

EDUCATION AND EXAMINATION COMMITTEE OF THE SOCIETY OF ACTUARIES (SOA)

FALL 2011

ADVANCED PORTFOLIO MANAGEMENT / INVESTMENT EXAM

INTRODUCTORY STUDY NOTE

1. The Advanced Portfolio Management / Investment examination for Fall 2011 will be given on **Friday, November 4th, from 8:30 a.m. - 11:45 a.m. and 1:30 p.m. – 4:45 p.m.** The examination will consist of six hours of written answer questions. The first 15 minutes in the morning session and 15 minutes in the afternoon session will be a read-through time before the actual 3 hours of writing begins.
2. The following table shows a recommended FSA module/exam sequence for the Investment track:

Your choice of the Operational Risk Module or the Financial Reporting Module may be taken at any time
Financial and Health Economics Module should be taken before the Advanced Portfolio Management (APMV) and Financial Economic Theory (FETE) Examinations
Investment Strategy Module Should be taken after both the APMV and FETE Examinations

This order is NOT mandated. Each candidate will determine the appropriate sequence based on factors including readiness to sit for an exam, exam administration schedules, or study time available.

3. Any changes in the Syllabus for this exam will be published under “Updates” in this exam’s home page on the SOA Web site.
4. The Syllabus material includes textbooks, online readings, as well as the study notes listed below. A complete listing of the Syllabus and Learning Objectives is located in this exam’s home page on the SOA Web site.

V-C13-07	Case Study
V-C111-07	Creating Value In Pension Plans (Or, Gentlemen Prefer Bonds)
V-C119-07	From Efficient Markets Theory To Behavioral Finance
V-C120-07	The Efficient Market Hypothesis And Its Critics
V-C122-07	Anomalies: The Law Of One Price In Financial Markets
V-C124-07	Chapter 7 of <i>Stocks For The Long Run: The Definitive Guide To Financial Market Returns and Long-Term Investment Strategies</i> , Third Edition
V-C126-07	Derivatives: Practices and Principles, pp.32–40 #
V-C127-09	Liability-Relative Strategic Asset Allocation Policies
V-C135-08	Living with Mortality: Longevity Bonds and Other Mortality-Linked Securities
V-C136-10	Fiduciary Liability Issues for Selection of Investments

V-C137-09	Introduction to the Formation of Investment Strategy for Life Insurance Companies and Pension Plans
V-C138-09	Managing Your Advisor: A Guide to Getting the Most Out of the Portfolio Management Process
V-C140-09	Specialty Guide on Economic Capital
V-C141-09	Modern Valuation Techniques
V-C143-09	Hedge Funds: Past, Present, and Future
V-C144-09	Hedge Funds: Risk and Return
V-C146-09	The Role of Commodities in Investment Portfolios
V-C148-09	Perspectives on the Equity Risk Premium
V-C149-09	Long-Term Returns on the Original S&P 500 Companies
V-C150-09	Stocks, Bonds, The Sharpe Ratio, and the Investment Horizon
V-C154-09	Balancing the Opportunities in Real Return Investments
V-C159-09	Long-Term Economic and Market Trends and Their Implications for Asset/Liability Management of Insurance Companies
V-C164-09	Value of Security Selection versus Asset Allocation in Credit Markets: Part II—an “Imperfect Foresight” Study
V-C165-09	Chapter 2 of <i>Global Financial Stability Report</i>
V-C168-09	Fixed Income Attribution: A Unified Framework—Part 1
V-C169-09	Fixed Income Attribution: A Unified Framework—Part 2
V-C171-09	Behavioral Finance and Investment Committee Decision Making
V-C172-09	Managing the Credit Cycle: A Behavioral Risk Interpretation
V-C173-09	What are Stock Investors’ Actual Historical Returns? Evidence From Dollar-Weighted Returns
V-C174-09	Chapters 20 & 22 of <i>Handbook of Alternative Assets</i>
V-C179-10	The Economics of Structured Finance
V-C180-10	The Three P’s of Total Risk Management
V-C181-10	Chapter 9, Sec. 9.3–9.32 of <i>Quantitative Risk Management</i>
V-C182-10	Modeling of Mortgage Defaults
V-C183-10	Bond-CDS Basis Handbook, pp. 3-48
V-C184-11	Deciphering the Liquidity and Credit Crunch 2007-2008
V-C185-11	Mind the Gap: Using Derivatives Overlays to Hedge Pension Duration
V-C186-11	When Safe Proved Risky: Commercial Paper During the Financial Crisis of 2007-2009
V-C187-11	The U.S. Equity Return Premium: Past, Present, and Future
V-C188-11	Default Risk and the Effective Duration of Bonds
V-C189-11	Mortgage Durations and Price Moves
V-C190-11	<i>Introduction to Credit Risk Modeling</i> , Chapter 1
V-C191-11	<i>Fixed Income Securities: Tools for Today’s Markets</i> , Chapters 5–7
V-C192-11	<i>Commercial Real Estate: Analysis & Investments</i> , Chapter 12
V-C193-10	<i>Asset/Liability Management of Financial Institutions</i> , Chapter 14

V-C126-07 There has been 2 printings of this booklet (which is now a study note) with different page numbering. The required reading is Section II.

5. ERRATA:

- ***Investment Management for Insurers***, edited by D. Babbel and F. Fabozzi:

On page 80, the 4th paragraph should be replaced with the following paragraph:

“Thus the volatility of surplus can be affected by up to six factors. For example, a firm that has high asset volatility may be able to mitigate such volatility through decreased investment leverage, high covariance with the liabilities, or low covariance with the underwriting results.”

