

《国际经济热点问题研究》教学大纲

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《国际经济热点问题研究》

课程编码：406020682

英文名称：Hot Issues on International Economy

开课部门：中国政法大学商学院

周学时：2

总学时：36

学 分：2

前 言

一、本课程的性质与特点

国际经济热点问题研究是商学院国际商务专业研讨性课程。该课程重点研究近年来世界经济发展中出现的新问题、新特点，分析其产生的原因、解析对国际经济与中国经济所带来的影响，并提出相应对策，由此进一步掌握国际经济发展的本质与规律性。该课程理论性、实用性较强，研究范围广，需要掌握扎实的经济理论和方法，培养学生科学研究的能力。

二、本课程教学计划中的地位、作用和意义

《国际经济热点问题研究》是商学院国际商务专业的必修课。作为研讨性课程，通过本课程的学习，使学生掌握分析和研究国际经济新问题、新特点的研究方法和手段。本课程的学习，需要牢固掌握西方经济学、国际经济学、国际金融、世界经济概论等相关专业必修课程的理论和方法，通过运用这些理论准确把握国际经济领域出现的新动态、新问题，并运用相关的研究方法，进行深入的科学研究，分析国际经济热点问题产生的背景、本质及今后的发展趋势，使学生真正提高发现问题、分析问题、并解决问题的科学研究能力。

三、本课程的教学目的和任务

- 1.培养思辨能力：即主动思考问题、发现问题、解决问题的能力。
- 2.学会选题：发现要研究的问题。
- 3.掌握查阅文献的能力：包括中外文文献，并进行归纳总结，找出突破口，即创新。
- 4.运用科学、合理的研究方法。
- 5.掌握论文写作规则和格式。
- 6.撰写一篇具有理论价值和现实意义的学术论文。

四、总学时、学分

36 学时（每周 3 学时）、2 学分

五、教学方法和手段

主要采取研讨性教学方法，培养独立科研的能力。

分科研小组，进行科研合作。每个教学环节由以下几个部分组成：

- 1.科研小组根据指定的选题或自足选题，确定本学期重点研究的课题；
- 2.查阅大量的国内外文献、评论他人的研究内容、研究方法及成果；
- 3.汇报本小组科研选题的依据与研究计划；
- 4.介绍研究方法、科研进程及创新；
- 5.教师对每个小组的选题、文献查阅、研究内容与方法进行详细的评析，并提出相应的修改措施和方案。
- 6.提交小组研究报告和课程论文。

六、上课要求

- 1.发扬团队精神，培养思辨能力。每个人都进入科研小组，并发挥积极作用。
- 2.组长负责制，课堂外经常进行小组讨论。

3.严格遵守考勤制度。

4.考核办法：课堂表现（包括完成作业、提问、课堂讨论等）：20%；考勤：10%；研究报告或文献综述：30%；论文：40%

七、主要参考书目

（一）著作

- 1.IMF《世界经济展望》、《全球金融报告》（1月和7月出版）。
- 2.庄宗明：《世界经济学》[M]，科学出版社，2003。
- 3.[英]麦迪森 著 伍晓鹰等译：《世界经济千年史》[M]，北京大学出版社，2003。
- 4.金仁淑：《日本经济制度变迁及绩效研究》[M]，中国经济出版社，2012。
- 5.金仁淑：《投资大国的兴衰——日本对外直接投资模式及效应研究》[M]，吉林人民出版社，2002。

（二）专业杂志：

- 1.世界经济
- 2.世界经济与政治
- 3.世界经济文汇
- 4.世界经济研究
- 5.世界经济导刊
- 6.日本学刊
- 7.现代日本经济
- 8.国际金融
- 9.国际金融研究
- 10.国际经济合作
- 11.国际经济评论
- 12.国际贸易
- 13.国际贸易问题
- 14.国际商务研究
- 15.外国经济与管理
- 16.东北亚论坛
- 17.中国人民大学复印资料《世界经济导刊》
- 18.中国人民大学复印资料《外贸经济与国际贸易》
- 19.现代国际关系

第一专题 当前国际经济形势分析

本章教学目的和基本要求：掌握当前国际经济形势，分析存在的新问题、新动态对中国经济的影响，根据 IMF《全球经济形势报告》、《世界金融形势报告》分析每年国际经济中出现的新问题、新特点、比较发达国家经济体和新兴市场经济体的经济形势。难点在于运用经济学理论和方法，研究当前国际经济运行的现象及本质，了解其发展趋势

学时分配：3 学时

一、全球宏观经济分析与展望

1. 全球经济发展现状
2. 中国经济发展特点
3. 发达国家经济形势分析
4. 新兴市场经济体发展状况

二、国际经济面临的问题

（一）世界经济总体面临的风险

1. 经济增速缓慢
2. 金融危机尚未缓解
3. 政府财政风险增大
4. 世界经济发展的不平衡

（二）欧美仍处在金融危机中

（三）新兴市场经济增速放缓

三、世界经济发展展望

（一）继续解决金融危机

（二）调整世界经济不平衡

（三）推动新兴市场经济体结构改革

教学环节安排：

1. 根据 IMF 的《世界经济展望》、《全球金融报告》等权威文献，教师介绍当前国际经济形势及各经济体的发展状况。

2. 根据指定讨论题，组织学生讨论问题。

3. 分小组讨论和阐述观点，对有些观点进行辩论。

本专题讨论题：

1. 分析当前国际经济新特点
2. 新兴市场经济体经济发展战略
3. 发达国家金融危机新进展及治理对策
4. 全球金融危机对中国经济的影响及对策

拓展阅读书目：

1. IMF 《世界经济展望》、《全球金融报告》（1 月和 7 月出版）。
2. 庄宗明：《世界经济学》[M]，科学出版社，2003。
3. 中国科学院·清华大学国情研究中心：《世界经济中的中国》[M]，清华大学出版社，2007。
4. [英]麦迪森 著 伍晓鹰等译：《世界经济千年史》[M]，北京大学出版社，2003。
5. 沃勒斯坦：《现代世界体系》[M]，高等教育出版社，1998。
6. [美]丹尼尔·贝尔：《后工业社会的来临》[M]，新华出版社，1997。

第二专题 金融危机对世界经济格局的影响及中国的对策

本章教学目的和基本要求：了解世界经济格局的演变、学习金融危机对现有世界经济格局的冲击。难点在于分析金融危机下世界经济格局的新特点及中国的对策。

学时分配：4 学时

一、世界经济格局及演变

1.世界经济格局：在一定时期内各类国家在世界经济中的力量对比关系和利益制衡状态。是在一定的经济力量对比及其相互关系基础上形成的一种相对稳定的国际经济结构或框架。

2.世界经济中心：指在世界经济发展和运行中具有核心地位和火车头作用的国家或国家集团。

3.战后以来世界经济格局经历了两次大的变化

4.每次金融危机对世界经济格局变化有内在联系

二、20 世纪 90 年代中期世界经济格局的变化

1.苏联解体，俄罗斯经济陷入困境

2.日本经济进入长期萧条

3.美国经济出现信息经济下的长期繁荣

4.中国经济高速增长

5.欧洲一体化受到货币危机困扰

三、1997 年东南亚金融危机对世界经济格局的影响

1.暴露出“雁行模式”的弊端。

2.中国经济经受住考验，人民币保持稳定，提高了中国在世界经济中的地位。

3.加快了东盟区域经济一体化。

4.防范危机增加外汇储备，而美元贬值使这些国家受到美国的盘剥。

5.货币贬值有利于美国降低进口产品价格，缓解美国的通货膨胀压力。

四、2008 年次级债危机对世界经济格局的影响

美国的国际金融危机和经济危机，对美国形成了四大挑战，也导致了世界格局的变化：

1.改变了美国主导的全球化进程

(1) 对美国治理全球能力的挑战

(2) 对美元霸主特权的挑战

2.全球金融危机没有根本改变“一超多强”的世界经济格局

3.国际货币体系的缺陷导致进行全面的改革

4.新兴市场经济体在世界经济格局中的地位明显上升，成为 20 国集团中的重要成员

5.亚洲将成为世界经济中心

五、影响世界经济新格局的因素

1.危机持续时间。

2.美日欧的博弈。美国一向为创新性强的国家，欧洲和日本内部问题丛生，能否挑战美国的地位？

3.新兴市场经济体能否真正提高自身的竞争力和外部影响力。

4.亚洲区域化进程

5.全球资本和贸易的方向发生变化

六、世界经济格局中中国的作用

1.转变经济增长方式，调整经济结构

2.调整储蓄率，有序进行金融改革和资本疏导

3.确立以我为中心的国际分工格局

4.加快推进人民币国际化进程，参与国际金融秩序与世界货币体系重构

讨论题：

1.为什么西方发现“新大陆”而不是东方发现“新大陆”？

2.在世界经济格局的变化中新兴市场经济体将会发挥哪些作用？

3.中国的和平崛起对世界经济新格局产生哪些影响？

教学安排：

1.教师系统接收世界经济格局相关知识和理论

2.根据思考题分组讨论

3.教师对讨论的观点进行评价，并指出今后的发展方向

4.每个小组制定本课程的研究课题。

拓展阅读书目：

1.陶大镛：《世界经济新格局研究》[M]，北京师范大学出版社，2001。

2.萧琛：《全球网络经济》[M]，华夏出版社，1999。

3.世界银行发展丛书·研究系列报告，约瑟夫·E 斯蒂格利茨：《东亚奇迹的反思》[M]，中国人民大学出版社，2003。

4.世界银行编：《东亚的复苏与超越》[M]，中国人民大学出版社，2001。

5.[美]丹尼尔·贝尔：《后工业社会的来临》[M]，新华出版社，1997。

第三专题 欧美金融危机成因及影响

本章教学目的和基本要求：了解欧美债务危机的成因及影响，难点在于欧美债务危机对中国的启示。

学时分配：3 学时

一、欧洲主权债务危机成因及对策

(一) 欧洲主权债务危机的爆发与演进

(二) 欧债危机爆发的根源

1. 内在成因：国家经济结构失衡
2. 制度原因：欧元区制度固有缺陷
3. 外部冲击：美国次级债危机及评级机构的推波助澜

(三)、欧债危机的对策

1. 向危机国家提供救助，延缓危机的爆发。
2. 各国内部采取财政紧缩措施，缓解债务问题。

二、美债危机的演进及原因

(一) 美债危机原因解析

1. 私人债务
2. 公共债务
3. 外债

(二) 美债市场前景展望

三、美国次贷危机与欧洲主权债务危机对比

	美国次贷危机	欧洲主权债务危机
危机萌发阶段	次贷违约率上升，次贷相关债券下降	希腊财政赤字对 GDP 比急升，投资者担心希腊政府违约，大规模抛售希腊国债，希腊国债价格下跌、债券收益率急升
危机爆发阶段	货币市场流动性短缺，新债代替旧债连续发行中断	货币市场流动性短缺骤然加剧，新债代替旧债连续发行中断
危机深化阶段	信贷紧缩愈演愈烈，一些金融机构因资不抵债而破产，实体经济陷入衰退	传染效应：西班牙、爱尔兰等国同时遭受信用危机，欧洲资金外逃，欧元贬值
应对措施	政府收购有毒资产——稳定金融市场，扩张性的财政、货币政策（数量宽松和零利率）	欧洲中央银行在二级市场上购买希腊国债，保证希腊政府不至于违约、防止国债利率上升，在实行宽松货币政策的同时，实施紧缩性财政

四、欧债危机与美债危机反思

- (一) 政府债务风险警戒线的界定
- (二) 财政赤字、货币危机与通货膨胀的连锁关系
- (三) 政府债务组合—资产负债表与财政金融稳定的连锁关系

五、对我国政府债务风险管理的探讨

- (一) 潜在的债务不容忽视
- (二) 地方债务问题严重

(三) 外汇储备资产的风险较大

讨论题：

欧美金融危机与拉美、东南亚等发展中国家金融危机的比较

教学形式：

进行小组讨论，并派小组代表课堂上汇报讨论的情况及观点。教师点评。

拓展阅读书目：

- 1.<http://news.cntv.cn/program/shenduguoji/20110923/117836.shtml>: 欧元的麻烦.
- 2.朱青：《欧元与欧洲经货联盟——欧洲货币统一的理论与实践》[M]，中国人民大学出版社，1999。
- 3.[美]J·戈莱比：《国际金融市场》[M]，中国人民大学出版社，1998。
- 4.[美]列维奇：《国际金融市场》[M]，机械工业出版社，1998。
- 5.[美]米什金：《货币金融学》[M]（第9版），中国人民大学出版社，2010。
- 6.[美]约翰·霍尔：《期权、期货和其他衍生产品》[M]，华夏出版社，2000
- 7.徐滇庆：《泡沫经济与金融危机》[M]，经济学前沿系列，中国人民大学出版社。
- 8.陈亚温，李双：《欧元论》[M]，山西经济出版社，1998。
- 9.陈亚温，林东海：《欧元续论》[M]，中国金融出版社，2001。
- 10.[美]查里斯·P·金德尔伯格：《经济过热、经济恐慌及经济崩溃——金融危机史》[M]，北京大学出版社，2000。

第四专题 美国经济疲软对世界经济的影响

本章教学目的和基本要求：掌握美国经济的走势对世界经济影响和作用，难点在于思考如何处理中美经济合作与竞争。

学时分配：3 学时

一、美国经济在世界经济中的地位

- (一) 美国是当今世界上唯一的一个超级大国
- (二) 美元是全球通用货币，纽约是全球金融中心
- (三) 美国是第三次科技革命的引领者

二、美国经济走势对世界经济的传导机制

- (一) 进出口贸易传导机制：使全球国际收支失衡
- (二) 投资传导机制：
- (三) 政策传导机制：国内货币政策、财政政策，直接引发美元贬值，使各国财富缩水。
- (四) 高精尖产品的供应链

三、美国经济与中国经济关系

- (一) 美国国内政策影响中国经济
- (二) 减少中美贸易，导致中国经济正常发展
- (三) 减少或转移对华投资
- (四) 美元贬值给中国经济压力
- (五) 热钱涌入中国市场，冲击中国金融市场
- (六) 美国股市、油价变动能间接影响中国股市

讨论题：

1. 中国经济能否与美国经济脱钩？
2. 美国大选为何打中国牌？
3. 中美能否共同成为世界经济主导力量？

教学形式：

1. 先由各小组展开讨论，并派小组代表课堂上汇报讨论的情况及观点，其他小组成员提问并解答。
2. 根据小组讨论观点和提出的问题，由任课老师解答问题。
3. 教师进行如何选题进行科研指导。

拓展阅读书目：

1. [美]福克纳著，王锟译：《美国经济史》[M]，商务印书馆，1964。
2. [美]费尔德斯坦：《转变中的美国经济》[M]，商务印书馆，1990。
3. [美]杰拉尔德·冈德森：《美国经济新编》[M]，商务印书馆，1994。
4. [美]约翰·麦克米伦：《国际经济学中的博弈论》[M]，中国人民大学出版社，2005。
5. [意]甘道尔夫：《国际贸易理论与政策》[M]，上海财经大学出版社，2005。
6. [美]保罗·克鲁格曼：《克鲁格曼国际贸易新理论》[M]，中国社会科学出版社，2001。

