee Program was extended through September 18, 2009. In April 2009 the SEC filed a civil suit accusing the Reserve Primary Funds co-CEOs of misleading investors about the Fund's ability to withstand the losses on Lehman debt. The Reserve Primary Fund's breaking the buck also froze the commercial paper market, where corporations get short term working capital loans.

J. MUTUAL FUNDS. A mutual fund is an investment company that raises capital by issuing its own shares to investors, then uses that capital to make investments in stocks, bonds, short-term money-market instruments, and other assets. Each share of the mutual fund gives the investor a right to income and capital gains that the fund generates from its investments, in proportion to the percentage of total outstanding shares that the investor owns. Shares in a mutual fund are equity investments, even if the fund owns bonds.

Taxation. The investors in a mutual fund must pay taxes on the fund's income distributions, and usually on its short-term and long-term capital gains. However, if the investment in the mutual fund is held in an IRA or 401k, there will be no tax to pay except the tax that comes due upon distributions from the tax-sheltered account.

Net Asset Value. Mutual funds have a net asset value (NAV), and when you redeem your shares and cash out, you may have a capital gain or loss, depending on whether NAV has increased or decreased since you purchased the shares. Some mutual funds endeavor to maintain a NAV of $1 per share, and to maintain sufficient liquidity to cash out all investors upon demand. However, while mutual funds invest in short term investments and investments that can be liquidated quickly, if there is no market for an investment (as sometimes happens in a panic), and investors demand to liquidate their investment in the mutual fund (as sometimes happens in a panic), the mutual fund can have a liquidity crisis and be unable to meet all redemptions without liquidating investments at a loss. On a large scale this can cause the mutual fund to"break the buck," which happened to one fund on September 16, 2008.

Active and Passive Funds. Mutual funds are active or passive. The active funds are managed by professional portfolio managers who decide what underlying investments the mutual fund will buy or sell. These managers charge fees for this service, so the hope is that the managers will add more value than they take in management fees. Passive mutual funds, sometimes called index funds, merely invest the fund's capital in a mix of investments designed to mimic an index, like Standard & Poor's 500 Index, or the Dow Jones Wilshire 5000 Total Stock Market Index, or the Russell 2,000 index of small capitalization stock, or S&P Small Cap Index, or ten year U.S. Treasury bonds. According to FINRA*, "[i]n any given year, most actively managed funds do not beat the market. In fact, studies show that very few actively managed funds provide stronger-than-benchmark returns over long

periods of time, including those with impressive short term performance records." <www.finra.org/Investors/SmartInvesting/ChoosingInvestments/MutualFunds/index.htm>.

Mutual funds have stated objectives, like growth funds, value funds, stock index funds, small-cap or mid-cap or large-cap funds, socially responsible funds, etc. Funds can be bond funds, either corporate bonds, or municipal bonds, or treasury bonds, or high-yield bonds, etc. There are also funds of funds, which are mutual funds that invest in other mutual funds, in an effort to invest in a diversified group of investment funds.

130/30 Strategy. Recently some fund managers have pursued a 130/30 strategy, which means they short-sell stocks they expect to underperform the market, up to 30% of the portfolio value, and then using the funds resulting from the short sales to take long positions in stocks they feel will outperform the market.

K. ETFs. An exchange-traded fund (ETF) is an investment company, registered with the SEC, whose shares trade on a stock exchange like any other public company, and whose investment strategy is to invest in a mix of stocks represented by a stock index, like the S&P 500. However, some ETFs invest in gold mining companies, some in physical gold, some in oil, some in Yen or Euros, etc.

L. COMMODITIES. A "commodity" is a physical item or substance, such as food, grains, or metals, that are fungible (can be interchanged with another product of the same type), and which investors buy or sell, usually through futures contracts. By law, onions cannot be traded as a commodity. An investor trading in commodities never intends to take delivery of the commodity itself, so the investor must liquidate his/her position before delivery is due. Investing in commodities is all about betting on whether the price of the commodity will go up or down before delivery is due. Commodity trading is done through a commodities broker. The commodity exchanges in the United States are: the Chicago Board of Trade Trade/Chicago Mercantile Exchange (CME Group), which trades agricultural futures as well as the S&P 500 index, Russell 2000 index, Nasdaq 100 index, several foreign currencies, and eurodollars; the New York Mercantile Exchange (NYMEX), which trades energy and precious metals; and the ICE Futures U.S. (ICE), which trades sugar, cotton, cocoa, coffee, and orange juice. The Continuous Commodities Index (CCI) was created in 1957 as a means to track the overall performance of the commodities markets. The CCI now trades as a future contract on the ICE Futures Exchange, and represents a way for investors to invest in a diversified group of commodities with one investment. The CCI has 17 equally-weighted commodity futures (crude oil, heating oil, natural gas, corn, soybeans, wheat, lean hogs, live cattle, and coffee). It is less energy intensive than some other commodity indexes.

M. DERIVATIVES. A "derivative" is a financial contract whose value depends on the value of one or more underlying assets, rates, or indices. The basic classes of derivatives are futures contracts, options, swaps, and forward rate agreements. According to the U.S. Commodity Futures Trading Commission, "[d]erivatives involve the trading of rights or obligations based on the underlying product, but do not directly transfer property. They are used to hedge risk or to exchange a floating rate of return for fixed rate of return. Derivatives include futures, options, and swaps. For example, futures contracts are derivatives of the physical contract and options on futures are derivatives of futures contracts." Derivatives can be traded on various commodity exchanges. Warren Buffet famously said that "[d]erivatives are financial weapons of mass destruction." A FAQ regarding derivatives is at <www.isda.org/educat/faqs. html>.