- Fabozzi, *Handbook of Fixed Income Securities*, 7th Edition, 2005

On page 1096, the formula for Dispersion has an incorrect subscript. The formula should read:

$$\text{Dispersion} = \frac{\sum (t_j - D)^2 PV(CF_j)}{\sum PV(CF_j)}.$$

6. Exam booklets in both the morning and afternoon will include a cumulative normal distribution table identical to the one attached to this study note.

A formula package will also be available for this exam. It will be posted on the syllabus page: <http://www.soa.org/education/exam-reg/edu-exam-apm-detail.aspx>

Morning and afternoon exam booklets will also include a formula package identical to the one on the SOA Web site. The exam committee believes that by providing many key formulas, candidates would be able to focus more of their exam preparation time on the application of the formulas and concepts to demonstrate their understanding of the syllabus material and less time on memorizing formulas. The formula package was developed sequentially by reviewing the syllabus material. Candidates should be able to follow the flow of the formula package easily. We recommend that candidates use the formula package concurrently with the syllabus material. Not every formula in the syllabus is in the formula package. **Candidates are responsible for all formulas on the syllabus, including those not on the formula sheet.**

Candidates should carefully observe the subtle differences in similar formulas and their application to slightly different situations. For example, there are several versions of the Black-Scholes formula to differentiate between instruments paying dividends, tied to an index, etc. Candidates will be expected to recognize the correct formula to apply to a specific situation in the exam question.

Candidates will note that the formula package provides minimal information about where the formula occurs in the syllabus, and does not provide names or definitions of the formula or symbols used in the formula. With the wide variety of references and authors of the syllabus, candidates should recognize that the letter conventions and use of symbols may vary from one part of the syllabus to another and thus from one formula to another.

We believe that you will find the inclusion of the formula package to be a valuable study aide that will allow more of your preparation time to be spent mastering the learning objectives and learning outcomes.

7. Study Note V-C13-07 is a case study that will be used as a basis for questions on the examination. Be sure to answer the questions asked by referring to the case study. For example, if asked for advantages of a particular plan design to a company referenced in the case

study, limit your response to the specifics for that company. Other advantages should not be listed as they are extraneous to the question and will result in no additional credit. Further, if they conflict with the applicable advantages, no credit will be given for either answer. Candidates are advised to familiarize themselves with the case study. A copy will be included in the examination booklet. Candidates will not be allowed to bring their study note copy of the case study into the examination room.

The exam comprises three types of question: traditional, integrated and case study.

8. Several book distributors carry some or all of the textbooks for the Society of Actuaries exams. A list appears on the SOA web site <http://www.soa.org/education/exam-req/resources/edu-txt-manuals.aspx>. A set of order forms from these distributors is included with the study note package.

The order forms contain information about prices, shipping charges, mailing policy and credit card acceptance. Any book distributor who carries books for SOA exams may have their order form included in this set unless the SOA office receives substantial complaints about service. Candidates should notify the Study Materials Administrator of the SOA in writing if they encounter serious problems with any distributor.

9. The examination questions for this exam will be based on the required readings for this exam. If a conflict exists (in definitions, terminology, etc.) between the readings for this exam and the readings for other exams, the questions should be answered on the basis of the readings for this exam.
10. Candidates may ONLY use the battery or solar-powered Texas Instruments BA-35 model calculator, the BA II Plus*, the BA II Plus Professional* or TI-30Xa or TI-30X II* (IIS solar or IIB battery) or TI-30X MultiView (XS solar or XB battery). Candidates may use more than one of the approved calculators during the examinations.

Calculator instructions may not be brought into the exam room. During the exam, the calculator must be removed from its carrying case so the supervisor can confirm that it is an approved model. Candidates using a calculator other than the approved models will have their exams disqualified.

Candidates can purchase calculators directly from: Texas Instruments, Attn: Order Entry, PO Box 650311, Mail Station 3962, Dallas, TX 75265, phone 800/843-2737 or <http://epsstore.ti.com>.

The memory of **TI-30X II, **TI-30X MultiView**, **BA II Plus** and **BA II Plus Professional** will need to be cleared by the examination supervisor upon the candidate's entrance to the examination room.*

11. Order forms for various seminars/workshops and study manuals are included with the set of study notes. A list appears on the SOA Web site <http://www.soa.org/education/exam-req/resources/edu-sem-workshops.aspx>. These seminars/workshops and study manuals do not reflect any official interpretation, opinion, or endorsement of the Society of Actuaries or its Education & Examination Committee.

Please note that the Examination Committee expects candidates to read the material cited in the *Syllabus* and to use other material as a complement to the primary sources rather than a substitution for them.

12. The Society of Actuaries provides study notes to persons preparing for this examination. They are intended to acquaint candidates with some of the theoretical and practical considerations involved in the various subjects. While varying opinions are presented where appropriate, limits on the length of the material and other considerations sometimes prevent the inclusion of all possible opinions. These study notes do not, however, represent any official opinion, interpretation or endorsement of the Society of Actuaries. The Society is grateful to the authors for their contributions in preparing study notes.

The American Academy of Actuaries, the Canadian Institute of Actuaries, the Conference of Consulting Actuaries, and the Society of Actuaries jointly sponsor the examinations administered by the Society of Actuaries.