第五专题 大地震后日本经济战略调整

本章教学目的和基本要求：了解 2011 年 3 月日本大地震对日本经济的冲击，分析大地震后日本经济结构及发展战略调整特点，展望中日经济合作模式。

学时：4 学时

一、日本新增长战略特点

（一）2009 年日本新增长战略出台的背景

1. 2008 年美国次债危机冲击日本实体经济
2. 日本经济出现衰退，成为发达国家中危机影响最大的国家

（二）地震再次冲击日本经济结构

1. 2011 年东日本大地震和海啸，中断了日本经济走向新增长道路的步伐。
2. 震后复兴，不仅有利于日本通过技术创新和制度改革，加快经济增长方式的转变。
3. 有助于进一步放松规制，加大开放力度，提升日本东北地区乃至全国产业结构的优化，实现具有活力的可持续发展。

（三）技术创新和制度改革是动力

1. 理论和实践证明，技术进步和制度创新是一国经济增长最重要的动力。
2. 明治维新以来日本资本主义的发展以及二战后日本经济的高速增长也是在以政府为主导的强制性制度变迁下进行不断的技术革新得以实现。
3. 然而，随着经济全球化、信息化的不断深入，日本以政府主导的强制性制度安排明显不适应全球性市场化、自由化的浪潮，其技术创新的步伐显著缓慢。
4. 日本技术创新滞后的原因在于保守的经济体制和传统的日本式经营模式的约束。

二、震后重建为新增长战略提供了新的机遇

- （一）加快制度创新步伐，进一步推动结构改革，实现经济体制的转变
- （二）大力推动技术革新，加快产业结构的升级换代，调整经济增长方式。

三、日本经济国际化程度滞后

- （一）日本对外 FDI 严重滞后
- （二）国内“卧龙企业”国际化进程缓慢
- （三）FTA、ETA 进程落后

四、日本经济国际化滞后的成因

- （一）封闭的国内市场
- （二）严格的规制和许可制度
- （三）复杂的行政手续等经济体制问题严重制约着日本通过吸收外资、推动技术创新的步伐。

五、加快国际化有利于日本经济的新增长

- （一）双向 FDI 避免国内产业空心化，推动知识和技术溢出效应
- （二）加快区域经济一体化步伐

1.积极推动 FTA、EPA 进程，加强与东亚和亚太地区多边经济合作，鼓励更多的“卧龙企业”走向世界

2.积极培育风险投资等金融市场，为外资来日投资提供更加开放的信息和网络，扶持企业培养国际化人才，创造更安全的投资环境。

(三) 构建高新技术产业基地

- 1.日本东北地区为著名的制造业基地
- 2.地震摧毁了生产基地
- 3.震后在东北地区建设高新技术产业群

(四) 政府构建吸引外资的软硬环境

讨论题：

- 1.日本经济面临的困境及战略调整。
- 2.中日经济合作现状、问题及对策
- 3.亚洲经济一体化中中日的作用。

教学环节安排：

- 1.教师结合自己的研究成果，讲解大地震对日本经济的冲击及日本调整经济增长战略的概况。
- 2.每个小组汇报有关讨论题的具体情况 & 主要观点。
- 3.指定小组进行文献综述，并针对相关研究成果（论文或著作 2 篇），分析其研究方法和主要观点。
- 4.教师点评各小组的科研情况，指出今后的发展方向。

拓展阅读书目：

- 1.金仁淑：《日本经济制度变迁及绩效研究》[M]，中国经济出版社，2012。
- 2.金仁淑：《投资大国的兴衰——日本对外直接投资模式及效应研究》[M]，吉林人民出版社，2002。
- 3.[日]小島清：《日本的海外直接投资—经济学的角度》[M]，文真堂，1985
- 4.[日]小林規威：《日本企业海外经营之道》[M]，花城出版社，1998。
- 5.[日]南亮进：《日本经济的发展》（第 3 版），东洋经济出版社。2002.
- 6.金明善：《日本走向现代化》[M]，辽宁大学出版社。
- 7.薛敬孝、白雪洁等著：《当代日本经济产业结构研究》[M]，天津人民出版社，2002。
- 8.[美]迈克尔·波特：《日本还有竞争力吗？》[M]，中信出版社，2002。
- 9.金仁淑：《日本如何走向新增长之路》[M]，经济日报，2011 年 11 月 15 日 国际财经版，

第六专题 中国与欧美贸易摩擦政治经济分析

本章教学目的和基本要求：以国际贸易理论为基础，深入分析中国与欧美国家之间贸易摩擦现状、成因，并提出相应解决对策。

学时分配：3 学时

一、欧美对华贸易战的始末

1. 贸易战成因
2. 理论基础
3. 现实效应
4. 应对策略

二、中国与欧美贸易摩擦为何突然“升温”

1. 国际经济背景
2. 美国国内经济因素
3. 中国经济的崛起对世界经济的影响
4. 贸易战的政治经济学分析

三、保护贸易和自由贸易之争

课堂教学安排：

1. 小组分工
2. 课堂讨论
3. 主持人总结
4. 教师评价

拓展阅读书目：

- 1.[美]保罗·克鲁格曼：《克鲁格曼国际贸易新理论》[M]，中国社会科学出版社，2001。
- 2.[日]小岛清：《对外贸易论》（中译本），南开大学出版社，1989。
- 3.Greenaway, David and L. Alan Winters. *Surveys in International Trade*. Oxford: Blackwell Publishers, 1994。
- 4.[美]大卫·格林纳韦：《国际贸易前沿问题》[M]，1996 年版中译本.中国税务出版社与北京腾图电子出版社，2000。
- 5.[美]伯纳德·霍克曼，克尔·考斯泰基：《世界贸易体制的政治经济学：从关贸总协定到世界贸易组织》[M]，1995 年版中译本.法律出版社，1999。
- 6.[美]瑞恩·麦克唐纳：《世界贸易体制——从乌拉圭回合谈起》[M]，1998 年版中译本，上海人民出版社，2002。
- 7.[美]戴斯勒：美国贸易政策（国际政治研究丛书）[M]，物价出版社，2006。
- 8.宏结：《实施贸易保障措施的动因及经济影响研究》[M]，中国社会出版社，2009。
- 9.影像资料：中美贸易摩擦有着经济与政治双重考虑 http://news.ifeng.com/gundong/detail_2012_03/26/13451871_0.shtml
10. 美国发动对华贸易战：<http://bugu.cntv.cn/news/C33840/classpage/video/20120328/116354.shtml>

第七专题 贸易保护主义政策分析

本章教学目的和基本要求：以国际贸易保护主义政策类型、历史变迁为主线，深入探寻当前国际贸易保护主义的理论根源，比较传统的贸易保护主义和金融危机后的新贸易保护主义，提出解决对策。

学时分配：3 学时

一、传统的贸易保护主义政策

（一）贸易政策的分类

1. 自由贸易政策
2. 保护贸易政策

（二）保护贸易政策

1. 关税及其经济效应
2. 非关税壁垒及其经济效应
3. 鼓励出口的措施
4. 倾销与反倾销
5. 国际卡特尔

二、金融危机后新贸易保护主义政策

- （一）金融危机后中国成为新贸易保护主义政策的最大受害者
- （二）新贸易保护主义特征：以非关税壁垒为主，关税壁垒为辅
- （三）种类：“碳关税”与“碳保护主义”、“网络与数码保护主义”、“跨国公司保护主义”和“制度保护主义”，还出现了以反“新殖民主义”和反“恐怖主义”为政治诉求的“新价值保护主义”等。

三、新贸易保护主义的盛行的原因

- （一）国际市场需求有限
- （二）国际贸易中双边主义与区域主义兴起
- （三）世界经济的发展格局中，发展中国家的地位不断提升，威胁着发达国家的绝对优势
- （四）WTO 规则体系的缺陷
- （五）国内政治压力与新贸易保护主义

四、金融危机下新贸易保护主义的特点

- （一）贸易保护主体的全球性与区域性
- （二）贸易保护客体的广泛性与延伸性
- （三）贸易保护手段的多样性与创新性
- （四）贸易保护战略的进攻性与针对性

五、新贸易保护主义对中国的影响及对策

- （一）消极影响：加工贸易、引进外资、产业安全、宏观经济的稳定
- （二）积极影响：加快产业结构的升级，转变经济增长方式，加快调整出口战略
- （三）对策：政府、行业（产业）、企业

讨论题：

- 1.新贸易保护主义的理论基础。
- 2.新贸易保护主义手段。
- 3.新贸易主义对新兴市场经济的冲击。
- 4.中国企业如何应对欧美碳关税等新贸易保护主义？

教学环节安排：

- 1.指定小组汇报有关本专题的新信息和新科研成果
- 2.指定小组进行文献综述
- 3.经典著作选读
- 4.每个人汇报本课程论文选题情况
- 5.教师总概括和评价，并布置开题报告任务

拓展阅读书目：

- 1.[美]科依勒·贝格威尔：《世界贸易体系经济学》[M]，中国人民大学出版社，2005。
- 2.张淑静：《欧盟东扩后的经济一体化》[M]，北京大学出版社，2006。
- 3.[意]甘道尔夫：《国际贸易理论与政策》[M]，上海财经大学出版社，2005。
- 4.[美]保罗·克鲁格曼：《市场结构和对外贸易政策——报酬递增、不完全竞争和国际贸易》[M]，上海三联出版社，1993。
- 5.[美]格罗斯曼，赫尔普曼：《利益集团与贸易政策》[M]，中国人民大学出版社，2005。
- 6.吴建伟：《国际贸易比较优势定量分析》[M]，上海三联出版书店，1997。
- 7.王如忠：《贫困化增长——贸易条件变动中的疑问》[M]，上海社会科学出版社，1999。
- 8.影像资料：中美贸易摩擦为何突然“升温” <http://www.solarzoom.com/article-9637-1.html>

第八专题 金砖国家对世界经济的影响

本章教学目的和基本要求：了解金砖国家经济发展特征，掌握金砖国家对世界经济的作用，分析金砖国家经济发展面临的风险及挑战，提出相应的对策

学时分配：4 学时

一、金砖国家概述

（一）巴西概况

- 1.拉丁美洲最大的国家，人口居世界第五，面积居世界第五。
- 2.拥有丰厚的自然资源和充足的劳动力。
- 3.巴西的国内生产总值位居南美洲第一，世界第七，2011 年起人均 GDP 超过 1 万美元

（二）俄罗斯概况

- 1.世界上面积最大的国家，地域跨越欧亚两个大洲
- 2.世界第二军事强国，也已成为全球最大的天然气出口国及 OPEC 以外最大的原油输出国。

（三）印度概况

- 1.印度是世界上发展最快的国家之一，但也是个社会财富分配极度不平衡的发展中国家。
- 2.印度已经成为软件业出口的霸主，金融，研究，技术服务等也将成为全球重要出口国。

（四）南非概况

- 1.南非地处南半球，有“彩虹之国”之美誉，位于非洲大陆的最南端。
- 2.南非是非洲最大经济体和最具影响力的国家之一，其国内生产总值约占撒哈拉以南非洲国家经济总量的三分之一，对地区经济发展起到了重要的引领作用。
- 3.南非财经、法律、通讯、能源、交通业发达，拥有完备的硬件基础设施和股票交易市场，生产量均占世界首位。

二、金砖国家崛起的原因及面临的挑战

（一）金砖国家崛起的原因

1. 四国的共同特点：经济体系庞大，人口多，劳动力充足，资源丰富，内部市场大
- 2.发展模式为：循序渐进地改革开放、谨慎私有化、政府干预经济、汇率水平低。

（二）金砖国家面临的挑战

- 1.俄罗斯：
 - （1）人口数量下降较快；
 - （2）社会贫富差距大，地区发展差异大；
 - （3）过分依赖原材料出口，机械制造业发展滞后
- 2.印度：基础设施建设亟待完善，政府部门腐败，素质教育有待加强。
- 3.巴西：出口导向型战略的转变
- 4.南非：资源枯竭、经济增长方式的转变

三、金砖国家崛起对世界经济的影响

- （一）金融中心由西转东，加快国际货币体系的改革。
- （二）巩固世界经济基础，为推动世界经济复苏作出突出贡献。
- （三）冲击欧美在世界经济中的主导地位。

四、金砖国家经济发展战略展望

教学安排:

观看影像资料: 金砖之国提出者吉姆·奥尼尔先生的采访录像

<http://www.goldmansachs.com/china/ideas/brics/brics-at-8/index.html>

指定小组汇报金砖国家概况

分组讨论金砖国家成功的原因及面临的挑战

指定小组进行文献综述及评价

教师总结和归纳

拓展阅读书目:

- 1.刘振林, 刘爱文: 新兴市场经济体汇率制度的新选择[J], 统计与决策, 2004年12期。
- 2.汪茂昌: 新兴国家汇率制度转型的比较研究[J], 世界经济与政治论坛, 2005年第2期。
- 3.王炳春: 当前世界经济格局中新兴经济体影响及中国定位研究[J], 哈尔滨商业大学学报(社会科学版), 2011年04期。
- 4.龚斌恩: 金砖五国合作策[J], 中国外资, 2011年11期。
- 5.马杰, 张灿: 金砖四国外汇储备需求的比较研究[J], 统计与决策, 2011年第16期。
- 6.高盛全球经济研究报告: Jim O'Neill, Building Better Global Economic BRICs[R], Global Economics Paper No: 66, 30th November 2001。
- 7.高盛全球经济研究报告: Dominic Wilson, Roopa Purushothaman, Dreaming With BRICs: The Path to 2050[R], Global Economics Paper No: 99, 1st October 2003。
- 8.高盛全球经济研究报告: Jim O'Neill, Dominic Wilson, Roopa Purushothaman and Anna Stupnytska, How Solid are the BRICs? [R] Global Economics Paper No: 134, 1st December 2005。

第九专题 国际货币体系改革

本章教学目的和基本要求：深入分析今日危机后国际货币体系存在的问题，讨论国际货币体系改革的方向，提出提高人民币在国际货币体系中的地位和作用的对策。

学时分配：3 学时

一、国际货币体系特征

（一）国际货币体系演变

- 1.金本位制度
- 2.布雷顿森林体系
- 3.牙买加体系

（二）金融危机下国际货币体系的缺陷

二、国际货币体系的改革

（一）多元化货币体系

（二）IMF 的改革

三、人民币国际化路径选择

（一）货币自由兑换的条件

（二）人民币国际化现状

（三）加快人民币国际化步伐

教学安排：

- 1.指定小组结合国际金融理论，汇报国际货币体系的演变
- 2.其他小组分析国际货币体系面临的困境
- 3.课堂讨论国际货币体系改革的方向
- 4.经典论著选读及文献综述
- 5.教师总结人民币国际化路径及国际货币体系中的地位和作用

讨论题：

- 1.金融危机对现有国际货币体系带来哪些冲击？
- 2.人民币国际化的具体步骤？
- 3.人民币自由兑换的前提及障碍。
- 4.国际货币体系改革的目标及美元的地位。

拓展阅读书目

- 1.王宪磊：《当代世界经济与欧元》[M]，社会科学文献出版社，2009。
- 2.陈亚温：《欧元经验与效应》[M]，经济科学出版社，2009。
- 3.多米尼克·萨尔多瓦（美），贺瑛译：《欧元，美元和国际货币体系》[M]，复旦大学出版社，2007。
- 4.冯冰：《国际化进程中的人民币强势战略》[M]，经济科学出版社，2008。

5.刘力臻, 徐奇渊:《人民币国际化探索》[M], 人民出版社, 2009。

6.Wensheng Peng, Chang Shu, Currency Internationalization: Global Experiences and Implications for the Renminbi[M], 2010.