1. Futures Contract. A futures contract is an agreement to buy or sell a commodity at a set

price at a specified future date. Futures contracts are often used in business to hedge, or reduce, the risk of price fluctuations, changes in the interest rate, or changes in foreign currency exchange rates. However, futures contracts can also be used by investors to speculate on the future price of commodities and currencies. In the USA, agricultural futures contracts are traded at the Chicago Board of Trade/Chicago Mercantile Exchange (CME Group), the Kansas City Board of Trade, the Minneapolis Grain Exchange, the New York Cotton Exchange and the Coffee, Sugar and Cocoa Exchange. Futures in metals are traded at the COMEX in New York City. Crude oil futures are traded at the New York Mercantile Exchange and the Tokyo Commodity Exchange.

2. Swap Agreements. "Swap agreements" are privately-negotiated agreements between two parties to exchange (swap) cash flows, cash, foreign currencies, or market-linked returns at specified future intervals. PIMCO (March 31, 2009) pp. 43-44.

Credit Default Swaps. With a c*redit default swap* (CDS), the buyer of a swap pays a stream of payments (a premium) for the contractual right to receive a specified payment if a "credit event" occurs (typically default of the underlying debt). The seller of a swap receives that stream of payments for undertaking the contractual obligation to make specified payments if the "credit event" occurs. A market exists to buy and sell existing CDSs, and ordinarily sufficient transactions exist to establish a market value for "mark-to-market" purposes. See Section II.D, "FAS 157-4." Market reports often show the "implied credit spread" of a CDS, which is the difference between Treasury securities and non-Treasury securities that are identical in all respects except for quality rating. The "implied credit spread" is a way of measuring the cost of buying and selling protection against the credit event in question and is also the basis for arriving at the fair market value of a CDS. A wider credit spread indicates a deterioration of the referenced entity's creditworthiness and a greater likelihood of default. PIMCO (March 31, 2009) p. 24. See <www.pimco.com/LeftNav/Bond+Basics/2006/Credit+Default+Swaps+06-01-2006.htm>. A CDS thus operates like an insurance contract, except without any of the safeguards surrounding the insurance industry: there is no governmental regulation, no requirement of reserves, and the holder of a CDS need not own the underlying credit instrument, which allows someone to recover without suffering injury (thus encouraging the use of CDSs as a speculative investment). CDSs were invented in 1997 by JPMorgan Chase. CDSs were exempted from regulation under the Commodity Futures Modernization Act of 2000, signed by President Clinton. While CDSs create the impression that risk is being spread, the companies engaging in selling CDSs are sometimes so exposed to credit risk of their own that the buyer of a CDS has merely paid to substitute one bad risk for another. The unregulated CDS "market" handled its major crises in 2008 well, including the government takeover of Fannie Mae and Freddie Mac, the collapse of Icelandic bank Landsbanki, the collapse of Washington Mutual, and the collapse of Bear Stearns. On October 10, 2008, after Lehman Brothers filed for bankruptcy, the Lehman Brothers CDS Credit Event Auction was held to settle derivatives relating to Lehman Brothers' CDS. The auction determined that Lehman swaps were worth 8.625 cents on the dollar, meaning that sellers of swap protection must pay 91.375 cents on the dollar on their Lehman swaps. <www.creditfixings.com/information/affiliations/fixings/press_releases/results_of_lehmanbros.html>. Cash settlement of claims occurred on October 21, 2008. Of the $400 billion referencing Lehman, after netting and settling outstanding trades, only $8 billion changed hands, or 2%. <www.isda.org/press/press102108.html>. Similar auctions were held for Fannie Mae and Freddy Mac (sellers must pay 91.51 to 99.9 cents on the dollar), Washington Mutual (sellers must pay 57 cents on the dollar), Landsbanki Credit (sellers must pay 98.75 to

99.875 cents on the dollar), General Motors' corporate bonds (sellers must pay 97.5 cents on the dollar), and others. See <www.creditfixings.com/information/affiliations/fixings/press_releases.html>. These settlements worked well. However, the U.S. government pumped $123 billion into AIG, a counter-party on many Lehman swaps, so it is unclear what would have happened in the CDS marketplace had the U.S. government not bailed out AIG. In other words, it would be premature to declare that the CDS model can exist without financial support from the U.S. government, which entails (or should entail) government regulation, if the government's money is at risk.

Interest Rate Swap. An *interest rate swap* is a contract where two parties exchange commitments to pay or receive interest with respect to a certain amount of principal. Swaps can be caps, floors, collars, spreadlocks, etc. <www.pimco.com/LeftNav/Bond+Basics/2008/Interest+Rate+Swaps+Basics+1-08.htm>.

Foreign Currency Swap. A *foreign currency swap* is an agreement between two parties to buy and sell a currency at a fixed price on a future date. The value of the currency swap varies with fluctuations in the exchange rate. These contracts have an ascertainable market price. These contracts are exposed to market risk, foreign currency risk, and credit risk of the counterparty. PIMCO (March 31, 2009) pp. 42-43.

