

Corporate Finance, Module 11, “Maximizing Net Present Value”

Required reading:

(The attached PDF file has better formatting.)

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{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 sections 12.1 and 12.2 on pages 311-316. These are facts, not theories, but they are the basic knowledge that any financial analyst must have. The final exam does not emphasize these two sections. It tests financial knowledge, not details.

Read section 12.3: the three subsections are needed to understand the capital structure modules of this course. Agency problems, monitoring, and compensation systems affect whether corporate managers act in shareholders' interests. Landsburg (microeconomics course) also discusses agency problems and compensation systems.

Some actuaries believe that changes in corporate structure (based on the three problems identified here) and rules about corporate governance have driven the demutualization movement in the life insurance industry. We don't judge whether this view is correct, but a good understanding of this module helps you see the connections among corporate governance, corporate structure, and the manner in which corporate managers are monitored and compensated.

Read section 12.4; know economic value added well (EVA). EVA was put on the SOA syllabus in the 1980's, and its use has spread among many insurance companies. Several papers on the CAS Exam 8 and SOA Course 8 Finance syllabi come from a textbook put together by the Stern-Stewart firm, the main advocates of EVA. EVA is economic income minus the cost of holding capital (the dollar amount of the cost of capital, or the cost of capital times the amount of capital). With multiple year projects and the Brealey and Myers definition of economic income, the net present value is the economic income at project inception, and the expected EVA (not necessarily the realized EVA) is zero in later years.

Jacob: I've heard that we use after-tax GAAP earnings for EVA, not economic earnings.

Rachel: Economic earnings depend on the capitalization rate and cash flow estimates; GAAP earnings are shown in a firm's financial statements. In practice, we *adjust* GAAP earnings to make them closer to economic earnings.

Skip section 12.5 (pages 326-329); this course focuses on the financial theory, not the accounting information. Read section 12.6 from page 329 through page 332; skip pages 333 and 334. Read the summary on pages 334-335.

Caveat: for insurance pricing, the *cash flows* are the free cash flows, or the potential dividends to equityholders (shareholders). For insurance, statutory accounting regulates the free cash flows. We use statutory income, not cash flows, to determine NPV or IRR for insurance companies. This is correctly done by Atkinson and Dallas (SOA Course 5) and the IRR readings on CAS Exam 9. Some candidates read Brealey and Myers and jump to the conclusion that actuaries are “doing it all wrong.” Don’t make that mistake.