

Risk Management and Financial Institutions, 5th Edition Instructor Notes

Chapter 1: Introduction

This chapter is little changed from Chapter 1 of the fourth edition. I generally spend about 1 to 1.5 hours on the material in the chapter. The purpose of most of the chapter is to link concepts in the rest of the book to concepts learned in courses on corporate finance and investments. If students have not previously been exposed to these concepts, rather more time is likely to be necessary to cover the material in the chapter.

Sections 1.1 to 1.4 review results on risk-return trade-offs and the distinction between systematic (non-diversifiable) and non-systematic (diversifiable) risks. In most cases, students will already have been exposed to this material in their first corporate finance class and classroom time can be used to refresh their memories.

Section 1.5 considers why companies are concerned with more than just systematic risk and why they hedge. The bankruptcy costs argument (which most students will have already met in the context of capital structure decisions) is discussed. Business Snapshot 1.1 describes a typical sequence of events that leads to the value of a company being reduced because it is forced to declare bankruptcy.

Section 1.6 introduces students to the way risks are managed by financial institutions, distinguishing between “risk decomposition” where risks are managed one by one and risk aggregation where risks are combined with risk diversification being taken into account. Credit ratings are introduced at the end of this chapter.

The Further Questions can be used either for class discussion or as assignment questions. Problem 1.17 provides an introduction to capital adequacy concepts.

Chapter 2: Banks

The tables and other material in this chapter have been updated, but apart from that the chapter is little different from Chapter 2 of the fourth edition. Section 2.7 has been updated to reflect IFRS 9 requiring expected losses on loans to be reflected in the way they are valued.

The chapter is the first of three chapters describing the activities of different types of financial institutions. The chapters provide important background material for the discussion of risk management and regulation later in the book. Chapter 2 explains the activities of commercial and investment banks. As students are likely to be aware, the year 2008 saw the disappearance of several large institutions that were exclusively focused on investment banking. Lehman Brothers went bankrupt; Bear Stearns was taken over by JPMorgan Chase; Merrill Lynch was taken over by Bank of America; Goldman Sachs and Morgan Stanley became bank holding companies with both commercial and investment banking interests.

The parts of the chapter that I choose to spend most time on in class are (a) Section 2.2 (the capital requirements of a small commercial bank), (b) IPOs and the Dutch auction approach (in Section 2.4), and (c) conflicts of interest in banks (Section 2.6). Section 2.2 is an introduction to capital adequacy material that comes later in the book. I find it useful to get students to think about what the balance sheet and income statement for a simple bank looks like. Students enjoy the discussion of the Dutch auction approach and Google's IPO (see Business Snapshot 2.1). The conflicts of interest section gets students thinking about important issues that they may not have addressed in other courses.

The Further Questions are straightforward and can be used in a number of different ways. For example, Problem 2.15 can be discussed in conjunction with Section 2.2. Problem 2.17 can be discussed when Dutch auctions are covered.

Chapter 3: Insurance Companies and Pension Plans

Apart from updating, this chapter is little different from Chapter 3 of the fourth edition. The chapter starts by discussing different types of life insurance contracts and annuity contracts. It explains the investment component of life insurance contracts and the tax advantages of these contracts. Mortality tables enable students to calculate premiums for simple life insurance contracts. (It can be pointed out that the calculations are similar to those used to determine the spread for credit default swaps in Appendix K.) The chapter then moves on to discuss property-casualty insurance, health insurance, moral hazard, adverse selection, the balance sheets of insurance companies, and pension plans.

Students should understand the types of insurance contracts in the market and the nature of the risks in life insurance, property-casualty insurance, and health insurance. They should appreciate the nature of moral hazard and adverse selection. (It is interesting

that individuals who buy life insurance die earlier on average than individuals who buy annuities.) They should understand why property-casualty companies need more capital.

I consider it important not to cover the pension fund material too quickly. Students should understand the differences between the two types of pension plans and the risks they pose for companies. Why are defined benefit pension plans 60% invested in equities when their liabilities are “bond-like”? The answer appears to be that bonds do not provide a high enough return for the plans to be able to meet their obligations. Another way of putting this is that the only way pension plans have a chance of meeting their obligations is if equity markets perform well. To emphasize these points, I go through Problem 3.15 in class (because the calculations are simple) and assign Problem 3.19.