N. REAL ESTATE. Investors can invest in real estate by buying real property, or joining a partnership that owns real estate, or by purchasing an interest in a real estate investment trust (REIT).

O. PRECIOUS METALS. The allure of owning precious metals is timeless and universal. Gold and silver accumulation is reported in the Old Testament (King Solomon), Greek mythology (King Midas), and folklore (The Seven Cities of Gold, the goose that laid the golden egg), and continues today. Apart from the fact that the search for gold brought Spaniards to Texas, North America has experienced three "gold rushes," in Georgia in 1829, in California in 1848-1852, and the Yukon in 1898-1899. All the gold ever mined is said to amount to a cube 64 feet per side–a surprisingly small amount that, coupled with gold's luster, freedom from tarnishing, and adaptability to being worn as jewelry or woven into clothing, has supported its image as a precious commodity. Investors can invest in precious metals by investing in mining companies, or investment funds that are invested in the metal, or in futures contracts, or by taking possession of the physical metal.

Gold. Tradition holds that gold is a good investment to protect against inflation. This view is not supported by historical data. While gold does generally grow in value as the currency appreciates, gold has had wide swings and has been priced low for years at a time. Also, gold is usually thought to move inversely to the value of the U.S. dollar, but that has not been true since 2008. The issue is complicated by the fact that gold is traded around the world, and that exchange rates complicate the picture as to how gold is doing in one currency. Theories abound on the internet about central banks surreptitiously suppressing the price of gold.

In prices adjusted to 2008 dollars, gold neared $1,500 per ounce in 1720, and 1750, and during the American Civil War, then dropped to a low after WWI, then soared to $2,000 per ounce in 1980, then dropped to a low in 1999 and spiked again to $1,004 in 2008 and is now trading at $937.20 per ounce. Larmer (2009) p. 42.

Regardless, the world's gold supply is dwindling. More than half of the gold ever mined has been mined in the last 50 years. Larmer (2009) p. 42. "Gone are the hundred-mile-long gold reefs in South Africa or cherry-sized nuggets in California. Most of the gold left to mine exists as traces buried in remote and fragile corners of the globe." *Id.* p. 43.

The use of gold for jewelry far outpaces its use for electronics and dentistry. Larmer (2009) p. 43.

Popular one ounce gold coins held for investment or as a currency of last resort are Australia Kangaroos, Austria Philharmonics, Austria 100 Coronas, Canada Maple Leafs, South African Krugerands, United State Eagles, Chinese Pandas, and Mexico 50 pesos. One ounce gold coins sell at a premium (“coin premium”) above the price of one ounce of gold bullion, even in lots of ten that have the same weight as gold bullion. On July 22, 2009, the coin premiums above bullion were: American Buffalos (9.6%); American Eagles (4.5%), Austria Philharmonics (4.5%), Maple Leafs (4%), and Krugerands (4%). The different coin premiums for identical amounts of gold is attributable to supply and demand, but ultimately the difference between coins with equivalent gold content is purely psychological.

In the first half of 2009, a number of hedge funds made significant purchases of gold futures, shares of gold producers, and physical gold. These include Paulson & Co., Greenlight Capital, Eton Park Capital Management, Hayman Advisors, Blue Ridge Capital Holdings, Passport Capital, and Highfields Capital Management. The speculation is that these funds are concerned that government bailouts will pour new currency into the market, reducing the value of the currencies and sparking inflation. The fund Third Point has reduced its holding of gold-related assets.

Silver. While silver is somewhat scarce, it is the most plentiful and least valuable of the precious metals. Because silver is found in the ground compounded with zinc, copper or lead, silver production is mostly a by-product of zinc, copper, and lead mining. The biggest producers of silver are Peru, Mexico, China, Australia and Chile. Investors can purchase silver coins and silver bars, or invest in silver futures, silver mining companies, or silver ETFs.

Platinum. Platinum is a precious metal that is used extensively in automobiles, chemicals, electrical products, jewelry and even glass manufacturing. The bulk of the world's platinum is produced in Russia and South Africa. Platinum futures are traded on the New York Mercantile Exchange. Investors can also purchase platinum coins and platinum bars, invest in platinum mining companies, and buy shares in platinum ETFs.

Palladium. Palladium is a metal that is mined primarily in Russia (at least 50% world share), South Africa, Canada and the U.S. Palladium is around 15 times rarer than gold. Palladium is a low-cost substitute for platinum in catalytic converters, and over half of the supply of palladium goes for that purpose, so automobile manufacturing greatly affects the value of palladium. Palladium can be alloyed to gold to make “white gold.” The world’s largest producer of palladium is MMC Norilsk Nickel, which is headquartered in Moscow and listed on the NASDAQ. It is also the world’s leading producer of nickel and is Russia's leading producer of gold. It is also among the top four world platinum producers, and is in the top ten copper producers. The Norilsk mining and processing site in Siberia is the world's largest heavy metals smelting complex, and has been listed as one of the world’s ten worst environmental pollution spots. Palladium prices are volatile. The Russian government controls production and sale of its palladium, and it manipulates the supply of palladium for its own purposes. The market price of palladium is established by the “London fix.” Palladium futures are traded on the New York Mercantile Exchange. Norilsk is attempting to circumvent the market by entering into direct contracts with purchasers. In early 2001, palladium reached $1,100 per ounce, near the price of platinum. Since July of 2008, palladium has dropped from $450 per ounce to about $175 per ounce and back up to $250 per ounce. Platinum and palladium come from the same mines, have similar chemical properties, and both are used to make catalytic converters on automobiles. But the price of platinum is usually

much higher because the supply of platinum is much less.