7.HU Zongyi, LIU Yiwen, A CGE Analysis on the Dynamics of RMB Internationalization[J], Modern Economic Science, 2009-06.

8.ZHA Guiyong, Some Reflections on Renminbi Internationalization[J], Journal of Shanghai Finance College, 2005-02.

第十专题 亚太经济合作新格局与中日韩 FTA 经济效应研究

本章教学目的和基本要求：分析金融危机后亚太区域经济合作新格局及特征，研究美国重返亚太下中日韩经济合作意义，掌握 FTA 经济绩效的研究方法。

学时分配：3 学时

一、亚太区域经济合作新格局的背景

- (一) 金融危机后美国实施全面重返亚太战略
- (二) 传统的 APEC 过于松散、内部矛盾复杂
- (三) 双边或多边的经济合作为主流，中日韩 FTA 的启动
- (四) 中国经济的崛起

二、亚太区域经济合作新格局及特征

- (一) 美国重返亚太，掌握亚太经济合作主导权
- (二) 中日韩 FTA，将推动亚太地区多层次、交叉合作机制
- (三) 中美日大国博弈，影响亚太地区经济合作效果

三、中日韩 FTA 对亚太区域经济合作的影响

- (一) 垂直和水平分工相结合，实现比较优势互补

	S(优势)	W(劣势)	O(机遇)	T(威胁)
中国	劳动密集型	技术、资本密集型	进口高新技术、产品	低端制造业
日本	技术、资本密集型	劳动密集型	进口廉价零部件、资源	农产品
韩国	技术、资本密集型	劳动密集型	进口半成品、拓展市场	高端技术、农产品

- (二) 摆脱对欧美经济的依赖，有效缓解各种经济风险

- (三) 加快东亚经济一体化，提高福利水平

1. 东亚经济一体化的实践证明，中日韩的合作是整个东亚合作的核心。

2. 中日韩 FTA 的启动不仅有利于增强中日韩三边贸易、投资合作来提高三国经济发展潜力，实现外部市场的多样化，而且扩大内需，促进东亚地区的经济一体化进程。

- (四) 基于引力模型的中日韩 FTA 贸易效应及潜力研究

- (五) 中日韩 FTA 面临的风险与对策

1. 内部阻力

2. 外部制约

3. 缺乏信任

课堂教学环节：

1. 教师详细介绍金融危机后亚太区域经济合作新格局的背景及特征

- 2.教师结合科研成果，向学生讲授有关中日韩 FTA 经济绩效的实证分析方法
- 3.学生提问和教师答疑
- 4.学生确定本课程论文选题

拓展阅读书目：

- 1.中日韩合作（1999-2012）全文，白皮书[R]:8。
- 2.中日韩自由贸易区可行性联合研究报告[R]，2011-12：2-3。
- 3.蔡成平.日本加入 TPP 对中国的影响[N]，[英]《金融时报》中文网，2011-11-09。
- 4.[日]JETRO—贸易、投资、国际收支统计，<http://www.jetro.go.jp/world/japan/stats/trade/>
- 5.张鸿，彭璟，王悦：中日韩区域贸易潜力分析—基于贸易引力模型的角度[J]，国际商务研究，2009（4）。
- 6.尹翔硕：中日韩自由贸易区贸易效果的实证分析[D]，复旦大学博士论文，2005。
- 7.魏巍：基于引力模型的中韩 FTA 贸易扩大效应研究[J]，商业研究，2009（12）。
- 8.[日]经济产业省《通商白书》[R]，2011：246。
- 9.杨勇，胡渊：亚太区域经济一体化发展趋势与中国的策略选择[J]，亚太经济，2011（6）。
- 10.金仁淑：日本看重加入 TPP，瞭望新闻周刊，2012—4.5
- 11.Jin Renshu: A Study of China-Japan-Korea FTA Trade Creating Effect Based on Gravity Model, 2013 3rd International Conference on Applied Social Science (ICASS 2013) will be held in Taipei, Taiwan, January 15-16, 2013.

第十一专题 开题报告

本章教学目的和基本要求：通过开题报告明确选题的意义、构建论文的框架和结构，力求观点明确、结构合理、方法科学，培养科研的能力。

学时分配：3 学时

开题报告的要求：

- 一、每人限 10 分钟
- 二、小组开题报告：由小组长介绍本小组的研究题目、计划、观点和成果形式（研究报告、论文、文献综述等）
- 三、每个人进行开题内容：选题意义、主要内容（大纲）、研究方法、主要观点、创新、文献综述、目前的进展及问题
- 四、学生互相点评
- 五、教师点评
- 六、明确下一步的科研目标和具体步骤。
- 七、课程结束第 2 周提交小组报告和个人论文
- 八、教师根据平时成绩和小组成绩及个人论文，确定期末最终成绩。

《国际贸易实务（双语）》教学大纲

杨丽花 编写

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《国际贸易实务（双语）》教学大纲

课程中文名称：《国际贸易实务（双语）》

课程英文名称：International Trade Practice

课程号：406040072

学时数：36

学分数：2

适用专业：国际商务

前 言

课程性质

本课程属于实践类课程，课程教学需要与实践操作紧密结合，随着实践操作的不断发展，本课程的教学内容也需要不断更新，鉴于目前缺乏教学软件的情况，课程教学需要重视案例教学，通过案例弥补实践教学环节的不足。

课程简介

随着中国与世界日益频繁的经济互动，市场越来越需要既具有扎实专业知识又掌握娴熟外语语言技能的复合型人才。“专业+英语”的复合型人才在未来竞争中处于优势。本课程旨在帮助学生在特定英语语言环境中直接、系统地学习国际贸易操作实务；同时使学生通过对国际经贸知识的学习，强化商务英语这一专门用途英语的实战技能，掌握经贸领域的英语术语、语言特征和文体特征。本课程为国际商务专业学生的专业限选课，课程授课对象为本科生三年级学生。

编写目的

本大纲的编写旨在帮助学生在在学习过程中合理地安排学时和所学内容，明确课程的进度计划和课程的主要内容，把握教学的重点、难点以及教学资源的来源和出处，从而很好地安排学习计划。

课程进度安排

本课程共 36 课时，授课为 18 周，每周 2 学时。

第一章 国际贸易简介

Chapter1 Introduction to International Trade

Study Objectives

After studying this chapter the students should be able to

- 1、 learn the concept of international trade and the other professional language
- 2、 learn the measurement of balance of trade
- 3、 understand the cause of international trade

学习目标

- 1、 掌握国际贸易的概念以及其他相关术语
- 2、 掌握国际贸易量的计量方式
- 3、 理解国际贸易产生的原因

Contents:

1. Why do Countries Trade?
 - the origin of international trade
 - resource reasons
 - economic reasons
 - preference reasons
 - other reasons
2. How is international trade measured?
 - Balance of trade
 - Balance of payment
 - FDI

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	0.5	0.2		0.3	1

Reading and References 学生必读和参考书目

- 1、 Edward G. Hinkelman, Dictionary of International Trade, 4th ed. California: World Trade Press, 2000.
- 2、 Paul R. Krugman and Maurice Obstfeld. International Economics—theory and Policy. 5th ed. Addison Wesley Longman & 清华大学出版社, 2002.
- 3、 William G. Nickels, James M. McHugh, and Susan M. McHugh. Understanding Business. 6th ed. McGraw-Hill, 2002.

Discussion Questions

- 1、 What is international trade?
- 2、 Why is it an irreversible trend to have the international trade for all the

countries around the world?

3、 How is international trade measured?

4、 What is the definition of FDI? Please list your own ideas about the great significance of FDI for China.

Homework

Exercise

1. Case Study

Suppose that America-based multinational company set up two subsidiaries in China. The parent company signed a sales contract between the subsidiaries, which stipulated that the parent company would make the delivery to one of the subsidiaries in Shanghai, which should forward some of the goods to another subsidiary at Chengdu.

Question: Is the transaction between the parent company and the two subsidiaries an international trade?

2. Term translation

流动性过剩	自给自足	经济资源
直接投资	国际收支	商品交换
出口退税	倾销	出口型经济增长
东道国	贸易差额	贸易顺差/贸易逆差
欧盟	国际收支顺差/国际收支逆差	有形贸易
无形贸易	货物贸易	服务贸易

3. Fill in the blanks with proper English terms.

(1) _____ are tangible goods sent out of countries.

(2) _____ are international earnings other than those derived from the exporting and importing of tangible goods.

(3) _____ are tangible goods brought in.

(4) _____ is all business transactions that involve two or more countries.

(5) _____ is one that gives the investor a controlling interest in a foreign company.

(6) _____ is used primarily as financial means for a company to earn more money on its money with relative safety.

4. Discussions.

(1) What is international trade?

(2) Why is it an irreversible trend to have the international trade for all the countries around the world?

(3) How is international trade measured?

(4) What is the definition of FDI? Please list your own ideas about the great significance of FDI for China.

第二章 国际贸易政策

Chapter 2 International Trade Policy

Study Objectives

After studying this chapter the students should be able to

- 1、 understand the types of international trade policies, the cause of trade barriers and the effects
- 2、 learn the concept and types of the import tariff barriers and non-tariff barriers.
- 3、 understand the measures of export restraint and export incentive programs adopted by the government
- 4、 learn the concept of export duties and export subsidies and learn to apply these concept to practice

学习目标

- 1、理解国际贸易政策工具形式，理解各种贸易壁垒产生的原因及其影响
- 2、掌握进口关税壁垒和非关税壁垒的概念及其类别；
- 3、理解政府为限制或鼓励出口所采取的各种措施。
- 4、掌握出口税、出口补贴的概念及其在贸易实践中的运用

Contents:

1. Import tariff
 - Specific Duties
 - Ad valorem Duties
 - Compound Duties
2. Non-tariff barriers to imports
 - Import quotas
 - Voluntary Export Restraint
 - Other Non-tariff barriers
3. Export taxes
4. Export subsidies

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	0.5	0.2		0.3	1

Reading and References 学生必读和参考书目

- 1、 Paul R. Krugman and Maurice Obstfeld. International Economics—theory and Policy. 5th ed. Addison Wesley Longman & 清华大学出版社，2002.

2、Lillian H. Channey and Jeanette S. Martin. *Intercultural Business Communication*, 2nd ed. Pearson Education, 2002.

3、William G. Nickels, James M. McHugh, and Susan M. McHugh. *Understanding Business*. 6th ed. McGraw-Hill, 2002.

Discussion Questions

- 1、What is international trade?
- 2、Why is it an irreversible trend to have the international trade for all the countries around the world?
- 3、How is international trade measured?
- 4、What is the definition of FDI? Please list your own ideas about the great significance of FDI for China.

Homework

Exercises

1. Term translation

关税壁垒	非关税壁垒	从量税
配额	保护性关税	市场失灵
幼稚产业	许可证制度	财政关税
政府采购	贸易保护主义	从价税
最低限价	本地采购规则	增加内需
Domestic content	red-tape barriers	export subsidies
Binding quota	absolute quotas	VER
Tariff-rate quotas	zero quota	“buy local” rules

2. Translate the following sentences into Chinese.

(1) Protectionism means the deliberate use or encouragement of restrictions on imports to enable relatively inefficient domestic producers to compete successfully with foreign producers

(2) If the Russians release their stocks of tin into the world market, the price of the metal will sink through the floor.

(3) Protective tariff means a duty or tax imposed on imported products for the purpose of making them more expensive in comparison to domestic products, thereby giving the domestic products a price advantage.

(4) Types of tariffs include ad valorem, specific, variable, or compound. In the United States, the imposition of tariffs is made on imported goods only. Tariffs raise the prices of imported goods. After seven “Rounds” of General Agreement on Tariffs and Trade (GATT) trade negotiations that focused heavily on tariff reductions, tariffs are less important measures of protection than they used to be.

第三章 贸易集团与贸易封锁

Chapter 3 Trade Bloc and Trade Block

Study Objectives

- 1、 understand and learn the concept of the four big trade bloc in the world
- 2、 understand the effect of the trade in areas
- 3、 understand the background and effect of trade embargoes

学习目标:

- 1、 理解并掌握世界四大区域经济贸易组织的构成及其成员国;
- 2、 理解区域经济贸易的影响和作用;
- 3、 理解贸易禁运作为一种经济制裁形式产生的历史背景及影响。

Contents:

1. Trade Bloc
 - Four Major Trade Blocs
 - Roles and Functions of Trade Blocs
2. Trade Block
 - Ways to Perform Trade Block
 - Long History to Trade Block
 - Effects of Trade Block

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	0.6	0.2		0.2	1

Reading and References 学生必读和参考书目

- 1、 Paul R. Krugman and Maurice Obstfeld. International Economics—theory and Policy. 5th ed. Addison Wesley Longman & 清华大学出版社, 2002.
- 2、 William G. Nickels, James M. McHugh, and Susan M. McHugh. Understanding Business. 6th ed. McGraw-Hill, 2002.
- 3、 帅建林主编, 国际贸易实务[英文版]. 对外经济贸易大学出版社, 2009.

Discussion Questions

- 1、 Why do nations create trade bloc and trade block? What determines the effects of economic sanctions?
- 2、 In exercising economic sanctions, who gets hurt the most? Who the least? And who gets benefited the most?
- 3、 What is the trade elasticity? Comparing China with USA in the line of automobiles,

textile and agricultural products, please elaborate their trade elasticity respectively.

Homework

Exercise

1. Term translation

trade bloc	trade block	open regionalism
free trade area	customs union	common market
economic union	trade embargoes	boycotts
歧视性关税	经济制裁	贸易弹性
双边贸易协定	多边贸易协定	最惠国

2. Discussion in groups.

(1) Why do nations create trade bloc and trade block? What determines the effects of economic sanctions?

(2) In exercising economic sanctions, who gets hurt the most? Who the least? And who gets benefited the most?

(3) What is the trade elasticity? Comparing China with USA in the line of automobiles, textile and agricultural products, please elaborate their trade elasticity respectively.

(4) A few years ago when USA companies started up with the implementation of SA8000 against the Chinese exporters, it was condemned as a discriminatory rule by many Chinese businessmen and exports. Now, what are their present attitudes? And what are the effects of this rule? Who get benefited the most?

