THE UNIVERSITY OF HONG KONG HKU Business School

FINA2342CDE Insurance: Theory and Practice 2021 Spring

Section C: Monday 9:30 - 12:20, Zoom
Section D: Monday 14:30 - 17:20, Zoom
Section E: Friday 14:30 - 17:20, Zoom
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TBD

Course description

Insurance is the study of risk pooling. The use of insurance to reduce the adverse financial impact in case of a loss has become an important element of financial management in our society. The insurance industry has evolved with the trend of financial liberalization in the recent decades.

This course has three parts. The first part lays down the principles that we use to understand insurance. The second part introduces various insurance policies. The third part describes and analyzes the operation of insurers and the insurance industry overall. The theories and principles discussed in this course apply globally.

Prerequisite

ECON1001/ ECON1210 Introductory Microeconomics, Calculus not required

Textbook (NOTE: There is a textbook change relative to previous years)

The course will mainly follow <u>the instructor's lecture notes</u>. The lecture notes are selfcontained. These notes evolve over time and it is greatly appreciated if you can give me feedbacks. Part of my lecture notes follow the textbooks below. Additional materials will be posted on moodle.

<u>The main textbook</u> for the course is "Principles of Risk Management and Insurance," *George E. Rejda and Michael McNamara*, 13th Edition or 14th Edition (earlier editions also OK)

<u>Another textbook</u> that was used in previous years is "Risk Management and Insurance," *Scott Harrington and Gregory Niehaus*, 2nd Edition (the book is out of print and not easily available)

Required Tool

A standard financial calculator SUCH AS Texas Instruments, Casio, and HP 12C.

Grading Policy

The course grade will be based on two individual assignments (20%), one group project (20%) and a final exam (60%).

Your grade on the individual assignment part will be **the higher of the two assignment grades**.

The topic for group project will be announced in early February. The teaching assistant will help with the group formation. Students are strongly recommended to form groups with students in the same subclass. In the last week of class, each group will give a 10-to-15-minute presentation on the project (through zoom, live) with slides. If a group has students from different subclasses, the time of presentation for this group will be decided by the instructor. After the presentation, each group should submit their presentation slides.

Tutorial homework questions will be assigned but will not be collected and therefore not graded.

Course Format

The full course will be delivered online, with a mix of recorded lectures and live sessions.

There will be about 90-120 minutes of recorded lectures for each week's materials (except the first lecture and the last week of student presentation). I will teach a live session in usual class times every 2-3 weeks. During the live sessions, I will summarize the main concepts, discuss examples, and answer your questions. Live sessions will be recorded and made available on moodle.

The TA will hold weekly tutorial sessions.

Outline (Tentative, subject to change)

- 1. Introduction (live session 1: 1/18-1/22)
 - Why do we study insurance
 - An overview of the principles
 - Basic concepts and terminologies of insurance
 - Historical and modern insurers

Part I. Principles of Insurance (3 recorded sessions and 1 live session)

- 2. Risk, Risk Aversion, and Risk Pooling (session 2: 1/25-1/29)
 - Risk characterization using probability
 - Utility function and risk aversion
 - Risk categorization
 - Risk pooling and the role of correlation
 - Risk insurability
 - How to manage risks
- 3. Present Value, Risk Premium, and Project Evaluation (session 3: 2/1-2/5)
 - The time value of money and the NPV rule
 - The choice of discount rate and the Capital Asset Pricing Model (CAPM)
 - Tax shield, interest burden, and depreciation
 - Examples of project evaluation
- 4. Insurance Pricing and Asymmetric Information (session 4: 2/8-2/19)
 - Insurance pricing: an introduction
 - Adverse selection
 - Moral hazard
 - Contractual provisions of insurance
 - The legal doctrines of insurance

Live session 1 (2/19 and 2/22), covering topics 2-4.

1st Assignment distributed 2/22, due 3/19.

Part II. Insurance Policies (4 recorded sessions and 2 live sessions)

- 5. Life Insurance (session 5: 2/22-2/26)
 - An introduction to life insurance
 - Term insurance and whole life insurance
 - Pricing of life insurance
 - Case study: Understanding a whole life plan
 - Practical issues of life insurance
 - Life insurance as wealth management
- 6. Annuities, Pension, and Health Insurance (session 6: 3/1-3/5)
 - Annuities

- Pricing of annuities
- Employee benefits
- Tax issues
- Social security
- Live session: 3/15 and 3/19, covering topics 5-6.

2nd Assignment distributed 3/22, due 4/16.

- 7. Personal Property and Casualty Insurance (session 7: 3/15-3/19)
 - Tort liability system and liability insurance
 - Auto insurance
 - Homeowners' insurance
 - Other liability insurance
- 8. Commercial Property and Casualty Insurance (session 8: 3/22-3/26)
 - Motivation for risk management
 - Risk retention decision
 - Commercial insurance
 - Case study: environment liability insurance
 - Case study: director and officer's liability insurance

Live session: 3/29 and 4/9, covering topics 7-8.

Part III. Insurers (2 recorded sessions and a half live session)

- 9. The Operations of Insurers (session 9: 3/29-4/9)
 - The ownership structure of insurers
 - Balance sheet management and the changing nature of insurers
 - Risks of insurers and insolvency
 - Risk management of insurers
 - Insurers in the financial system: The 2007-8 Financial Crisis
 - Shadow insurance
- 10. Insurance Regulation (session 10: 4/12-4/16)
 - The regulation of insurers in the globe
 - The changing regulation for insurers
 - Regulation and insurers' balance sheet management
 - Insurers and global systematic risks

Live session: the first half of 4/19 and 4/23, covering topics 9-10.

11. Student Presentations (half of live session 4/19 and 4/23 and the whole live session 4/26 and 4/30)