Palladium-related equities include North American Palladium & Stillwater Mining. A new ETFs Palladium Trust is pending regulatory approval.

P. HEDGE FUNDS. There is no exact definition of the term "hedge fund" in federal or state securities laws. The term “hedge fund” describes a variety of different types of investment vehicles that share similar characteristics. Hedge funds are basically private investment pools for wealthy, financially-sophisticated investors. Hedge funds typically are organized as partnerships or LLCs, with the general partner (or managing member) managing the fund's portfolio, making investment decisions, and normally having a significant personal investment in the fund. Hedge funds are generally not directly available to the retail public. See *Report of The President’s Working Group on Financial Markets* (1999) p. 1 <https://treas.gov/press/releases/reports/hedgfund.pdf>. Hedge funds are not viewed by the government as an asset class or an industry, but rather as a business model for the management of capital. <www.treas.gov/press/releases/hp486.htm>. Because hedge fund managers often rely on leverage to amplify the effect of their investment decisions, hedge funds have a greater impact on financial markets than their pool of capital would suggest. To get positive investment performance regardless of the direction of the stock and bond markets, hedge fund managers use sophisticated investment strategies and techniques that may include: short selling; arbitrage; hedging; leveraging; concentrating positions in securities of a single issuer or market; investing in distressed or bankrupt companies; investing in derivatives (e.g., options and futures contracts); investing in volatile international markets; and investing in privately issued securities; to name a few. There are hedge funds who invest in other hedge funds. <www.finra.org/Investors/ProtectYourself/InvestorAlerts/MutualFunds/P006028>. See further discussion at <http://knowledge.wharton.upenn.edu/article.cfm?articleid=1931>.

Hedge funds raise systemic issues regarding our financial system. These concerns were repeatedly noted by columnist Molly Ivins, who wrote:

> Hedge funds are derivatives on steroids, and the near collapse of one hedge fund, Long Term Capital Management, nearly caused the financial equivalent of "the China syndrome." Alan Greenspan and Fed officials convinced bankers to join the LTCM rescue effort only when they pointed out that failure would result in "chaos" in financial markets and could damage economic growth worldwide.

<www.creators.com/opinion/molly-ivins/molly-ivins-october-19.html>.

> Late last month, the U.S. Court of Appeals struck down a new rule by the Securities and Exchange Commission requiring mandatory registration with the SEC for most hedge funds. This may not strike you as the end of the world, but that's because you've either forgotten what a hedge fund is or how much trouble they can get us into.

The Suicide of Capitalism (July 17, 2006) <www.creators.com/opinion/molly-ivins/the-suicide-of-capitalism.html>.

XII. FINANCIAL FRAUDS AND OTHER CAUSES FOR CONCERN. Even honest people can be influenced by the company they keep. There is no limit to the clever ways dishonest people will try to swindle investors.

1. Insider Trading. “Insider trading” is the illegal buying or selling of securities by officers of a corporation based on information about the company that is unavailable to the general public. To be criminal, the information must be “material information.” In 2006, the highest civil court in

France upheld the conviction of American investor George Soros for profiting from insider information when he bought and sold Société Générale shares. In April of 2009, the former CEO of Quest Communications started a two-year federal prison sentence for selling $52 million worth of stock in 2001 based on insider information. ImClone generated a number of insider trading convictions, including ImClone CEO who received a 7-year sentence and Martha Stewart, who received 5 months of prison and 5 months of house arrest for hiding an insider transaction. There have been recent reports of stock brokers leaving their phones off the hook after completing a conversation so that the person on the other end of the line can hear information that s/he shouldn't hear.

2. Stock Price Manipulation. There are numerous convictions for various schemes of manipulating stock prices. In 2007, one Dallas man pled guilty to manipulating stock prices by engaging in rigged unreported trades of the shares with co-conspirators in order to create a false impression that the stock was increasing in value. In May of 2009 a Florida man was charged with faxing a bogus press release regarding a purported takeover of a company, which drove up the price of his stock which he sold for a greater profit. In May, 2009, the District Attorney in Manhattan filed charges against a group of stockbrokers for defrauding clients by inducing them to pay too much for stock held by the brokerage company. They allegedly had 800 victims, some elderly and who are having to return to work because their investment wealth was lost in the scheme.

3. Freddie Mac and Fannie Mae. In June of 2003, Freddie Mac's top executives were forced to resign in the wake of disclosures that the company had misstated its income by $4.5 billion. On September 20, 2004, the Office of Federal Housing Enterprise Oversight announced that Fannie Mae had engaged in widespread accounting errors attributable to management's desire to receive enhanced bonuses. An audit resulted in a downward adjustment of reported profits of $ 6.3 billion. In December of 2006, U.S. regulators filed civil suit against the former CEO, CFO, and Comptroller, accusing them of overstating earnings to maximize their bonuses. In 2008, the former CEO, CFO and Comptroller agreed to pay $3 million in settlement of the government's claims. In June of 2008, the Wall Street Journal reported that two former Fannie Mae executive officers received below market rate interest mortgages from Countrywide Financial, a large seller of mortgages to Fannie Mae. Fannie Mae and Freddie Mac's political contributions and lobbying efforts, described in many articles, raises a concern that members of Congress involved in the regulation of the mortgage industry may have been influenced to give these organizations too much autonomy. Taking their government subsidized earnings and feeding it back into the political system certainly does not inspire confidence in the system.