第四章 WTO 导航

Chapter 4 WTO: A Navigation Guide

Study Objectives

- 1、 understand the development, organization and working model of WTO
- 2、 understand and learn the objectives, functions and basic principles of WTO
- 3、 understand the concept of WTO agreement

学习目标:

- 1、 了解世贸组织的发展历程、组织结构及运行模式;
- 2、 理解并掌握世贸组织的目标、功能和基本原则;
- 3、 了解世贸组织的协议框架。

Contents:

1. What is WTO?
2. How does it work?
 - Organization Chart
 - The Secretariat
3. WTO: Objectives, Functions and Basic Principles
4. WTO agreement: A Navigation Guide

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	0.5	0.3		0.2	1

Reading and References 学生必读和参考书目

- 1、 Paul R. Krugman and Maurice Obstfeld. International Economics—theory and Policy. 5th ed. Addison Wesley Longman & 清华大学出版社, 2002.
- 2、 Edward G. Hinkelman, Dictionary of International Trade, 4th ed. California: World Trade Press, 2000.
- 3、 帅建林主编, 国际贸易实务[英文版]. 对外经济贸易大学出版社, 2009.

Discussion Questions

- 1、 What global companies can you think of ? What industries are they in?
- 2、 What is the secret for McDonald' s success? Could you give some more cases about the successful business performance with the application of localism in the context of globalization?
- 3、 What are the major functions and basic principles of WTO? Does WTO clear off all

trade barriers between member countries?

Homework

Exercise

1. Term translation

施惠国	受惠国	缔约国
市场准入	透明度	紧急进口措施
争端解决机制	可持续发展	特许经营

2. Comprehension questions on the text.

- (1) When was WTO established?
- (2) What are the new areas of activity of WTO?
- (3) What are WTO' s objectives and main functions?
- (4) What are the basic principles that WTO members must follow?

第五章 国际贸易术语

Chapter 5 International Trade Terms

Study Objectives

- 1、understand INCOTERMS 2010 and learn the concept of international trade terms
- 2、learn how to use international trade terms and know how to use the change of international trade terms

学习目标

- 1、理解并掌握《2010年国际贸易术语解释通则》及其国际贸易术语的概念、分类；
- 2、熟练使用国际贸易术语，并掌握在不同的贸易条件下的使用变体。

Contents:

1. Generalization
 - Role of International Trade Terms
 - International Trade Usages
2. A Guide to Incoterms 2010
3. Incoterms and VAT
4. Incoterms and Contracts

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	2	0.5		0.5	3

Reading and References 学生必读和参考书目

- 1、国际商会，INCOTERMS 2010，中国民主法制出版社，2010.
- 2、Edward G. Hinkelman, Dictionary of International Trade, 4th ed. California: World Trade Press, 2000.
- 3、帅建林主编，国际贸易实务[英文版]。对外经济贸易大学出版社，2009.

Discussion Questions

- 1、What global companies can you think of? What industries are they in?
- 2、What is the secret for McDonald's success? Could you give some more cases about the successful business performance with the application of localism in the context of globalization?
- 3、What are the major functions and basic principles of WTO? Does WTO clear off all trade barriers between member countries?

Homework

Exercise

1. Term translation

FOB 班轮条件	清关	FOB 吊钩下交货
平舱	多式联运	船舷
内陆水运	理舱	卸货费
投保	CFR 卸至岸上（含着陆费）	
班轮	单据买卖	CFR 舱底交货
CFR 班轮条件	象征性交货	

2. Judge whether the following price terms are correct or not. If not, make corrections.

- (1) U.S. \$55 per ton CIFC5 Shanggai
- (2) pound 200 per carton CFR New Zealand
- (3) U.S. \$150 per ton FOB New York
- (4) FF580 per dozen less than 1% discount
- (5) SF2,700 per case CIFC2 Dubai

3. Translate the following sentences into Chinese.

- (1) The price quoted includes 5% commission on FOB basis.
- (2) Under CPT, CIP, “carrier” means any person who, in a contract of carriage, undertakes to perform or to procure the performance of transport, by rail, road, air, sea, inland waterway or by a combination of such modes.
- (3) Under FCA, the chosen place of delivery has an impact on the obligations of loading and unloading the goods at that place. If delivery occurs at the seller’s premises, the seller is responsible for loading. If delivery occurs at any other place, the seller is not responsible for unloading.
- (4) Under FOB, the seller must deliver the goods on the date or within the agreed period at the named port of shipment and in the manner customary at the port on board the vessel nominated by the buyer. And the buyer must bear all risks of loss of or damage to the goods from the time they have passed the ship’s rail at the named port of shipment.

第六章 商品条件

Chapter 6 Terms of Commodity

Study Objectives

- 1、 learn the terms of commodity
- 2、 understand and learn the packing clause
- 3、 understand the role of commodity inspection and learn how it works

学习目标

- 1、 熟悉商品的分类、计量、销售依据等方面的相关术语
- 2、 理解并掌握商品包装的各种方式及其在贸易往来中的具体运用
- 3、 了解并掌握国际贸易中商品检验的重要作用及执行机构

Contents:

1. Name of Commodity
2. Quality of Commodity
 - Sales by Sample
 - Sales by Specification, Grade or Standard
 - Sales by Brand or Trademark
 - Sales by Description, Drawing or Diagram
3. Quantity of Commodity
 - Unit of Measurement
 - Calculation of Weight
 - More or Less Clause
4. Packing of Commodity
 - Types of Packing
 - Marking of Goods
 - Neutral Packing
5. Commodity Inspection and Customs Formalities
 - Where and When Inspection Undergoes
 - Commodity Inspection Certificate
 - Customs Formalities for Exports and Imports

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	2	0.5		0.5	3

Reading and References 学生必读和参考书目

- 1、国际商会，INCOTERMS 2010，中国民主法制出版社，2010.
- 2、Edward G. Hinkelman, Dictionary of International Trade, 4th ed. California: World Trade Press, 2000.
- 3、帅建林主编，国际贸易实务[英文版]. 对外经济贸易大学出版社，2009.
- 4、周耀宗，装学艺编著，进出口业务概要，上海外语教育出版社，2000.

Discussion Questions

- 1、 What is the governing rule over the contract? And how much do you understand this rule?
- 2、 How much do you know about packing?

Homework

Exercises

1. Give the Chinese equivalents and explain the following terms in simple English.

Sales by Seller' s/Buyer' s Sample

Reference/Duplicate Sample

Quality Tolerance

Counter Sample

More or less Clauses

Neutral Packing

Customs Formality

Inspection Certificate of Quality

FDA

Marking of Goods

2. Term translation

毛重	理论重量	净重
约定毛重	公量	单位重量
含水量	习惯皮重	法定重量
实际皮重	从价税	平均皮重
货样不符	副产品	国家质量监督检验检疫总局

3. Translate the following sentences into English

- (1) 包装材料的选用和装潢设计要考虑到商品的质量和价格
- (2) 高档商品配上高档的包装，以显得其优质与名贵
- (3) 给中低档商品配上高档包装会过度提高商品的成本，影响产品的销路
- (4) 一味讲究节约，给高档商品配上低档包装，也会影响商品的销售
- (5) 我们不仅要考虑商品的内在质量与外观形态，也要考虑顾客的品味要求
- (6) 要增强我国出口商品在国际市场的竞争能力，就必须提高出口商品的质量

第七章 国际货物运输

Chapter 7 International Cargo Transport

Study Objectives

- 1、 understand the modes of international cargo transport and learn the related terms of commodity
- 2、 learn ocean carriage and the choose of ship and the clause of shipment
- 3、 learn the major shipping documents

学习目标

- 1、了解并掌握国际贸易中货物运输的各种模式以及相关术语
- 2、重点掌握海洋运输涉及的轮船选择、装运条款等知识点
- 3、理解并掌握各类主要的海运单据

Contents:

1. Modes of Transport
 - Ocean Carriage
 - Air Transport
 - Rail Transport
 - Road Transport
 - Inland Waterway Transport
 - Container Transport
 - International Multimodal Transport
2. Clause of Shipment
 - Time of Shipment
 - Port of Shipment and Port of Destination
 - Shipping Advice
 - Partial Shipment and Transshipment
 - Lay time, Demurrage and Dispatch
3. Major Shipping Documents
 - Bill of Lading
 - Consignment Note (for Rail and Road)
 - Air Waybill
 - Combined Transport Documents(CTD)

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	1	0.2		0.8	2

Reading and References 学生必读和参考书目

- 1、国际商会，INCOTERMS 2010，中国民主法制出版社，2010.
- 2、Goldsmith, Howard R. Import/Export. Prentice Hall, 1989.
- 3、帅建林主编，国际贸易实务[英文版]. 对外经济贸易大学出版社，2009.
- 4、黎孝先，国际贸易实务，对外经济贸易大学出版社，1994.

Discussion Questions

Without international transportation, there would be no international trade. Do you agree with this statement? Why, or why not?

Homework

Exercises

1. Term translation

油轮	定程租船	滚装船
定期租船	载驳轮	光船租船
船期表	租船合同	滞期费
班轮运价表	速遣费	选卸附加费
直航附加费	转船附加费	港口拥挤附加费
运输代理	包裹	拼箱货
结汇	整箱货	空运单
集装箱货运站	装运通知	处置权

Partial shipment/transshipment

Bill of lading

Clean B/L

Order B/L

Combined transport B/L

Blank B/L

Straight B/L

Through B/L

Liner B/L

Ante-dated B/L

Advanced B/L

Consignment note

Blank endorsement

IATA

Combined transport documents FCL/LCL

2. Translate the following sentences into English

(1) 运输单据表面注明货物系使用同一运输工具并经同一线路运输的，即使每套运输单据注明的装运日期不同及/或装货港、接受监督地、发运地不同，只要运输单据注明的目的地相同，也不视为分批装运。

(2) 清洁运输单据系指未载有明确宣称货物及/或包装状况有缺陷的条款或批注的运输单据

(3) 如托运人在提单中故意谎报货物的性质或价值，则承运人或船舶在任何情况下对货物或与货物有关的灭失或损坏概不负责人。

(4) 如果将运输或部分运输委托给实际承运人执行时，不管根据海上运输合同是否有权这样做，承运人仍须对全部运输负责。关于实际承运人所履行的运输，承运人应对实际承运人及其受雇人和代理人在他们的受雇范围内行事的作为或不作为负责。

第八章 货物保险

Chapter 8 Cargo Insurance

Study Objectives

- 1、learn the parties to the insurance, types of insurance and scope of insurance coverage
- 2、learn the procedures of insurance
- 3、understand the background of insurance and the role in the international cargo transport

学习目标:

- 1、理解并掌握保险的各方主体, 分类及其涵盖范围
- 2、理解并掌握保险的具体流程
- 3、理解保险产生的历史背景及在国际货物运输中的重要作用

Contents:

1. Parties to the Insurance
 - Insurer
 - Insured
 - Insurance Broker
 - Claimant
2. Marine Insurance
 - Types of Risks, Losses and Expenses Covered
 - Scope of Insurance Coverage
 - Procedures of Marine Insurance
3. Insurance of Land, Air and Postal Transportation
4. Fundamental Principles of Cargo Insurance
 - Insurable Interest
 - Good Faith
 - Indemnity

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	1	0.2		0.8	2

Reading and References 学生必读和参考书目

- 1、国际商会, INCOTERMS 2010, 中国民主法制出版社, 2010.
- 2、Goldsmith, Howard R. Import/Export. Prentice Hall, 1989.
- 3、Ali M. El-Agraa. International Trade. New York: St. Martin' s Press, Inc., 1983.

- 4、帅建林主编，国际贸易实务[英文版]。对外经济贸易大学出版社，2009.
- 5、黎孝先，国际贸易实务，对外经济贸易大学出版社，2000年10月第三版。
- 6、姚新超，国际贸易运输，对外经济贸易大学出版社，2003年第二版。

Discussion Questions

1、Without international transportation, there would be no international trade. Do you agree with this statement? Why, or why not?

Homework

Exercises

1. Term translation

投保人	共同海损	投保金额
外来风险	保险单	推定全损
海上风险	施救费用	救助费用
意外事故	承保人	单独海损
保险费	航空运输货物战争险	陆运险
陆运一切险	估损费用	航空运输一切险
Ocean marine insurance		war risks
Basic risks coverage		insured amount
T.P.N.D.		taint of odor
Overland transportation insurance		parcel post insurance
Free from particular average		additional risks coverage
Fresh water and/or rain damage		with particular average

2. Decide whether the following statements are true or false.

- (1) In ocean marine insurance, the assured can recover more than actual loss provided that he can provide evidence of further losses contingent on the actual loss.
- (2) In ocean marine insurance, general average is to be borne by the carrier, who may, upon presentation of evidence of the loss, recover the loss from the insurance underwriter.
- (3) Partial loss or damage is never recoverable with FPA
- (4) Special additional coverages such as war risks, strikes and so on must be taken out together with FPA and WPA
- (5) In essence, open policy is the same as the insurance certificate.

第九章 价格术语

Chapter 9 Terms of Price

Study Objectives

- 1、 understand the price elements and learn the pricing methods
- 2、 learn the major trade terms
- 3、 understand the concept of exchange、 foreign exchange risk and the effects to international trade

学习目标:

- 1、 理解并掌握定价所涉及的各项因素与各种不同的定价方法
- 2、 理解并掌握国际贸易中采用的价格策略
- 3、 理解外汇的概念、风险及对国际贸易所产生的影响。

Contents:

1. Price Elements
 - Cost Structure
 - Factor Considerations in Pricing
2. Pricing Methods
 - Cost-based Pricing
 - Break-even Pricing
 - Marginal Cost Pricing
3. Conversion of Major Trade Terms
4. Exchange Cost: An Evaluation Tool
5. Pricing Strategies
6. Money of Account and Avoidance of Foreign Exchange Risk
7. Use of Commission and Discount
8. Clause of Price

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	2	0.2		0.8	3

Reading and References 学生必读和参考书目

- 1、 国际商会, INCOTERMS 2010, 中国民主法制出版社, 2010.
- 2、 Goldsmith, Howard R. Import/Export. Prentice Hall, 1989.
- 3、 Ali M. El-Agraa. International Trade. New York: St. Martin' s Press, Inc., 1983.
- 4、 D. P. Whiting. International Trade and Payments. Macdonald and Evans, 1978.
- 5、 帅建林主编, 国际贸易实务[英文版]. 对外经济贸易大学出版社, 2009.
- 6、 黎孝先, 国际贸易实务, 对外经济贸易大学出版社, 2000年10月第三版。

Discussion Questions

1、What is the most politically sensitive currency right now? And, please elaborate these two concepts: exchange rate and the interest rate.

2、Payment currency is always a focus as we do the international business. What do you think are the main factors that determine the price of the transaction currency? How to avoid the risk of foreign exchange?

