The book includes a chapter with applications of the value of life to radiation exposure, new drugs, and road safety. This chapter should be useful for those doing cost-benefit analysis.

My only criticism of the book is that the author does not distinguish between those problems which are unique to lives and those that arise for other, less controversial, commodities. Any "irreplaceable" commodity presents problems for cost-benefit analysis. One can value the commodity as the amount of insurance the owner would buy (insurance), the amount the owner would pay to avoid the loss of the commodity (ransom), the marginal rate of substitution of dollars for a small change in the probability of loss (protection), or the amount of compensation that one would accept for a certain loss of the commodity (compensation). Cook and Graham[10] have shown that the values for a normal irreplaceable commodity have the following ranking: insurance < ransom < protection < compensation. For example, a family home would be an irreplaceable commodity for most people. If the government were to plan a project which would cause the loss of someone's home, which of these measures would be appropriate? Would it matter if it were not known which person's home would be destroyed? Would the value depend on the size of the population subject to the risk? Does it matter if compensation is paid? Would it matter is the loss would not affect anyone currently alive? Death is an extreme example of an irreplaceable commodity, one in which the compensation value may be infinite or undefined. Nevertheless, the book gives the impression that questions such as these only arise for the risk of death. An examination of some of these questions in the context of less emotionally charged commodities might provide insights into the appropriate method for valuing lives.

Anyone wishing to learn about what economists have to say about the value of life will find that this book offers a very comprehensive examination of the field. Those who are already familiar with Jones-Lee's previous publications may find that some of the ideas are not new, but the book will be essential reading for those interested in the value of life.

Insurance Company Finance and Investments (American Institute For Property and Liability Underwriters), 1990.

Reviewer: David C. Shimko, Assistant Professor of Finance, University of Southern California

As the forward states, "The Second Edition of *Insurance Company Finance and Investments* (ICFI) was written specifically to prepare students to meet the current educational objectives of the AIAF [Associate in Insurance Accounting and Finance] 113 course." The program assumes students have working knowledge of insurance principles and exposure to general acccounting

[10]Philip J. Cook and Daniel A. Graham, "The Demand for Insurance and Protection: The Case of Irreplaceable Commodities", *Quarterly Journal of Economics*, 91 (February 1977), p.155.

practices. It is recommended for technical accounting, statistical, financial and systems personnel of insurance companies.

The text was written in close concert with examination authorities. As such, it provides an excellent source for material related to the AIAF 113 exam. Students using the text to prepare for the exam will be satisfied that coverage is generally concise, exhaustive and accurate. To pass the exam, students need to study this book carefully.

Academics, practitioners and other students of finance interested in application of financial techniques to insurance problems may also be interested in this book. For these readers, I urge some caution.

Academics, practitioners and other students of finance interested in application of financial techniques to insurance problems may also be interested in this book. For these readers, I urge some caution.

Chapter 1 (The Financial System) describes the structure of the financial system in the U.S. Unlike many financial texts, ICFI interweaves details of the insurance provision system into the overall financial system. The result is a bird's-eye view of financial intermediation with a focus on the insurance industry. The presentation is up-to-date, mostly factual, and would be considered complete for a student at the undergraduate level. The authors occasionally intersperse subjective material; this is of great value to beginning students in the area. The chapter also discusses the regulatory system in appropriate detail.

Chapter 2 (Financial Management) begins the process of integrating finance theory into insurance practice. It provides a quick view of financial management concepts, including time value, risk and return, portfolio theory, and leverage. The application to insurance companies at the end of the chapter is thoughtful and comprehensive; for example, economic cash flows and leverage are shown to take on subtly different meanings in insurance applications. However, the finance theory in the beginning of the chapter is limited. The presentation of finance theory is innocent of modern developments in the finance field. The level of analysis is consistent with value maximization, institutional constraints and transaction costs, but it overlooks agency, signalling, and strategic considerations in the determination of optimal financial policies.

Chapter 3 (Cash Management) presents basic working capital management principles on the level of an undergraduate finance text. The presentation is factual if desultory, and reasonably comprehensive. However, the link to insurance practices is weak. For example, we learn about trade credit scoring systems, but never find out why they are important for insurers. Calculations of float costs would be desirable, as well as a link to shareholder wealth maximization, a principle stressed in Chapter 2.

Chapter 4 (Captial Structure) makes a clear distinction between insurance approaches and non-insurance approaches to the determination of optimal capital structure. Unfortunately, the presentation of the financial theory of capital structure overlooks modern developments in the field. The EPS/EBIT approach lacks risk considerations, and the value of tax deductibility is never calculated. However, insurance companies rarely use debt, according to the authors. It would be interesting to know what features of insurance companies make debt undesirable.

Chapter 5 (Insurance Company Income and Dividend Policy) provides an excellent (but not information-theoretic) description of income measurement and dividend payout policies. The empirical facts are interesting, and the discussion of the real effects of apparently nominal accounting changes is compelling.

Chapter 6 (Financial Planning) provides a typical discussion of asset-side decision rules, capital budgeting and capital rationing. It leads the reader to incorporate beta estimates of underwriting portfolios into premium valuation, but the linkage is never forged. The discussion of the ISO State X method at the end of the chapter is interesting and thorough.

Chapter 7 (Investment Strategy) presents the Markowitz model of portfolio selection. The financial theorist may find the inclusion of the coefficient of variation as a measure of portfolio performance puzzling in this context. The expected introduction of a risk-free security never materializes. The authors seem to have assumed that insurance companies should diversify their holdings, without providing any explanation why. The chapter continues to describe interest rate risk, duration, and immunization. Once again, the technical aspects of the exposition are accurate, but the reader never knows why insurance companies should hedge interest rate risk.

The remaining chapters (8: The Economic Environment, 9: Financial Markets, 10: Money Markets and Related Instruments, and 11: Capital Markets) attempt to cover a great deal of material. Given the space limitations, the coverage is excellent. Occasionally, one will find the theory outdated; the monetarist/Keynesian dichotomy is dated, and discussions of the term structure do not mention modern theories. However, the student with limited time and the pressure to pass the AIAF 113 examination will find these chapters particularly valuable.

Overall, the text meets its objectives well. The examination-bound student will find the complete text indispensable. The competent and curious finance student (defined broadly) with interest in insurance company management should concentrate on Chapters 1, 5, 6 and the last part of Chapter 2. However, insurance practitioners seeking decision-making guidance from modern finance theory may wish to consult other sources.

Health Care, Technology, and the Competitive Environment, Edited by Henry P. Brehm and Ross M. Mullner, (Praeger Publishers, 1989).

Reviewer: Drucilla K. Barker, Hollins, College

In the past several years the United States health care system has undergone many fundamental changes. Advances in medical and biomedical technologies have affected the types of health care available, the settings in which care is delivered, and the costs of that care. This book is a collection of essays that examine the relationships between health care, technology, and the economic