Corporate Finance, Module 17, “Optimal Corporate Borrowing”

Readings for the Fourteenth Edition (2022) of the Brealey, Myers, Allen, and Edmans text

(The attached PDF file has better formatting.)

The sections in this posting are for the *fourteenth* edition of the Brealey, Myers, Allen, and Edmans text. You may also use the seventh through thirteenth editions; final exam problems can be answered from any edition.

{The Brealey, Myers, Allen, and Edmans 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 the introduction on page 485. The textbook says: “We’re shooting for a theory combining MM’s insights plus the effects of taxes, cost of bankruptcy and financial distress…” (last paragraph of the introduction).

Read section 17.1, “Debt and Taxes”; the textbook removes the complexity of corporate taxes and presents the theory. Know Table 17.2 on page 486, and the equations on pages 486-487. The return on the debt drops out of the last equation, leaving just the corporate tax rate × the debt.

Read or skim the subsection “Corporate and Personal Taxes,” on pages 490-491. In theory, all tax rates (personal and corporate, on capital gains and stock dividends) affect capital structure. But tax analysis is difficult, and it detracts from the concepts. If you deal with tax effects on capital structure, you must learn this material, but it is not tested on the final exam for this course. The textbook concludes that “The Miller and Modigliani theory of debt and taxes requires only that debt and equity income be taxed at the same rate.” You can ignore personal tax rates on final exam problems.

Read Section 17-2 Costs of financial distress. Know the division of the value of the firm into three parts at the bottom of page 492, which you must use for final exam problems. From “Agency Costs of Financial Distress” on page 497 and the associated five games on pages 498-503, read “Risk Shifting: The First Game” on pages 498-499, and “Refusing to Contribute Equity Capital: The Second Game,” on page 499. Skip the section “And Three More Games, Briefly,” on pages 499-500. The first two games have strong incentives; the next three games are less plausible. Read the section “What the Games Cost” on pages 500-502; the example shows why this material is important.

Quantifying the cost of bankruptcy is not easy. It is low for insurers (both life and property-casualty) and large for firms like Google, Apple, Amazon, and Facebook, whose values disappear if the firms declare bankruptcy. Consumers using Google will switch to another search engine if Google is not around. In contrast, the assets of insurers are marketable securities. The bonds and stocks in the investment portfolio don’t lose value if the insurer becomes insolvent.

Read Section 17-3 “The trade-off theory of capital structure”; Figure 17.4 on page 504 helps you visualize the theory. Know the line “The theoretical optimum is reached when the present value of tax savings due to further borrowing is just offset by increases in the present value of costs of distress.” Final exam problems may test the decomposition of the value of the firm.

Read Section 17-4 “The pecking order of financing choices”; know the “Implications of the Pecking Order” on page 508.

Read Section 17-5 “The capital structure decision.” Know how the four factors on page 510 affect debt ratios.

The *key takeaways* at the end of chapters are good reviews of the material. Know the equation under interest tax shields and the equation under trade-off theory.

Review end of chapter problems 2, 3, and 9.

Illustrative test questions, problems, and homework assignments are shown separately on the discussion forum.