Homework

Exercises

1. Term translation

Cost structure cost of production

Profit margin selling cost

Target costing everyday low pricing (EDLP) total fixed cost

Variable cost skimming price strategy

Penetration strategy floating exchange risk

以成本为基础的定价法 损益两平定价法

边际成本定价法 损益两平点

计价货币 支付货币

硬货币 软货币

汇率 佣金/折扣

价款调整 期货/现货市场

2. Calculations

(1) An original export offer by a Chinese company (let's say "Company A") is U.S. D 30 per dozen CIFC2 London, now the other party requests Company A to quote CIFC5. By how much shall the income for Company A be reduced if the offer remains unchanged? And how much should Company A quote if it wants to keep the original income?

(2) A Chinese seller exports commodity X to Japan. The price is U.S. D 500 CIF Osaka per unit, including U.S. \$50 of freight and U.S. \$7 of insurance premium. If the domestic purchase price is RMB 1600 per M/T, and domestic direct and indirect expenses are 17% of the purchase price, calculate the RMB cost in return for foreign exchange.

第十章 国际结算

Chapter 10 International Payment and Settlement

Study Objectives

- 1、 understand and apply the international payment and settlement
- 2、 learn the procedure of the international payment and settlement
- 3、 learn the types and content of international payment and settlement

学习目标:

- 1、 理解并能熟练运用国际支付结算工具
- 2、 理解并掌握国际支付结算的流程
- 3、 理解并掌握国际支付结算的方式及涉及内容

Contents:

1. Amount of Payment
2. Payment Currency
3. Credit Instruments
 - Bill of Exchange
 - Promissory Notes
 - Check
4. International Money Transfer Types
5. Payment Methods
 - Remittance
 - Collection
 - Letter of Credit
 - International Factoring
 - Other Payment Methods
6. Risk Level Assessment of Payments

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	1	0.2		0.8	2

Reading and References 学生必读和参考书目

- 1、 国际商会, INCOTERMS 2010, 中国民主法制出版社, 2010.
- 2、 Goldsmith, Howard R. Import/Export. Prentice Hall, 1989.
- 3、 D. P. Whiting. International Trade and Payments. Macdonald and Evans, 1978.
- 4、 帅建林主编, 国际贸易实务[英文版]. 对外经济贸易大学出版社, 2009.
- 5、 帅建林主编, 国际结算教程[英文版]. 西南财经大学出版社, 2004.
- 6、 杨丽花, 国际结算. 中国发展出版社, 2009.

Discussion Questions

1、Payment and settlement systems are a core element of a bank at the national as well as the international level. How is the money transferred from banks to banks?

2、In addition to credit cards that are so prevalent in the world right now, even in the emerging economies, what other financial instruments can you think of?

Homework

Exercise

1. Term translation

信用状况 远期信用证 通知银行
信用证有效期 交付远单 交付保障条款
支付结算 申请人与受益人 国际保理

2. Translate the following sentences into English.

(1) 跟单托收中，银行起中介作用，把汇款人的单据转给代收银行，并从代收银行接受款项

(2) 结算时，出口商应向议付银行提交信用证所要求的各种单证

(3) 对买卖双方来说，每一种信用证都各有利弊，而且，银行担保付款所承担的风险越大，它提供该项服务的收费也越高。

第十一章 索赔、不可抗力与仲裁

Chapter 11 Claims, Force Majeure and Arbitration

Study Objectives

- 1、 understand the concept of the force majeure and learn the types of force majeure
- 2、 learn the procedure of the claims when the loss happened
- 3、 understand the parties of arbitration and the role in international trade

学习目标:

- 1、 理解并掌握不可抗力的概念、分类
- 2、 理解并掌握国际贸易中，风险发生后进行索赔的程序
- 3、 了解仲裁的相关主体及重要作用

Contents:

1. Claims
2. Force Majeure
3. Arbitration

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	1	0.2		0.8	2

Reading and References 学生必读和参考书目

- 1、 William G. Nickels, James M. McHugh, and Susan M. McHugh. Understanding Business. 6th ed. McGraw-Hill, 2002.
- 2、 Brenton Paul. International Trade, Oxford University Press, 1997.
- 3、 帅建林编著. 国际贸易惯例案例解析[英汉对照]. 对外经济贸易大学出版社, 2006.
- 4、 帅建林主编, 国际贸易实务[英文版]. 对外经济贸易大学出版社, 2009.
- 5、 宋雷主编, 国际经济贸易标准法律文书范本(中英文对照). 中国民主法制出版社, 2000.

Discussion Questions

What do you think is the role of arbitration in international trade?

Homework

Exercises

1. Term translation

索赔	不可抗力	仲裁条款
仲裁员	作出裁决	提出仲裁申请
国际商会	美国仲裁协会	听证
中国国际经济贸易仲裁委员会		
首席仲裁员		

2. Write two letters with the following particulars.

(1) A complaint letter for deferred delivery.

- Referring to the previous letters, cables or documents about the date of shipment;
- Stating that the goods have not been received, and didn't catch the selling season;
- Stating that the delay makes you suffer some loss and lodging a claim for the loss of

(2) A reply to the above letter.

- Informing the customer of receiving the letter or cable and express regret for delaying the goods
- Stating the reason of late delivery
- Promising to make compensation for the customer's loss.

第十二章 开展可获利的贸易

Chapter 12 Launching a Profitable Transaction

Study Objectives

- 1、understand the concept of market research and the role in international trade
- 2、understand the preparation of international trade and learn the procedure
- 3、understand the meaning of international trade negotiation and the related influences

学习目标

- 1、理解市场营销的概念及作用
- 2、理解并掌握开展国际贸易的前期准备工作及操作流程
- 3、理解国际贸易谈判的意义及相关要素

Contents:

1. Market Research
2. Sourcing Contacts
3. Tips for a Successful Negotiation
 - Qualified Negotiators
 - Negotiating Team Leader
 - Negotiating Brief and Negotiating Plan

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	1	0.2		0.8	2

Reading and References 学生必读和参考书目

- 1、William G. Nickels, James M. McHugh, and Susan M. McHugh. Understanding Business. 6th ed. McGraw-Hill, 2002.
- 2、Brenton Paul. International Trade, Oxford University Press, 1997.
- 3、Dr. Carl A. Nelson. Import/Export, How to Get Started in International Trade, Liberty House, 1990.
- 4、帅建林主编, 国际贸易实务[英文版]. 对外经济贸易大学出版社, 2009.

Discussion Questions

What do you think is the role of arbitration in international trade?

Homework

Exercises

1. Term translation

Target market market research potential partner

ICC	qualified negotiators	team spirit
Commercial negotiation	negotiation brief	negotiation team
Conclude a negotiation	credit reference	business range
Face-to-face negotiation	annual sales volume	

2. Workshop.

(1) Find issues of Entrepreneur, Success and Inc. magazines in the library or on the Internet. Read about the entrepreneurs who are heading today' s dynamic new businesses. Write a profile about one entrepreneur.

(2) There is an abundance of information about exporting on the Internet. A good place to start is with the Department of Commerce' s Bureau of Export Administration(www.bxa.doc.gov). Other sources of information include the SBA' s list of international business resources. Please go to this website www.sba.gov/hotlist/internet.html and look for the business opportunities. Write a list of information that you find useful to the export.

第十三章 商务谈判与合同订立

Chapter 13 Business Negotiation and Establishment of Contract

Study Objectives

- 1、learn the key points of enquiry、offer、counter-offer and acceptance
- 2、understand the difference between offer with engagement and offer without engagement and the applying
- 3、learn the elements of contracts and the structure

学习目标

- 1、理解并掌握询盘、报盘、还盘的内容要点及操作规则
- 2、理解并掌握实盘、虚盘的异同及运用环境
- 3、掌握合同的组成要素及框架结构

Contents:

1. Enquiry
2. Offer
 - Offer with engagement
 - Offer without engagement
3. Counter-offer
4. Acceptance
5. Conclusion of Contract

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	1	0.2		0.8	2

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- 2、Brenton Paul. International Trade, Oxford University Press, 1997.
- 3、Dr. Carl A. Nelson. Import/Export, How to Get Started in International Trade, Liberty House, 1990.
- 4、Lillian H. Channey and Jeanette S. Martin. Intercultural Business Communication, 2nd ed. Pearson Education, 2002.
- 5、帅建林主编, 国际贸易实务[英文版]. 对外经济贸易大学出版社, 2009.

Discussion Questions

How does China's trade surplus over U.S. influence the bilateral trade relationship?

Homework

Exercises

1. Term translation

还盘	询盘	受盘人
发盘人	发盘	可撤销的
虚盘	实盘	一般交易条件
失效	撤回	市场经济地位

2. Judge whether each of the following is or intends to make an offer, an invitation to make an offer, a counter-offer, or an acceptance.

(1) Your newly-developed STAR PRINTING MACHINE FK-6 displayed at Paris international Trade Fair interests us deeply. We would like to have three units as trial order. Please quote per unit C&F Tokyo for shipment in July, awaiting early reply.

(2) On behalf of our principals we exceptionally bid firm Long-shaped White Rice, 10 PCT more or less at buyer's option, 6000 MT 35 PCT broken U.S. \$227 combined with 60,000 MT 25 PCT broken U.S. \$289 both FOBS Shanghai gross for net equal monthly shipment from October to December other terms as usual.

(3) Accept but D/P 30 days.

第十四章 出口贸易

Chapter 14 Exporting Elements

Study Objectives

- 1、 understand the risk of export and learn how to deal with it
- 2、 learn the procedure of export

学习目标:

- 1、 理解并掌握出口贸易所涉及的风险因素及规避方法
- 2、 熟悉出口贸易的运作流程

Contents:

1. Export Strategies
 - Commitment
 - The Market
2. Export Roadmap
 - Export license(optional)
 - Quotation
 - Sales Contract
 - Cargo Readiness
 - L/C (optional)
 - Customs Clearance
 - Shipping
 - Cargo Insurance
 - Document and Settlement
3. Getting Paid for Export
 - Research Overseas Customers' and Markets' Creditworthiness
 - Payment Terms for Overseas Customers
 - Receiving Payments from Overseas Customers
 - Managing Your Overseas Customer' s Payment Performance
 - What to do if documents are rejected
4. Managing risks of Exporting
 - Risks of exporting
 - Minimize the risks of exporting
 - Reducing financial risk
 - Risk management and insurance services
 - Knowledge of Overseas Markets

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	1	0.2		0.8	2

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Discussion Questions

- 1、What procedures do Chinese exports involve?
- 2、What challenges do Chinese exports face in the western auto market? And how should they survive in the global market?

Homework

Exercise

1. Term translation

出口程序	出口许可	计价货币
订仓	审单	报关
提货	备货	制单结汇

2. Case Study.

You may be surprised at what you can sell overseas. Who would think, for example, that U.S. firms could sell beer in Germany where so many good beers come from? Yet right around the corner from a famous beer hall in Munich you can buy Samuel Adams Boston Lager. Thousands of cases have been sold, and a local licensing agreement assures more largest brewing company in central China and sells its flagship Budweiser product in major Chinese cities. If this company moves surprise you, well, you haven't heard anything yet. Can you imagine selling sand to countries in the Middle East? Meridan Group exports a special kind of sand used in swimming pool filters that sells quite well in that place.

So what other examples can you think of to illustrate this phenomenon? Try to find out the possible reasons lying behind that could explain this prevailing and marvelous international trade trend?

第十五章 进口贸易

Chapter 15 Importing Elements

Study Objectives

- 1、 understand the risks of importing and learn how to deal with these risks
- 2、 learn the procedure of import

学习目标:

- 1、 理解并掌握进口贸易所涉及的风险因素及规避方法
- 2、 熟悉进口贸易的运作流程

Contents:

1. Importing Strategies
 - Import Plan
 - Legal Responsibilities as an Importer
 - Financial Considerations
 - Protect your interests when importing
2. Import Roadmap
 - Import License
 - Inquiry & Trade Negotiation
 - Finding the right Supplier Overseas
 - Purchase Contract
 - Issuance of L/C
 - Managing Transport
 - Insurance
 - Document Examination and Payment
 - Customs Clearance
 - Taking Delivery and Inspection
 - Reclaiming Taxes on Rejected Imports
 - Claim
 - Settlement of Disputes
3. Taxes and Duties on Imports
 - Taxes and Duties on Imports
 - Suspending or Delaying Import Charges
 - Relief on Import for Export or Re-export
4. Managing risks of Importing
 - Manage Country Risks for Imports
 - Assess the reliability of overseas suppliers

- Ensure imported goods meet your requirements
- Minimize the impact of import delivery problems
- Avoid payment problems with imports
- Manage foreign exchange risk for imports

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	1	0.2		0.8	2

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- 2、Brenton Paul. International Trade, Oxford University Press, 1997.
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Discussion Questions

- 1、How does import improve a country's economic status? What contributions does import make to the economic growth of a country?
- 2、What procedures do Chinese imports involve?

Homework

Exercises

1. Term translation

Importing procedure import license system returned good relief

Product liability ATA Carnet inward/outward processing relief

2. Complete the following sentences with appropriate words or phrases.

(1) _____ is an indispensable procedure in international business transaction taken by an overseas buyer to a seller, inquiring upon the terms of a sale.

(2) In order to avoid the problems resulting from direct importing such as great time consumption and difficulty to find the right overseas supplier, the importer could adopt the solution of _____, which means to use a third-party company to handle the importation process.

(3) Goods like tobacco or alcoholic products are subject to _____.

(4) For imports of goods that were previously exported but have not been processed overseas, the importers could be able to claim _____.

(5) If the importer tends to place regular orders with an overseas supplier, he could be able to protect himself against foreign exchange risk for longer by _____, or _____.

第十六章 制单

Chapter 16 Documentation

Study Objectives

- 1、 learn the types、 elements of the documents and the key points of documentation
- 2、 understand the role of document in international trade

学习目标:

- 1、 理解并掌握单证的类别、组成要素及特征
- 2、 理解单证在国际贸易中的重要作用

Contents:

1. Government Controlled Documents
2. Commercial Documents
3. Finance Documents
4. Transportation Documents
5. Insurance Documents

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	1	0.2		0.8	2

Reading and References 学生必读和参考书目

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- 2、 Dr. Carl A. Nelson. Import/Export, How to Get Started in International Trade, Liberty House, 1990.

3、 帅建林主编, 国际贸易实务[英文版]. 对外经济贸易大学出版社, 2009.

4、 周耀宗、庄学艺编著, 进出口业务概要, 上海外语教育出版社, 2000.

Discussion Questions

In making the international settlements, banks only accept the documents which are free from any discrepancies but must be in conformity with each other. Is this an international practice?

Homework

Exercises

1. Term translation

原产地证书	领事发票	海关发票
外汇许可证书	形式发票	商业发票
国际汇款申请单	跟单信用证申请表	海运提单
多式联运提单	托运单	到货通知

2. Complete the following sentences with appropriate words and phrases.

(1) _____ gives the holder of the document ownership of the goods mentioned on it.

(2) _____ is prepared for the Customs authorities who need to know from which country the goods have originated.

(3) When a sale of goods has been agreed, the seller draws up and signs a _____, which is then passed to the buyer for acceptance by signing across it.

(4) _____ is also a kind of bill of exchange, but there are various foreign documents “attached” .