4. Accounting Fraud. At Enron, people in the financial department created off-the-books partnerships and used questionable accounting procedures to hide debt and overstate earnings. The fraud collapsed the company and led to bankruptcy. At Worldcom, the company's CFO fraudulently took billions of dollars in operating expenses and dispersed them through capital expense accounts where they would be charged off slowly, and in smaller amounts, instead of reporting them immediately. This resulted in the company reporting a profit in 2001 of $1.4 billion profit, when the company had actually suffered a loss. A list of old accounting scandals is at <www.forbes.com/2002/07/25/accountingtracker.html>. KPMG paid a fine of $456 million to avoid an indictment by the US Department of Justice for what the DOJ claimed were fraudulent tax shelters. In 2002, the SEC charged that 1997 and 2002 Xerox fraudulently accelerated the reporting of earnings on leased equipment. According to the SEC, 1997 pretax earnings were overstated by $405 million, in 1998 by $655 million, and in 1999 by $511 million. Xerox paid

a $10 million penalty, and a group of executives paid a penalty and disgorgement and interest amounting to $22 million. Xerox's auditor, KPMG, was charged with wrongdoing and paid $22.475 million in disgorgement, interest and penalty. An order was entered "finding that KPMG caused and willfully aided and abetted Xerox's violations of the anti-fraud, reporting, recordkeeping and internal controls provisions of the federal securities laws." <www.sec.gov/news/press/2005- 59.htm>.

5. Crooked Investment Reports. In 2001, then New York Attorney General Eliot Spitzer filed charges against Merrill Lynch and other major Wall Street firms for giving "buy" recommendations based on a desire to obtain and keep firms as investment banking clients of Merrill Lynch, and not based on the merits of the companies in question. Spitzer relied on internal e-mails, including one where an analyst was privately trashing companies at the same time that he was publicly recommending the purchase of their shares. In 2002, Merrill Lynch paid a $100 million to settle with the state of New York, and another $100 million to resolve related claims by the NASD and SEC. Citigroup paid $5 million to settle administrative charges brought by the National Association of Securities Dealers, asserting that an employee issued unrealistically optimistic research about a company in order to win investment banking business.

6. Mutual Fund Fraud. In 2003, the public became aware that some mutual funds allowed abusive--and, in some cases, illegal--trades in their mutual funds. Most of the gains from these trades went to the traders who pursued market-timing and late-trading strategies. When those activities were revealed, investors redeemed their shares from the implicated funds so that revenues plummeted. <www.federalreserve.gov/pubs/feds/2009/200906/200906pap.pdf>.

7. Back-Dated Options. Stock option backdating occurs when the stock option grant reflects a date in the past, when the stock price was lower than on the real date of grant. This allows the person who receives the option to have the benefit of an artificially low stock price, which is eventually converted to capital gain income when the option is exercised. In 2005, economics professor Erik Lie published an article in which he demonstrated that employee stock options frequently were granted on dates of lows of company stock, to the degree that the timing couldn't be random. <www.biz.uiowa.edu/faculty/elie/Grants-MS.pdf>. This uncovered a multi-billion dollar fraud that is estimated to have affected 18.9% of all employee stock option grants. <www.thehcmr.org/issue2_1/stat_scandal.pdf>. On February 14, 2007, the 35-year old CEO of the company that makes the "Grand Theft Auto" video games pled guilty to first degree falsification of business records, accepting 5 years probation and a fine of $7.26 million. In January of 2008, the CEO of Brocade Communications started a 21-month Federal prison sentence for backdating options. In March of 2009, the former CEO of KB Homes was indicted for back-dating options.

8. Ponzi Schemes. A "Ponzi scheme" is an investment vehicle managed by an unscrupulous person who promises fantastic rates of return to attract investors, then uses the capital of new investors to pay high rates of return to existing investors. The scheme is name after Carlo Ponzi, a Boston-based illegal immigrant from Italy who swindled Northeasterners out of millions of dollars for two years ending in 1920, in a scheme allegedly based on converting foreign postage coupons into U.S. currency. His investors lost 70% of their money and Ponzi wound up in prison. More recently Bernard Madoff conducted a Ponzi scheme involving billions of dollars, as did Richard Piccoli of Buffalo, New York ($50 million), and Joseph Forte of Philadelphia ($80 million), to name just a few. Allen Stanford, a Texan with an expansive financial network, has been criminally charged with maintaining a Ponzi scheme through an Antiguan bank. Warren Buffet

said “Only when the tide goes out do you discover who's been swimming naked.” Sure enough, the current economic downturn has exposed dozens of Ponzi schemes. Go to Google News and search for “Ponzi Scheme” to see story-after-story of such frauds. On March 17, 2009, the Commissioner of Internal Revenue gave testimony on the proper tax treatment for Ponzi scheme losses. See <http://finance.senate.gov/hearings/testimony/2009test/031709dstest.pdf>. An AICPA paper on the subject is at <www.aicpa.org/pubs/taxadv/apr2009/pfp.pdf>.