Problems 3.16, 3.17, and 3.19 can be used for assignments. Problem 3.18 is appropriate for class discussion.

Chapter 4: Mutual Funds, ETFs, and Hedge Funds

Apart from updating, this chapter is little different from Chapter 4 of the fourth edition. The chapter explains the differences between open-end mutual funds, closed-end mutual funds, and exchange-traded funds (ETFs). It reviews the evidence on the performance of mutual funds and discusses the increasing popularity of index funds. It explains how hedge funds differ from mutual funds. It considers the incentives of hedge fund managers, describes different hedge fund strategies, and reviews their performance.

Some students are usually unwilling to accept that (a) actively traded mutual funds do not outperform stock indices and (b) the past performance of a mutual fund is not a good guide to its future performance. I spend some time explaining Jensen’s classic results and point out that many other studies conducted since Jensen have reached similar conclusions. I discuss the growth of index funds and explain carefully how ETFs work. A discussion of late trading reinforces the fact that mutual funds trade only at 4 p.m. each day. This distinguishes them from closed-end funds and ETFs.

Students usually enjoy learning about the strategies followed by hedge funds and the fees earned by hedge fund managers. I explain that the hedge fund manager has a call option on the assets being managed and therefore has an incentive to take high risks. Amaranth is a classic example of a hedge fund where a trader took advantage of the call option.

The Further Questions are all fairly short and can be assigned to illustrate points made in class.

Chapter 5: Trading in Financial Markets

The material on how margin accounts work for different types of transactions has been moved to this chapter. There is less material on the changes in the way over-the-counter (OTC) contracts are traded and cleared, as this is the main focus of Chapter 17. The amount of time spent in class on this chapter will depend on the background of students. If they have taken an introductory course on investments or derivatives, relatively little

time needs be devoted to the chapter. In other situations instructors may wish to spend two or three hours making sure that students understand what derivative products are and how they are used.

After explaining the difference between exchange-traded and over-the-counter markets, the chapter describes how short positions are created and moves on to discuss plain-vanilla derivatives. It concludes by discussing nontraditional derivatives, exotic options, and structured products.

It can be fun to discuss any or all of the five business snapshots in class. Any of the problems can be used as hand-in assignment questions. Problems 5.35, 5.37, and 5.38 can also be used for class discussion.

Chapter 6: The Credit Crisis of 2007–2008

This material is similar to the material in Chapter 6 of the fourth edition. I find that it is appropriate to have a discussion of the crisis relatively early in the course. I have taught variations on the material in this chapter to many different groups of executives and students. It always goes down well. Participants always feel a great sense of achievement when they understand the products that were created from mortgages. No doubt many instructors will wish to change some of the slides to incorporate their own views on the credit crisis.

The first part of the chapter explains the bubble in U.S. house prices. The chapter then moves on to explain the products that were created from mortgages in securitizations. ABSs were formed at the first level of securitization. ABS CDOs were created at the second level of securitization. Further securitizations sometimes produced a CDO of CDOs. I spend some time on Table 6.1 to make sure students understand the way the tranches work and the risk.

The BBB tranche of the ABS in Figure 6.5 is much thinner than the tranches in the earlier examples. But it is worth noting that in practice the BBB tranche in Figure 6.5 would often be split into three sub-tranches so that the tranches constituting the Mezz ABS CDO were often only 1% wide. As the BBB tranches used to make ABS CDOs become thinner, the tranches of ABS CDOs begin to look more and more similar to each other. (See the two Business Snapshots in this chapter.) I like to get students to work this out for themselves by asking leading questions.

Many of the points made in Section 6.5 will be returned to later in the course. Problem 6.14 can be set as a (fairly straightforward) assignment question. Problem 6.15 can be discussed in class to illustrate the thin tranches point mentioned previously.

Chapter 7: Valuation and Scenario Analysis: The Risk-Neutral and Real Worlds

This material is similar to the material in Chapter 7 of the fourth edition. It covers some key theoretical ideas relevant to risk management. The material is somewhat technical,