(5) In the collection method of payment for goods, the exporter uses the banking system to send the importer a _____ to get paid.

第十七章 代理、分销与寄售

Chapter 17 Agency, Distribution and Consignment

Study Objectives

- 1、 learn the concept 、 types of agent and understand the role in international trade
- 2、 understand the procedure and channel of sales
- 3、 learn the concept of consignment、 the related parties and the practice

学习目标:

- 1、 理解并掌握代理人的概念、分类及其作用
- 2、 理解并掌握销售的渠道及流程
- 3、 理解并掌握寄售的定义、相关主体及实践操作程序

Contents:

1. Agency
 - Brokers
 - Sole Agent
 - General Agent
 - Commission Agent
2. Distribution
 - Distributor
 - Wholesaler
 - Retailer
3. Consignment

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	0.5	0.2		0.3	1

Reading and References 学生必读和参考书目

- 1、 Brenton Paul. International Trade, Oxford University Press, 1997.
- 2、 Dr. Carl A. Nelson. Import/Export, How to Get Started in International Trade, Liberty House, 1990.
- 3、 帅建林主编, 国际贸易实务[英文版]. 对外经济贸易大学出版社, 2009.
- 4、 周耀宗、庄学艺编著, 进出口业务概要, 上海外语教育出版社, 2000.
- 5、 姚昌, 徐子荣编著: 对外贸易业务知识, 立信会计出版社, 2000年第4版。

Discussion Questions

What is the key points of the contract of consignment?

Homework

Exercises

1. Term translation

代理 经销 寄售

一般经销商 独家经销商 中间人

保付代理 直接贸易 间接贸易

存货 forwarding agents clearing agents

Retail price ultimate customers consignor

Consignee gross proceeds to sell goods on discount

Working capital conform to all rules consignment note

2. Complete the following sentences with appropriate words and phrases.

(1) _____ and _____ are part of the marketing system which provides channels of distribution that are used to bring goods to overseas market.

(2) A _____ channel moves goods from the manufacturer or producer to the consumer.

(3) _____ work on behalf of other businesses and receive a commission as a percentage of the sales or purchases which they handle.

(4) Unlike agents, _____ buy goods from the principals on their own account and take title to them and resell them to their customers in their territory.

(5) _____ is the only distributor in a territory.

(6) Under consignment, the _____ sends the goods to a foreign _____ who will sell the goods for the _____ according to the agreed terms.

第十八章 招投标

Chapter 18 Tenders

Study Objectives

- 1、understand and learn the rights and duties of the related parties of tenders
- 2、learn the organization of the documents of tenders
- 3、understand the procedure

学习目标:

- 1、理解并掌握国际招投标中，相关各方主体的权利与义务
- 2、理解并掌握招投标文件的组成要素与特征
- 3、理解招投标的流程。

Contents:

1. Invitation for Bids
 - Tender Documents
 - Terms of Contract
 - Base Price Limit on Tender
 - Technical Specifications
 - Kinds of Invitation to Bid
2. Submission of Tenders
 - Tender Documents
 - Tender Documentation
3. Bid Opening
4. Evaluation of Tender
5. Tender Discussions and Tender Decision
6. Establishment of Contract
7. Execution of Contract

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	0.5	0.2		0.3	1

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- 3、帅建林主编，国际贸易实务[英文版]. 对外经济贸易大学出版社，2009.
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Discussion Questions

Generally, business men undertake such a huge deal on the basis of an international tender. How does the international tender run?

Homework

Exercises

1. Term translation

交钥匙工程	工程设计	总价合同
单价合同	邀标	基价
递标	保函	开标
议标	tender	bid document

Initial design construction design know-how

Initial operation main contractor subcontractor

2. Complete the following sentences with appropriate words and phrases.

(1) _____ means the person named as such in the conditions of contract and of subcontract and the legal successors in title to, or assignees of, such person.

(2) _____ means the person named as such in the conditions of contract and of subcontract and the legal successors in title to, or assignees of, such person, but not any assignee of such person.

(3) _____ means the person appointed by the employer to act as Engineer for the purposes of the Main contract and named as such in the conditions of subcontract.

(4) _____ means the contract entered into between the Employer and the contractor.

(5) Letter of Acceptance means the formal acceptance by the _____ of the _____' s offer.

(6) Bill of Quantities means the priced and completed bill of quantities forming part of the _____' s offer.

(7) _____ means the contractor' s priced offer to the employer for the works, as accepted by the Letter of Acceptance.

第十九章 对等贸易

Chapter 19 Counter Trade

Study Objectives

- 1、 understand the concept of counter trade and learn the key points of counter trade
- 2、 understand the concept of compensation trade、 switch trade and barter and difference between them
- 3、 understand the reason and environment of trade

学习目标:

- 1、 理解并掌握对等贸易的概念及特点
- 2、 理解并掌握抵偿贸易、转手贸易、物物交易等各种国际贸易形式的概念及异同点
- 3、 理解各种交易形式产生的原因及其运用环境

Contents:

1. Barter
2. Counter Purchase
3. Compensation Trade
 - Direct Compensation Trade (Buyback)
 - Indirect Compensation Trade (Counter Purchase)
4. Switch Trade
5. Offset

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	0.5	0.2		0.3	1

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Discussion Questions

Could you describe the operations of counter trade in some cases, such as the case of Fisher Control International and Western Europe, and then Romania? How does it work?

Homework

Exercises

1. Term translation

Counter trade	compensation trade	counter purchase
Switch trade	offset	swap
Barter	reverse countertrade	infrastructure
Clearing agreements	buyback	parallel trade

2. Complete the following sentences with appropriate words and phrases.

(1) Counter trade is _____ term that includes all of the variations of the exchange of goods for goods.

(2) The common reason for counter trade are: to create new _____ markets or promote _____ products; to acquire _____ or attract _____; to _____ trade for economic or political reason.

(3) In _____, the value of counter goods does not have to equal that of the export.

(4) _____ involves at least three parties, or even four or five parties. It is closely linked with the bilateral _____, a kind of basis for barter transactions between governments.

(5) _____ means that exporter agrees to use goods and services from the buyer' s country in the product being sold. _____ may be direct or indirect, depending on whether the goods and services are integral parts of the product.

第二十章 期货交易

Chapter 20 Futures Trading

Study Objectives

- 1、understand the concept of futures
- 2、learn the related parties of future trading
- 3、understand the concept of hedging

学习目标

- 1、理解并掌握期货的概念、特征
- 2、理解并掌握期货交易涉及的相关主体
- 3、理解对冲的涵义与作用

Contents:

1. Introduction to futures trading
2. Look before leaping into futures
 - Look to the future
 - Applications of future trading
 - Considerations before starting futures trading
3. Futures market
 - Future exchange
 - Broker
 - The clearing house
 - participants
4. Futures contract
5. Hedging

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	0.5	0.2		0.3	1

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Discussion Questions

Could you describe the operations of counter trade in some cases, such as the case of Fisher Control International and Western Europe, and then Romania? How does it work?

Homework

Exercises

1. Term translation.

CBOT	CME	NYME
London Metal Exchange		Tokyo Stock Exchange
Singapore International Monetary Exchange		clearing houses
Hong Kong Commodity Exchange		margin system
Variation margin		floor traders
期货市场	期货合同	冲抵
期货交易所	远期合同	初始保证金
套期保值	投机者	买入套期保值
卖出套期保值	头寸	现价/期价

2. Complete the following sentences with appropriate words and phrases.

(1) Futures trading originated from _____ contracts.

(2) _____ are centralized, regulated markets where an actual commodity is not physically traded; instead, futures contracts are bought and sold.

(3) _____ are quote for delivering a designated quality and quantity of goods to a specific place and time.

(4) _____ is the practice of offsetting the price risk inherent in any cash market position by buying or selling futures contracts.

(5) Hedgers use _____ to protect their businesses from _____ price changes that could negatively impact the bottom-line profitability of their businesses.

(6) A futures exchange is usually a _____ organization whose purpose is to facilitate the trading of futures contacts.

第二十一章 电子商务

Chapter 21 E-Commerce

Study Objectives

- 1、 understand the concept of e-commerce and the role of e-commerce in business
- 2、 learn the two modes of e-commerce
- 3、 understand the procedure of e-commerce

学习目标

- 1、 理解并掌握电子商务的涵义、特征与在现代商业往来中的重要作用
- 2、 理解并掌握电子商务的两种模式
- 3、 理解电子商务的运作流程

Contents:

1. Why to e-commerce
 - Low transaction cost
 - Large purchases per transaction
 - Integration of business procedures
 - Flexibility
 - Large catalogs
 - Improved customer interactions
2. Role of Intermediary in E-commerce
3. Two Modes of E-commerce
4. How to Start E-commerce
 - Choose Compatible Products for Sales over Internet
 - Start an Online “Store”
 - Construct a Website and E-mail Systems
6. Cyber-payments
7. Barriers to E-commerce Development

Teaching and homework hours

	讲授	课堂讨论	实习	作业	总计
学时分配	0.5	0.2		0.3	1

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Discussion Questions

- 1、 How much do you know about e-commerce?
- 2、 Would you please elaborate how Alibaba. Com works?

Homework

Exercises

1. Explain the following terms in English.

Internet e-commerce dot-com company

Transaction costs database cyberspace

Intermediary cyber-payment B2B

2. Group discussion.

Form into teams of four or five and discuss the e-commerce revolution. How many students now shop for goods and services online? What have been the experiences? What do you see as the future for such purchases? Prepare a two-minute summary for the class.

《企业社会责任》教学大纲

郭武文 编写

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《国际商务管理案例分析》教学大纲

课程中文名称：《国际商务管理案例分析》

课程英文名称：Case Study of International Business Management

课程号：406020932

学时数：36

学分数：2

前 言

课程简介：

本课程的主要内容是综合运用国际商务前期课程的基本原理与基本知识，分析国内外的国际商务管理典型案例和事例，帮助学生加深对有关理论的理解，培养学生的运用国际商务理论知识解决国际商务经营和管理实际问题的能力。本文就该课程的性质特点、基本教学思路、教学形式、课程内容安排和课程特色进行了简单的介绍。

本课程是国际商务专业的一门专业选修课。该课程的主要内容是综合运用管理学、国际贸易、国际金融、跨国公司、国际直接投资等前期课程的基本原理与基本知识，分析国内外的国际商务管理典型案例和事例，帮助学生加深对有关国际商务理论的理解，培养学生的运用国际商务专业各种理论课程的原理和知识解决国际商务经营和管理实际问题的能力。对于有一定工作经验的学员来说，通过该课程可以提高其在从事国际商务过程中的经营和管理水平。而对于三年级的本科生来说，该课程还起着培养学生动手和实际操作的能力。

课程特点：

注重学生的实践能力的培养，既要从宏观着眼，又要从微观着眼。既要分析大中型企业案例，也要分析小型企业案例。既要学习使用国外正规管理学院的管理案例，也要结合教师和学生自己亲身经历的或周边发生的小的事例的分析。

注重发挥学生思想敏锐、接受新事物比较快的优势，挖掘学生的聪明才智，鼓励其将这些优势运用于国际商务实践活动中。

鼓励学生进行创业，鼓励学生参加学校组织的各种创业活动，在创业方面给予指导。

要求学生在课前积极准备案例，利用各种渠道收集各种国际商务案例进行分析总结，要有新意，从案例中提炼出理论意义，进而在认识上逐步提高。每周都要汇报心得体会，在课堂案例讨论中与大家分享。

注重培养学生的商业头脑，在教育学生必须遵循商业道德的同时，激发学生的创业和致富的热情。

第一章 国际商务文化差异

教学目的与基本要求：本章的知识点是国际商务的文化差异，介绍关系导向型和生意导向型商业行为的差异，要求学生从文化角度初步掌握从事国际商务的基本方法。

学时分配：3 课时

课堂形式：学生发言、讨论，教师总结评论

理论内容：

世界上存在两大类商业文化，即生意导向型商业文化和关系导向型商业文化，生意导向型的人们主要以任务为导向，关系导向型的人们更以人为导向。无论营销、采购还是国际联盟中的谈判，关系导向型和生意导向型商业行为的差异都影响着企业在全世界市场竞争中的成败。

世界市场的绝大多数都是关系导向型：阿拉伯世界和非洲大部、拉丁美洲和亚太地区。在这些市场，人们尽量不与陌生人做生意。他们往往是通过错综复杂的个人关系网获得生意。

他们更愿意与家族、朋友和熟悉的个人或者组织打交道，他们认为这些人可以信赖。他们和陌生人做生意会很不舒服，尤其是与外国人。受文化理念的驱使，关系导向型的企业在做生意之前要对生意伙伴进行详细地了解。

相反，生意导向型的文化一般只占世界的很小一部分。强烈的生意导向型文化主要集中在北欧、北美、澳大利亚和新西兰，这些地区的人们相对比较开放，愿意和陌生人做生意。

世界文化的这种巨大分歧自始至终影响着我们的商业行为方式。对一些新进入者，做第一笔生意的方式取决于潜在客户或生意伙伴是生意导向型还是关系导向型文化。

由于生意导向型的人们与陌生人做生意相对开放，在这些市场，海外商人通常能够与批发商或者顾客直接签合同。以美国为例。可能这里是一个高度移民的国度，大多数美国人都愿意与不相识的人谈论生意。

生意导向型文化：北欧和德国、大不列颠英国、北美、澳大利亚和新西兰

适度生意导向型文化：南非、拉丁欧洲、中欧和东欧、智利、南巴西和北墨西哥、香港、新加坡

关系导向型文化：阿拉伯世界、非洲大部、拉丁美洲和亚洲

企业之间电话推销的成功说明了这种开放度的优势。每年，美国都要从全球的陌生者那里购买价值数十亿美金的商品和服务。毫无疑问，美国是打陌生电话推销之乡！

相反，电话推销在关系导向型市场就不那么奏效。例如，在日本，电话推销就是指给现有客户打电话，通常是关系导向型企业给关系客户打电话。实际上，在日本给陌生人打电话被认为是件奇怪的行为。

当然，即使在美国，交易越大宗、越复杂，买方就越想要了解卖方。但是，我的观点是：在生意导向型文化中，推销员常常能够不与以前的关系接触就和买主签第一笔合同。引见或者推荐是对生意有帮助但并不是必要的。这是生意导向型文化和关系导向型商业文化行为间几个重要差别中的第一个。总的来说，在美国，只要你能够提供正常的商品和服务，并能够进行正确的市场研究，相对来说，做生意是迅速、便捷的，因为美国是典型的生意导向型市场。

通常，和关系导向型企业打交道的最佳方式就是通过国际博览会。在那里，买方寻求供方，出口商寻求进口商，投资者寻找合作伙伴。在这样博览会上的商业行为近似生意导向型行为，因为大多数与会者都是为了能够拿下订单。

在关系导向型市场，满足潜在客户的另一有效方式就是加入官方贸易代表团。今天的世界各国政府和贸易协会都通过组织访问团，到新市场参观、访问来促进本国的出口。贸易代表团的组织者和感兴趣团体约定好，并给他们正式引见。这些官方引见有助于打破僵局，推动贸易的向前发展。