9. Conflicts of Interest for Government Employees. For years people have been concerned about the “revolving door” between the private sector and the government, as people move from companies into government jobs and from government jobs into companies in a way that raises concerns about conflicts of interest, favoritism, bias, etc. Robert Rubin left Goldman Sachs to become Treasury Secretary, and left Treasury to join Citibank. Vice-President Cheney left his job as CEO of Haliburton, which later received no-bid jobs supporting the U.S. military mission in Iraq and the effort to reconstruct Iraq after the U.S. invasion was concluded. The influence of the financial industry in Congress seems to be weighty. On April 27, 2009, Senator Dick Durban said this about the U.S. Senate: “And the banks -- hard to believe in a time when we're facing a banking crisis that many of the banks created -- are still the most powerful lobby on Capitol Hill. And they frankly own the place.” <www.progressillinois.com/2009/4/29/durbin-banks-own-the-place>.

There is a natural connection between regulators and the industries they regulate that has the potential to create conscious or unconscious bias. The New York Times published a lengthy analysis of the relationships Treasury Secretary Timothy Geithner developed as President of the New York Federal Reserve Bank, that have carried over to his position as Secretary of the Treasury. The article questions whether he has been too supportive of bailouts that protect financial institutions, and their investors, at the expense of the taxpayers. See <http://www.nytimes.com/2009/04/27/business/27geithner.html?_r=1&hp=&pagewanted=print>.

In February of 2008, the PBGC Board of Directors voted to reallocate its $48.4 billion investment portfolio from Treasury securities to a mixture of stock, bonds, real estate, and private equity. See Section IV.E.4. This entailed hiring managers for $2.5 billion in real estate and private equity investments, with projected fees of $100 million over ten years. *Id.* at p. 3. The former PBGC Director was accused, in a May 15, 2009 report by the Office of Inspector General, of having improper contacts with Goldman Sachs, Blackrock, and JP Morgan, during the bidding process to become portfolio managers, at a time when such contacts were prohibited. <http://edlabor.house.gov/documents/111/pdf/oversight/PBGC-OIG-Report20090511.pdf>. When the former director was called to testify before the Senate Special Committee on Aging on May 20, 2009, he invoked his 5th Amendment privilege.

Fannie Mae and Freddie Mac are a special case. According to one report, over the past decade, they have spent nearly $200 million on lobbying and campaign contributions. <www.politico.com/news/stories/0708/11781.html>. According to the Center for Responsive Politics, between 1989 and 2008 the top four politicians receiving money from Fannie Mae and Freddie Mac were Senator Christopher Dodd ($133,900) (Chairman of the Senate Banking Committee), Senator John Kerry ($111,000), Senator Barack Obama ($105,849), and Senator Hillary Clinton, ($75,550). On September 21, 2008, the New York Times published a story saying that “Senator John McCain’s campaign manager was paid more than $30,000 a month for five years as president of an advocacy group set up by the mortgage giants Fannie Mae and Freddie Mac to defend them against stricter regulations . . . .” <www.nytimes.com/2008/09/22/us/politics/22m

ccain.html>. According to the Center for Responsive Politics, the list of the top ten political donors since 1989 are: AT&T($41,607,526); American Fed'n of State, County & Municipal Employees ($40,936,673); National Ass'n of Realtors ($34,963,513); Goldman Sachs ($31,014,972); Int'l Brotherhood of Electrical Workers ($30,583,781); American Ass'n for Justice ($30,581,429); National Educa-tion Ass'n ($29,889,575); Laborers Union ($28,167,600); Service Employees International Union ($27,498,057); Carpenters & Joiners Union ($27,328,258). A look at the sizeable figures for the top 100 contributors is eye-opening. <www. opensecrets.org/orgs/list.php?order=A>.

Some writers have suggested that Goldman Sachs has a lock on important government positions. The Author has not found substantiation for that claim. It is interesting to note that Lehman Brothers is the only Wall Street Bank that has been allowed to fail.

XIII. ECONOMIC RISKS. We are currently faced with a host of economic threats to our financial well-being. Here are some of the prominent ones.

A. ANNUAL BUDGET DEFICIT; NATIONAL DEBT; FEDERAL INSOLVENCY.

Annual Deficit. On December 13, 2007, the Director of the Congressional Budget Office testified to the House Committee on the Budget saying this:

> Significant uncertainty surrounds long-term fiscal projections, but under any plausible scenario, the federal budget is on an unsustainable path—that is, federal debt will grow much faster than the economy over the long run. In the absence of significant changes in policy, rising costs for health care and the aging of the U.S. population will cause federal spending to grow rapidly. If federal revenues as a share of gross domestic product (GDP) remain at their current level, that rise in spending will eventually cause future budget deficits to become unsustainable. To prevent deficits from growing to levels that could impose substantial costs on the economy, revenues must rise as a share of GDP, or projected spending must fall—or some combination of the two outcomes must be achieved.

