

Corporate Finance, Module 5, "Investment Decisions and Net Present Value"

Corporate finance module 5: Readings for Eleventh Edition

(The attached PDF file has better formatting.)

The page numbers here are for the *eleventh* edition of Brealey and Myers. You may also use the seventh, eighth, ninth, or tenth editions of this text. The page numbers for earlier editions are in separate postings. The substantive changes in the textbook are slight among these editions, but the final exam problems are based on the eleventh edition.

{The Brealey and Myers textbook is excellent. We say to read certain sections and to skip others. This does not mean that certain sections are better; it means that the homework assignments and exam problems are based on the sections that you must read for this course. Some of the skipped sections are fascinating, but they are not tested.}

Read section 6.1 on pages 130-137. Insurance products are more complex, since

- distributable income is used instead of cash flows
- reserves and risk-based capital requirements are like working capital
- either the risk-free rate or a risk adjusted rate is discount rate for unpaid losses.

The Brealey and Myers text is an ideal scenario. Read it for the concepts; the application to insurance is not easy. All the items in this section are tested on the final exam, but the items listed have particular importance for insurance pricing. For example, sunk costs are less important for insurers than for manufacturers, but they are relevant to insurance pricing too.

Section 6.2 is *optional*: the final exam does *not* test this example, but the concepts are used in later modules, and they will be tested in these other modules. If you have no problem with the concepts, you can skip this section; if you are unsure whether you have grasped the concepts, review this section. The topics on pages 139-142 (investments vs financing decision, working capital, depreciation, and taxes) are covered in future modules. The final exam problems are taken from the later modules, not from this example.

Actuaries working for multi-national insurers will find the section on "other countries and currencies" useful, but this material is not tested on the final exam.

Question: Many tables in this textbook use accounting terms, such as cost of goods sold, change in working capital, and depreciation. I don't have an accounting background, and these terms are not used for insurance. Must we know these items for the final exam?

Answer: Module 24, the last module in this course, covers basic accounting measures which you will be tested on. Accounting is the language of business, and the textbook assumes that you know the terms. Understand EBIT (earnings before interest and taxes), tax depreciation, how debt and stockholder dividends are treated, and the components of equity (common capital, capital paid-in, Treasury stock, retained earnings).

Question: How well must we know these items?

Answer: You must derive the market value of equity and debt from accounting statements, the return on book equity, the tax liability, and other determinants of cash flow. You are not being tested on accounting, but you must know accounting to understand the textbook.

Read Section 6.3, "using the NPV rule to choose among projects," on pages 144-149. Some topics, such as investment timing, are discussed also in the module on real options.

Read the summary on page 149. Review problem 1 on page 150; the final exam uses similar scenarios. Review problem 2 on page 150, problems 11 and 12 on page 151, and problems 14 and 15 on page 152. Many problems use the Excel spread-sheets for this textbook; the final exam problems are pencil and paper.

Skip the mini-case on pages 157-159. The mini-case is interesting and well worth reading, but no final exam questions are based on this case.

Question: These first five modules are not difficult; is the rest of the course similar?

Answer: The modules on dividends, capital structure, and option pricing are difficult; the early modules are easier. If you are comfortable with present values, internal rate of return, common stock values, and capital markets, you should read ahead to the more difficult modules at the end of this course. Some candidates do not leave time for the modules on capital structure and option pricing. The on-line course has a tight structure; there are only a few days between the option pricing modules and the final exam.

Question: Does the final exam weight each module equally?

Answer: The SOA recommended syllabus for VEE corporate finance places more weight on option pricing and capital structure. The SOA does not specify percentages, but only courses with rigorous treatment of these two subjects meet the VEE requirements. This course covers these subjects in depth, and the final exam tests these subjects more comprehensively than other subjects. If you review the practice problems and do the homework assignments, you will be able to answer the final exam questions; don't neglect these subjects.