但是，如果未来几个月内既没有相关博览会，也没有官方代表团。那么，在关系导向型市场，还有另一种有效的方式来促使第一笔业务的开展：借助信誉良好的中介组织。

案例 1.1：开拓台湾市场：关系的作用

你是新加坡海船油漆制造商——辉煌油漆（Glorious Paints）公司的新任销售经理。这是一家由三个受西方教育的年轻人带领的快速成长的公司。

去年，销售经理带领辉煌油漆公司达到了海外销售的最高峰，出售大量油漆到澳大利亚和新西兰。谭经理为实现这个目标，首先给一些潜在客户发送了信息，同时发出约见信，然后在办公室会见每一个感兴趣的公司。之后，谭经理决定和最有资格控制市场的公司谈判，达成分销协议。这整个过程大致需要四个月，销售量超出预期数额。

有了那次成功经历，你被雇佣来开拓对其他太平洋周边市场的出口。经理召你到办公室讨论市场研究报告——台湾是一个很有前途的市场，需求量高，但是当地市场竞争小。因此，说服你去那里建立分销点，采用与开辟澳大利亚和新西兰同样的方式。

在研究了大量的数据基础上，你拿出了大量台湾油漆生意的进口商、代理商、代表处和批发商的名字和合同信息。接下来，你散发一些传单和产品信息给这些地方，包括和他们约定讨论可能的代理事情。你期望会有五六家公司回复，像在澳大利亚和新西兰那样。

令人惊讶的是，六个星期过去了，竟然没有一家回复。在一次战略会议上，谈先生指出，台湾人不适应英文信件，于是你又发送了第二批邮件，这次使用中文。但是，又过了两个月，仍然没有期望的分销商回复你的信件。

谭先生为你在这个富有吸引力的市场没有进步感到不安。他召开了一下午的紧急会议，希望你能提出解决方案。当你坐在那里盯着茶杯时，你脑中萦绕的问题就像茶杯中的汤匙一样。“我做错了什么？这个战略对澳洲人很奏效。为什么对台湾人不行？我们当前要怎么做？”

案例 1.2：双语标识

作为北美最大棉质服装的进口商，多伦多北方服装城决定进口中国男士衬衣。副主席彼得·马丁从美国的一个行业合同中了解到了常绿服装厂，这是广州一家专门为美国市场供货的厂商。

经过深入细致地联系后，彼得·马丁飞到广州签下了 96000 件衬衣的订单。和常绿服装厂的人们的讨论顺利地进行了。彼得和常绿的团队需要开一周的会议就纤维结构、尺寸和色泽牢度、包装、运输、价格、支付条款和交易的许多其他细节达成协议。

被这些冗长的谈判搞得精疲力竭，彼得真的盼望举行签字仪式。然而，彼得考虑到常绿还没有向欧洲或加拿大出口过服装，因此可能不熟悉加拿大的标签要求。因此他解释所有在加拿大销售的服装必须用法语和英语标识出纤维含量和洗涤说明。

这条新闻在中方引起关注，因为他们缺少法语专家并且强烈希望只使用汉语和英语。王经理微笑着回答，“马丁先生，我恐怕用法语和英语填供货标签会有困难，这个问题需要进一步研究。”

彼得·马丁反复强调：加拿大法律要求标签使用英法双语。“请理解我们在这点上没有选择，这是法律。”

与这个团队简短的谈论后，王先生又微笑着大声说，“马丁先生，我们会严肃地答复你。我恐怕这回很难，但是，当然我们在常绿会尽力解决这个问题。”

终于解决了最后的细节，彼得签下了订购合同并向王先生和他的常绿团对告别。

七个月后，彼得接到了北方服装城质量控制主任的电话，“马丁，我们这里出了问题。你知道从中国进口的 96000 件衬衣吧？噢，他们是在标签上用了双语，但是，使用的是英语和汉语！”

彼得惊呆了，他认为常绿已经同意了提供英法双语标签。你怎么向他们解释为什么运到的衬衣

使用错误的标签？

本案例对关系导向型和生意导向型文化中的商务沟通方式进行了对比。

作业：

- 1、 围绕跨文化商业行为问题，搜集撰写案例
- 2、 对所准备的案例进行分析，提出几个问题，准备在课堂上讨论
- 3、 就某个具体商业问题，通过邮件或其他方式联系来自不同类型文化的外国朋友，体会文化上的差异

拓展阅读：查理德著 李东译：《跨文化商业行为》，企业管理出版社，2004 年版

第二章 世界各国商务风格

教学目的与基本要求：本章的知识点是世界八大类商务风格，介绍四十多个国家的商务文化特点。通过案例分析学生初步掌握与各国开展国际商务需要注意的主要问题。

学时分配：3 课时

课堂形式：学生发言、讨论，教师总结评论

理论内容：

全世界有八大类商务风格：

第一类 关系导向、正式、多样化时间观念、保守

印度、缅甸、越南、泰国、泰国、马来西亚

第二类 关系导向、正式、单一时间观念、保守

日本、中国、韩国、新加坡

第三类 关系导向、正式、多样化时间观念、开放

阿拉伯、土耳其、希腊、巴西

第四类 关系导向、正式、单一时间观念、相当开放

俄罗斯、罗马

第五类 适度生意导向、正式、多样化时间观念、开放

法国、比利时、意大利、西班牙

第六类 适度生意导向、正式、相对单一时间观念、保守

波罗的海诸国

第七类 生意导向、相对正式、单一时间观念、保守

英国、丹麦、瑞典、德国、荷兰、

第八类 生意导向、非正式、单一时间观念、相当开放

澳大利亚、加拿大、美国

案例 2.1：惠普模式（HP Way）

惠普是美国一家著名高技术企业休利特——帕卡德公司（Hewlett-Packard，简称 HP）的简称。惠普模式即惠普公司的经营管理模式。美国哈佛商学院在总结 HP 模式时说：“它包括参与性的管理模式。它支持甚至要求个人的自由和主动性，并同时强调目的为众人所知和团队精神……根据这一模式，公司为职员指定了方向，为他们设计好经过协商的目标和数据，并对必需的资源需求给予支持。除此之外，公司仍期望雇员们创造他们自己的工作模式，为公司的成功作出更大贡献。”美国学者 A·萨克森宁（A.Saxenian）在《地区优势——硅谷和 128 公路地区的文化与竞争》一书中，将惠普模式的特点归结为“对个人能力的充分信任、极高程度的专业化自主性以及优厚的雇员福利”确实，HP 公司自成立时起就有着与众不同的经营管理原则。在确定他们公司的宗旨时，公司创始人帕卡德（D.Packard）和休利特（W.Hewlett）希望的不仅是利润、收入的增长，新顾客源源不断而来；对他们来说，事业的成功还要包括：（1）把注意力集中于有可能做出有意义的创新贡献的领域；（2）建立一支具有献身精神的、报酬相当高的职工队伍，形成一个能够充分发挥个人创造性的工作环境；（3）全公司都致力于社会公益事业。HP 公司经过 50 多年的创业发展，到 1994 年已经有职工 9.8 万人，产品销售额达到 250 亿美元，被认为是“世界上最令人钦佩的技术公司”。它的极为成功的经营管理方法也被誉为“惠普模式”而闻名遐迩。

拓展阅读：查理德著 李东译：《跨文化商业行为》，企业管理出版社，2004 年版

第三章 跨国公司国际贸易

教学目的与基本要求：本章的知识点是有关跨国公司国际贸易的理论和实务。通过案例分析学习跨国公司从事国际贸易的经验。

学时分配：6 课时

课堂形式：学生发言、讨论，教师总结评论

案例 3.1 可口可乐在中国的营销

自从 1975 年迎来可口可乐公司，中国已发展成为可口可乐的一个巨大市场。公司如今在中国拥有 31 个灌装工厂、3 万名员工。到 2002 年底，中国在年消费额增长了 14%，成为公司第六大市场。可口可乐的目标是，期望中国在 10 年内成为公司的最大海外市场，并认为中国极有可能超过美国的消费量而成为世界上最大的市场。由于中国拥有四倍于美国的人口，即使中国的人均消费量不如美国人多，这个目标看来也能实现。目前，可乐在美国的人均消费量是每年 425 听 8 盎司装可乐，而中国约为 9 听。

为实现中国市场的目标，可口可乐公司已投身于一场积极营销战。公司借助中国人对外国品牌的认可，尽管印度约有 36% 的消费者投票抵制美货，印度尼西亚也有 9%，但泰国只有 13%。可口可乐创建销售额的最大障碍不是品牌认可度或品牌认知度，而是分销问题。中国 15 亿人中约有一半买不到可口可乐。在中国，可口可乐的销售几乎有一半来自少数的大城市和省会城市，这些城市的人口只占总人口的 8%。对中国来说，要成为可口可乐最大的市场，必须改变这种情况。

大城市占主导地位有充分的理由。包括法国家乐福和美国沃尔玛在内的大超市连锁的爆炸式发展，正在创造现代零售环境的方式，在这一环境中像可口可乐这样的品牌茁壮成长。在中国其他地方，遍布着小商店和当地超市。到这些商店通常需要在崎岖的土路上行驶几个小时，这就提出了物流方面的一大挑战，而且那些能够把产品运到小地方公司发现，它们要和当地品牌争货架，相对于在大城市，这些品牌更容易扎根于中国内陆的农村地区。尽管可口可乐在中国的大城市拥有可乐市场 55% 的份额，但在小城镇的市场份额却降至 34%。

在培育销售额的战役中，可口可乐的主要武器是市场信息。直至 20 世纪 90 年代中期，公司还几乎不知道在哪里有什么人在饮用它的产品。卡车会在灌瓶机外排队集中运货，但可口可乐不知道这些产品在哪里被喝掉。在过去几年里，公司一直在试图将每个可能会有汽水售出的超市、饭店、小商店或市场小摊在地图上标出。公司拥有 1 万个销售代表，他们经常会走访无数的小地方，通常是骑自行车或步行，以确保有足够的库存并记录已售出的产品。然后，所有这些信息被输入数据库，向可口可乐提供最为标准的中国消费情况的报告。数据有助于琢磨销售点和分销策略，从而扩大销售量。为帮助当地经销商，可口可乐会购买需要的资产来建立分销系统(从送货所需的三轮摩托车到小型冷冻设备)，且后来逐渐使经销商拥有这些资产。然后，公司还将向经销商提供所需市场信息，以确保任何一家销售点不会出现缺货。

除了分销，另外一个创建销售量的障碍是定价。运输成本高意味着可口可乐在中国最穷的地方是最贵的。为降低价格，可口可乐开始在接近农村消费者的地方开设灌装工厂，并使用可循环瓶包装。贯彻这一战略，2002 年可口可乐在中国内地新建了两个灌装工厂。

案例讨论题

1. 可口可乐在中国扩大销售额的障碍是什么？
2. 可口可乐是如何获得并利用市场信息以确保市场供应的？

拓展阅读书目：

1. (美) 查尔斯.W.L.希尔 著, 周建临 改编《国际商务》(第 7 版), 中国人民大学出版社, 2009 年。
2. (美) 约翰.J.怀尔德; 肯尼斯.L. 怀尔德 著, 韩季瀛等 译 《国际商务》第 4 版(国际版), 北京大学出版社, 2009 年。
3. (美) 塔默.卡瓦斯基尔; 加里.奈特 著, 王欣双 译 《国际商务》第 5 版, 中国人民大学出版社, 2003 年。《
4. (美) 约翰.D.丹尼尔斯 著, 石永恒 译 《国际商务》(原书第 11 版), 机械工业出版社, 2008 年。

第四章 中国企业国际贸易

教学目的与基本要求：本章主要分析我国企业在国际贸易方面的经验教训。通过案例分析提出我国企业进一步做好国际贸易的对策。

学时分配：6 课时

课堂形式：学生发言、讨论，教师总结评论

例五 中国家具出口欧洲受阻

据公共商务信息导报记者张莉 2006 年 3 月 10 日报道，继纺织品、鞋之后，中国家具在欧洲再遇抵制。英《金融时报》道称，意大利和德国的家具产业界要求对包括中国在内的亚洲国家家具采取反倾销措施，他们声称，这些廉价家具构成了不公平竞争。

欧盟家具制造商正准备向欧委会提交反倾销申诉，申诉指责中国一直在以低于国内价格销售软垫沙发和其他类型的座椅。正式申诉文件将在未来两个月内提交。申诉将包括沙发、炊具、办公椅等中国制造的家具品种，但将把汽车座椅等敏感产品排除在外。欧盟每年生产 1170 亿欧元（合 14 00 亿美元）的家具，德国和意大利产值将近一半。上述申诉所涉及的家具类型，占欧盟家具业年度产出的 1/5。

上述举动将使欧洲零售商和制造商的利害冲突再次掀起，零售商依赖亚洲廉价商品进口，制造商则要求采取制裁措施。同时也再次揭示了欧盟 25 个成员国之间的裂痕，主要是强调自由贸易的北欧国家和地中海国家的裂痕。

家具反倾销的提起可能使欧盟同中国的关系更加紧张。去年中欧双方曾因纺织品问题发生过长时间的纠纷。与此同时，贸易自由主义者越来越担心，正在抬头的贸易保护主义浪潮会横扫欧洲。

然而，当被问及对中国家具采取制裁的压力时，欧盟贸易委员曼德尔森表示：“这不仅是（欧洲）南北对峙的问题。目前在家具方面还没有正式举措，但我闻到了气味。”

与此同时，欧盟绿色环保壁垒日益突出。根据 2003 年 1 月 9 日欧委会颁布的关于限制用含砷防腐剂处理的木材用途的指令，输往欧盟的木材及木制品除加铬砷酸铜 CCA 外，不得使用其他含砷防腐剂；凡是用 CCA 进行防腐处理的木材及木制品，均不能用作居家结构材料和经常与皮肤接触的器材。该指令从 2004 年 6 月 30 日起生效。而砷正是国内大部分家具厂处理木材及木制品防腐剂的重要元素，我国出口的木制家具直接受该指令影响。

另外，欧洲越来越多的国家开始对中国木材产品提出森林认证 FSC 要求。FSC 认证是目前在国际上得到了广泛承认的森林认证体系，该认证对家具原材料提出了较高的环保要求，最近已有家具出口企业遇到此难题。环保因素正成为国外技术壁垒的突出主题，对环保标准相对较低的我国家具出口来说将面临严峻挑战。

根据上述情况，试分析：

- 1、中国家具出口欧盟将受到什么贸易壁垒？
- 2、欧洲家具零售商和制造商为什么会发生利用冲突？
- 3、中国家具出口欧盟应如何提高国际竞争力，以应对贸易壁垒？

拓展阅读书目：

- 1.（美）查尔斯.W.L.希尔 著，周建临 改编《国际商务》（第 7 版），中国人民大学出版社，2009 年。
- 2.（美）约翰.J.怀尔德；肯尼斯.L. 怀尔德 著，韩季瀛等 译 《国际商务》第 4 版（国际版），