<www.cbo.gov/ftpdocs/88xx/doc8884/12-13-Testimony.htm>. The Director of the Congressional Budget Office, in a May 19, 2008, letter to the House Committee on the Budget, said this about budget deficits:

> Sustained and rising budget deficits would affect the economy by absorbing funds from the nation's pool of savings and reducing investment in the domestic capital stock and in foreign assets. As capital investment dwindled, the growth of workers' productivity and of real (inflation-adjusted) wages would gradually slow and begin to stagnate. As capital became scarce relative to labor, real interest rates would rise. In the near term, foreign investors would probably increase their financing of investment in the United States, which would help soften the impact of rising deficits on productivity in the United States, but borrowing from abroad would not be without its costs. Over time, foreign investors would claim larger and larger shares of the nation's output, and fewer resources would be available for domestic consumption.
>
> To be sure, budget deficits are not always harmful. When the economy is in a recession, deficits can stimulate demand for goods and services in the short run and bring the economy back to full employment. The deficits that would arise under CBO's alternative fiscal scenario, however, would occur not because the federal government

> was trying to pull the economy out of a recession but for a more fundamental reason; they would instead arise because the government was spending increasing amounts—particularly for health care programs and for interest payments on accumulated debt—without additional revenues to pay for that spending. Over time, those deficits would crowd out productive investment in capital in the United States.
>
> Budget deficits that grow faster than the economy ultimately become unsustainable. As the government attempts to finance its interest payments by issuing more debt, the rise in deficits accelerates. That, in turn, leads to a vicious circle in which the government issues ever-larger amounts of debt in order to pay ever-higher interest charges. In the end, the costs of servicing the debt outstrip the economic resources available for financing those expenditures. At some point, then, policy has to change: Taxes must be raised, spending must be reduced, or both.

<www.cbo.gov/ftpdocs/92xx/doc9216/Letter-to-Ryan.1.1.shtml>. The Director left out another alternative to the U.S. government's inability to pay the interest on the national debt: sovereign default.* Milton Friedman stated this view on deficits:

> To summarize, deficits are bad--but not because they necessarily raise interest rates. They are bad because they encourage political irresponsibility. They enable our representatives in Washington to buy votes at our expense without having to vote explicitly for taxes to finance the largesse. The result is a bigger government and a poorer nation. That is why I favor a constitutional amendment requiring Congress to balance the budget and limit taxation.

Milton Friedman, "The Taxes Called Deficits," Wall Street Journal (April 24, 1984) <http://www.opinionjournal.com/extra/?id=110009267>. On June 25, 2009, the CBO released its Long-Term Budget Outlook, projecting that deficits will be 7.5% of GDP by 2020, almost 15% by 2035, and over 40% by the end of the 75-year budget window, if we continue current policies. <http://www.cbo.gov/ftpdocs/102xx/doc10297/06-25-LTBO.pdf>.

National Debt. On July 3, 2009, the U.S. National Debt* held by the public was at $7.14 trillion dollars. The total public outstanding debt (included debt owed to the Social Security Trust Fund) was $11,490,988,069,885.84. The population of the U.S.A. is This equates to approximately $3,744.80 per person in the U.S.A. The national debt is essentially a promise by the U.S. government to pay interest and principal to bond holders out of future tax revenue. Because the U.S. government's budget runs an annual deficit, there is no prospect that the national debt can ever be paid off – unless it is written down in a form of sovereign default. History shows that governments who are unable to perpetuate borrowing at affordable interest rates will attempt to make ends meet by debasing the currency and monetizing the debt*. Either scheme reduces the value of the currency, which is reflected in increased prices, or inflation.

Is the U.S.A. Bankrupt? Professor Laurence J. Kotlikoff has been writing and lecturing about the insolvency of the United States, considering its national debt and the guarantees it has issued. Kotlikoff (2006). Professor Kotlikoff concludes: "Countries can and do go bankrupt. The United States, with its $65.9 trillion fiscal gap, seems clearly headed down that path." *Id.* p. 248. See *A Citizen's Guide to the 2008 Financial Report of the United States Government* (2008) for a disturbing assessment of the unsustainable path the United States is on, with its chronic deficits, ballooning national debt, and unsupportable obligations to maintain Social Security, Medicare, and Medicaid. <www.fms.treas.gov/fr/08frusg/

08frusg.pdf>.

B. AMERICAN TRADE DEFICIT. Anyone interested in the effect of our negative balance of trade should read Warren Buffet's *Fortune Magazine* article *America's Growing Trade Deficit Is Selling The Nation Out From Under Us. Here's A Way To Fix The Problem--And We Need To Do It Now* (November 10, 2003), <money.cnn.com/magazines/fortune/fortune_archive/2003/11/10/352872/index.htm>. His story about the two islands, Thriftville and Squanderville, explains in plain terms the long run problem of our trade deficit. Former FED Chairman Paul Volcker said:

> [T]he United States as a whole [has] become addicted to spending and consuming beyond its capacity to produce. The result has been a practical disappearance of personal savings, rapidly rising imports, and a huge deficit in trade. The process has been extended by the willingness of other countries–foreign investors, businesses, and governments–to close the gaps by buying our Treasury Securities, by directly or indirectly financing our homebuyers as well as our banks, and increasingly by buying into our businesses.

Volcker (April 8, 2008) p. 3.

Our trade deficit transfers massive amounts of U.S. dollars to other countries, some of which hold their natural resources and means of production as government assets, meaning that the dollars they earn in trade belong to the foreign governments and not their citizens. The foreign holders of U.S. dollars are attracted to investing those dollars back in the United States, which they do by buying land, by establishing foreign businesses in the United States, by buying ownership interests in American businesses and banks, by buying bonds of U.S. corporations, and by buying securities issued by the United States Treasury. Over time, foreigners end up owning more and more of U.S. assets, and holding more and more of the debt owed by U.S. companies and the U.S. government. The political, military and economic consequences of this have not been widely-explored, but they are troubling. Additionally, if the supply of claims against American wealth ever reaches the saturation point, then our companies and our country will have difficulty raising capital, which will require companies to raise capital through credit and not sales of stock, and corporations and the government will have to offer higher interest rates to attract foreign leaders. Higher interest rates will be a drag on the economy, and will make home mortgages and consumer debt more expensive.

C. CHINA. China is engaged in what is essentially an economic war, or prelude to war, against the United States and to a lesser degree other countries. As explained in the 2008 Report to Congress of the U.S.-China Economic and Security Review Commission, China has a state-directed economic system that is guided by the geopolitical views of Chinese rulers, not Chinese businessmen. On the currency side, China intervenes in currency markets to keep its currency, the renminbi, artificially depressed against the currencies of its trading partners. This violates the rules of the International Monetary Fund, of which China is a member, and worsens trade deficits of China's trading partners. Instead of investing its trade surplus in the welfare of the Chinese people through education, health care, and pensions, China has been investing the surplus through sovereign wealth funds to gain global political advantage and to lock up supplies of scare resources around the world. The Chinese government fails to control the rampant counterfeiting of Western intellectual property, which gives a competitive advantage to Chinese companies using IP illegally. Lax safety and inspection standards permit the export of Chinese products that contain noxious or poisonous substances. The Chinese government violates just about every standard of openness and free competition in its trade policies, including subsidies to Chinese industry, discriminatory

treatment of foreign companies, below-market-price dumping of Chinese products in foreign markets, etc. See <www.uscc.gov/annual_report/2008/08_annual_report.php>. Someday China will blockade or invade Taiwan in a pointless effort to impose its solution on the Two China Problem, collapsing stock markets around the world, putting Japan into a panic, and plunging the world into a new cold war.

D. OVERINVESTMENT IN STOCKS; UNDERINVESTMENT IN FIXED INCOME. In a 2008 article, Professors Allen and Carletti evaluated the roles of banks in financial systems. See Allen and Carletti (2008). In that article they evaluated the households of various industrial regions to determine the mix of investments, and see how much wealth was invested in different kinds of investments. They found that equity investments (i.e., stocks) were 120% of GDP in the UK, and 100% of GDP in the United States, and about 80% in Japan and other Asian countries, but only 30% in Europe. Given the volatility of stock prices, households in the UK and U.S. bear more financial risk than European households. Looking just at the U.S. profile, investments ranked as a percent of GDP were: shares and other equity (120%); insurance and pensions funds (100%); banks (60%); investment funds (30%); securities other than shares (30%); and other (10%). *Id.* p. 29.

E. LEVERAGED INVESTING. Leverage is the use of credit to make investments. Banks use leverage. Businesses use leverage. Investment funds use leverage. Individual investors use leverage. In an economy with rising asset values, leverage permits the leveraged investor to have gains on investment beyond what unleveraged investment of capital would permit. The extra increase in wealth resulting from leveraged investment exacerbates the "wealth effect," or the increased spending that accompanies an increase or perceived increase in wealth. In an economy of declining asset values, however, the drop in asset values is magnified because it reduces the value of the collateral for the leverage loans, resulting in lenders asking for the loans to be paid down, which requires investors to sell part of the collateral, which further depresses asset prices, which leads to more deleveraging, in a negative feedback loop. Leverage magnifies the direction of the investment, which is good going up but bad going down.

Regulated institutions, like commercial banks, have leverage ratios imposed by bank regulators. Investment banks and hedge funds, however, are not subject to the same limits. A common measure of leverage is the "gross leverage ratio" (GLR), which compares a company's debt to its assets. The GLR is total assets divided by total stockholders equity. The higher the ratio, the less assets need to fall in value before a company's equity is wiped out. At the end of the first quarter of 2008, investment bank Lehman Brothers's GLR was 32:1. By the end of the second quarter it had dropped to 25:1. Lehman declared bankruptcy on September 12, 2008. Warren Buffett had this to say about leverage: "I've seen more people fail because of liquor and leverage - leverage being borrowed money. You really don't need leverage in this world much. If you're smart, you're going to make a lot of money without borrowing."

F. INCREASED GOVERNMENTAL PRESENCE IN THE ECONOMY. The Great Depression radically changed financial relationships in America. The President confiscated privately-held gold and devalued the dollar. The Congress:created the SEC to regulate and supervise the stock markets; created the FDIC to insure bank deposits; separated commercial banking from insurance and investment banking; and transferred FED power from the New York Federal Reserve Bank to the FED apparatus in Washington. President Obama's proposed regulatory changes are nowhere near as ambitious as FDR's New Deal, but his proposals do bring new areas of the finance industry under regulatory controls. What they leave undone is a ban against the creation of "too big to fail" entities. And the

policies initiated under President Bush and continued under President Obama, of federal ownership of banks, insurance companies, finance companies, and the huge loans which various federal instrumentalitics have made to companies, all need to be unwound if we want to preserve the free market. Federal subsidies of some companies in preference to other companies will destroy competition in the long run.

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