北京大学出版社，2009年。

3. (美)塔默.卡瓦斯基尔; 加里.奈特 著, 王欣双 译 《国际商务》第5版, 中国人民大学出版社, 2003年。《

4. (美)约翰.D.丹尼尔斯 著, 石永恒 译 《国际商务》(原书第11版), 机械工业出版社, 2008年。

第五章 欧美跨国公司对外直接投资

教学目的与基本要求：本章的知识点是有关跨国公司对外直接投资的理论和实务。通过案例分析学习跨国公司对外直接投资的经验。

学时分配：6 课时

课堂形式：学生发言、讨论，教师总结评论

案例 5.1 沃尔玛的全球扩张

山姆·沃顿(SamWalton)于 1962 年在阿肯色州开设的沃尔玛已迅速成长为世界上最大的零售商，其 2002 年的销售额高达 2 180 亿美元，雇员(沃尔玛喜欢把他们称之为合伙人)人数为 130 万，店面数共约 4 500 家。1991 年前，沃尔玛的经营一直局限于美国，依靠高效的销售规划和与时俱进的人际关系政策的结合，沃尔玛确立了它的竞争优势。其中包括了沃尔玛在跟踪产品的销售和库存上所实施的先进的信息系统，它开发了一个世界上最为有效的分销系统，并且它也是最早推行由职工广为持股的一家公司。这些做法极大地提高了沃尔玛的生产率，使之有条件降低其运营成本，并以每日最低价的形式让利给消费者。这一策略使公司先在一般商品(目前已取得了主宰地位)上获得了市场份额，随后又在零售食品上从其他超市手中攫取了市场份额。

然而，1990 年时沃尔玛开始意识到它在美国成长的机会已越来越有限。到了 1995 年公司尚能活跃于全美 50 个州。管理层预计，到 21 世纪初公司的国内发展机会将因市场饱和而受限，所以公司决定向全球扩张。一开始一些批评家们对此嗤之以鼻，他们说：沃尔玛公司太美国化了，它的零售实践只适合美国，至于其他国家，由于它们的基础设施的不同，消费者的感受和偏好都不一样，而且本土的零售商也早已捷足先登，沃尔玛的这一决策不会成功。

但是，沃尔玛不受干扰，毅然决然进军国际市场。于 1991 年在墨西哥开出了第一家分店，这家墨西哥分店是以合资形式建立的，其合资对象是当地最大的零售商西弗拉(Cif—era)。开始沃尔玛失误连连，似乎证实了批评家们的预言。沃尔玛复制的高效分销系统在墨西哥出现了问题。由于基础设施落后、道路拥挤，以及对当地的供应商缺乏影响力，致使许多商品无法直接送达沃尔玛的商店或配送中心，于是发生了一系列存货问题，并抬高了成本与价格。最初，沃尔玛在墨西哥产品的价格比公司在美国的商店高出约 20%，从而限制了沃尔玛获取市场份额的能力；在商品的挑选上也存在问题，起先在墨西哥的许多分店都配置一些在美国的畅销品，包括诸如溜冰鞋、可骑乘的割草机、树叶清扫机、钓鱼用具等，可是这些商品在墨西哥并无销路，所以，经理们不得不削价以出清存货。这时公司的自动信息系统却又立刻发出更多订货指令来充实已“大出血”的库存。

到了 20 世纪 90 年代中期，沃尔玛从其早期的错误中吸取了教训，并调整其在墨西哥的分公司，使之适合当地的环境。一家与墨西哥货运公司合伙的公司极大地改善了原先的分销系统，同时在存货处置上也更为谨慎，使得墨西哥商店所出售的商品更加符合当地的口味和偏好。随着沃尔玛在当地业务的增长，许多沃尔玛的供应商都把工厂建在其墨西哥配售中心的附近，以便更好地为公司服务，这一切都有助于进一步降低库存和物流的成本。如今，墨西哥已成了沃尔玛国际经营业务中的一颗璀璨明珠。1998 年沃尔玛获得了西弗拉的控股权，至 2002 年，沃尔玛的规模已是其墨西哥最大竞争对手的两倍多，在墨西哥共有 600 家分店，收入总额超过 100 亿美元。墨西哥的经验证明，沃尔玛有能力在美国境外竞争。随后它又进入了另外 8 个国家。在加拿大、英国、德国、日本和韩国，沃尔玛通过收购当地现存的零售商进入该国，然后将其信息系统、物流管理及管理专业技能移植过去。在巴西、阿根廷和中国，沃尔玛则建立了它自己的商店。作为这些行动的结果，至 2002 年，公司在美国境外拥有的商店已超过 1 200 家，有协作业务的公司达 303 000 家，产生的国际收入高达 350 多亿美元。

沃尔玛的国际扩张原先只是对美国国内市场饱和的一种反应，它的成功得益于三项发展。第一，在 20 世纪 90 年代，跨国投资的障碍已大大减少，使沃尔玛有可能大规模进入外国市场。例如，沃尔玛于 1996 年进入中国，现在已有 26 家商店，这在 10 多年前是根本不可能的。第二，沃尔玛因其全球扩张获得的购买力使其能达成巨大的规模经济。沃尔玛的许多关键供应商都是老牌的国际公司，如通用电气公司 (General Electric, 家电)、联合利华公司 (Unilever, 食品)、宝洁公司 (Procter & Gamble, 个人护理用品) 等皆为沃尔玛的主要供应商，这些公司在全世界早已有了它们自己的经营业务点。通过其建立起的国际影响，沃尔玛利用日益增大的规模迫使其全球供应商在当地的的企业给予更大的折扣，使公司有能力向消费者提供更低价的商品以获取市场份额，并最终获取更大的利润。第三，先进的信息系统，特别是基于互联网的软件的普及，使得沃尔玛能对其全球的经营业务点实施较严的控制，跟踪各商店每日的销售额、库存、定价和利润等数据。

沃尔玛认识到，假如它不进行国际扩张，那么全球其他的零售商就会抢先染指国际市场。事实上沃尔玛正面临激烈的全球竞争，对手有法国的家乐福 (Carrefour)，还有荷兰的阿霍德 (Ahold)，英国的德高 (Tesco) 等。作为世界排名第二的零售商，家乐福也许是最为全球化了。其首创的特级市场 (hypermarket) 概念现已在 26 个国家运作实践，它一大半的销售额都产生于法国以外。与之相比较沃尔玛则黯然失色了，其国际业务量只占销售总额的 17%。但是沃尔玛的全球扩张还有巨大的空间。全球零售市场尚可斩蛇逐鹿，2002 年世界零售商 25 强只控制了世界零售额的 18%，有预测报告该数字至 2009 年能达到 40%，各零售商在拉美、东南亚和东欧仍大有用武之地。

案例讨论题

1. 沃尔玛为什么要进行全球扩张？它的成功得益于什么？
2. 沃尔玛在实施全球化战略的初期遇到了什么障碍？

案例 5.2 通用汽车公司的全球战略

通用汽车公司是世界上资格最老的跨国公司之一。该公司成立于 1908 年，并在 20 世纪 20 年代建立了首家国际企业。现在通用汽车公司已是世界上最大的工业公司与全系列汽车制造商，其 2002 年收入为 1860 亿美元。该公司每年销售汽车 850 万辆，其中 320 万辆汽车的生产与销售在其北美的基地之外。2002 年，通用汽车公司在世界汽车市场所占的份额为 15%。

过去通用汽车公司绝大多数的外国运营点都集中在西欧，当地的品种诸如欧宝 (Opel)、Vauxhall、Saab 及 Holden 等，帮助公司在 2002 年获得了 12% 的市场份额，仅次于福特汽车公司。虽然通用汽车公司早已进入了拉丁美洲与亚洲，但是，直至最近其销售在公司全部国际业务中仍只占相对的一小块。然而，通用汽车公司打算在今后几年中迅速改变上述状况。它意识到，亚洲、拉丁美洲和东欧在 21 世纪初可能成为汽车工业的发展市场，在 1997 年，通用汽车公司已着手雄心勃勃的计划。它计划投资 22 亿美元，分别在阿根廷、波兰、中国和泰国建立四家新的制造厂。这一扩张行动使通用汽车公司在国际经营管理哲学上也发生了显著的变化。

过去，通用汽车公司把发展中国家看作倾销过时技术和老式车型的场所。例如，就在几年前，通用公司在巴西分厂辛辛苦苦制造的由美国设计的 Chevy Chevettes 轿车实际上在北美数年前就不生产了。通用汽车公司总部底特律的管理者们认为，这是公司对已投资的旧技术榨取最大现金流的一种方法。然而，发展中国家的通用汽车公司的经理们却把它当作公司的一种暗示，即总部认为发展中国家的经营业务是无足轻重的。在发展中国家的绝大多数经营业务都是由底特律的公司总部制定制造与营销计划，然后指示分部去贯彻执行，总部对分部发展自身的计划并不信赖。这一事实更加剧了上述的那种感受相反，通用汽车公司的欧洲经营部门却一贯在管理上保持一定的独立性。公司在各国的运营点通常能自行设计汽车和制造设备，并制定它们自己的营销战略。这种区域和国家的自治使通用汽车公司的欧洲运营点能严格按照当地用户的需要来设计和生产汽车。可是，这也导致了设计和制造部门昂贵的重复设置，及宝贵的技术技能和实践没能在各个子公司间分享。这样，通用汽车

公司一方面对发展中国家的子公司控制过严,另一方面对欧洲的子公司的控制却过于宽松.其结果造成了公司国际经营整体战略上缺少一致性。自 1997 年起,通用汽车公司设法改变这一状况,正把它的以底特律为中心的世界观转变为以优势为中心的哲学,无论该优势位于公司全球业务点的何处.公司正努力开发这些核心优势,向其全球的各业务点提供最新的技术.在发展中国家建造的四家新的制造厂即是这一新思路的具体表现.每家工厂都是同样的,它们都吸纳了当前最新的技术,而且都不是美国人设计的,而是由一组巴西和德国的工程师共同设计的.通过建造相同的工厂,通用汽车公司将能模仿丰田公司,该公司的工厂是如此雷同,以至于在日本汽车的每一项改变都能迅速到在其世界各地的分厂复制。这些通用汽车的新厂仿照了欧宝子公司管辖的德国 Eisenach 工厂,通用汽车公司正是在 Eisenach 厂构想如何实施由丰田公司倡导的精益生产系统的。

该厂现在是欧洲效率最高的汽车制造企业,也是通用汽车公司中首屈一指的,其生产率至少是多数北美装配厂的两倍。每一家新厂都将生产最先进的汽车供当地消费。为了实现规模经济,通用汽车公司也设法设计与制造能共享全球技术平台的汽车。在德国、底特律、南美与澳大利亚的工程小组正在设计这些共同的汽车标准。地方工厂被允许对这些车的某些特征作适当的修改,以迎合本土用户的审美与偏好。同时,坚持一个共同的全球技术平台,使公司能以更大的产量来摊薄其设计成本,以及在制造共同的部件上实现规模经济。从而有助于通用汽车公司降低其总成本构成。这一努力的最初成果包括 1998 型凯迪拉克 Seville 牌的汽车,该车被销往 40 多个国家。通用汽车公司的系列前轮驱动的小型货车也是围绕一共同的技术平台加以设计的,该车在全球多个运营点生产。通用汽车公司在欧洲的畅销车 1998 型欧宝 Astra 车也一样。最终,通用汽车公司希望用这一全球协调的方法设计汽车,以使开发新车的成本降低 15%~25%。通用汽车公司也希望在通用的汽车上共享一般的零部件,能在其每年 1 000 亿美元的零部件账单中节支 35 亿美元。

尽管通用汽车公司正朝着全球一体化的方向大踏步地前进,但在前进的道路上也存在不少问题。例如,与丰田公司相比,通用汽车公司仍然受到高成本、可察觉的低质量,以及车型太多的困扰。再说它雄心勃勃进入新兴市场是基于理性的假设,即这些地区的需求将变得很强烈,然而其他汽车公司也在同一市场扩大它们的生产厂,这使入产生了对全球生产能力过剩与价格战的担忧。最后,也许是最重要的,通用汽车公司内部有些人认为推行“全球车”是错误的构想。特别是在欧宝公司拉塞尔谢赫(Russelsheim)设计中心的驻德工程技术人员,他们领导设计了许多主要的全球车型,担心在大力推动设计看来似乎有点平淡无奇的“全球车”的过程中,是否会丢掉独特的欧洲工程特色,这一特色对于他们在当地取得成功是不可或缺的。

案例讨论题

1. 你认为 1997 年前的战略对竞争产生了什么影响?
2. 通用汽车公司在 1997 年后追求的是哪种战略?

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第六章 日韩企业对外直接投资

教学目的与基本要求：本章主要分析几个日韩企业对外直接投资的案例。通过案例分析学习日韩企业对外直接投资的经验。

学时分配：3 课时

课堂形式：学生发言、讨论，教师总结评论

案例 6.1 韩资撤离凸现地方政府招商引资弊端

来自韩国驻青岛总领事馆以及本报记者调查的数据显示：从 2003 年至 2007 年，仅山东省就有共 206 家韩资企业非正常撤离中国。这种“非正常撤离”对中国的地方政府长期以来“以政绩为导向”的对外招商引资政策敲响了警钟。这样的政策引导下，造成了土地资源、环境污染、电力紧张和劳动力短缺等问题。

曾一度被烟台市政府视为明星企业的韩资企业——世刚纤维有限公司的 30 多名韩国籍高管集体逃回韩国之后，对导致韩资企业“逃逸”的原因舆论大多锁定在中国劳动力、土地和生产成本上涨，以及人民币升值等因素上。然而，本报记者调查发现，创新不足、污染严重的劳动密集型企业不适应中国当前产业升级的时代需要，才是韩资企业被迫撤离的真正原因。

记者调查发现，更多的“韩资企业逃逸”事件正在胶州、青岛、烟台等地方发生，韩资企业密集的青岛市城阳区和胶州市更是“重灾区”。由于引入的韩资企业往往是规模很小，对环境的污染却很严重。在当下环保要求日益提高的时代，越来越多的上述韩资企业无法容身。一位韩国工艺品协会的人士表示：“从 2008 年 5 月份开始，一个韩资企业撤离中国的高潮即将来临。”这不仅给中方相关企业带来经济损失，也无疑令基层政府的招商引资工作和地方经济发展都面临困境。

“从四年前办厂开始，我身边的生意客户——韩资企业便接二连三地‘失踪’。”4 月 16 日，在山东省胶州市李哥庄镇高家村电镀工业园开办“青岛康宇工艺品厂”（以下简称康宇）的生意人战元群告诉记者，他曾努力从逃逸的韩国客户手中追讨欠款，但是结果并不理想。战元群是胶州市李哥庄镇高家村本地人。2004 年，高家村开始大力引进韩国企业来投资，战元群等人东挪西凑了 130 万元，成立了“青岛康宇工艺品厂”，专门给韩资企业做委托加工。一番努力之下，康宇的业务渐渐走上了正轨，每个月的订单额都可以达到 80 万元以上，甚至更多。然而，就在战元群等人欣喜的时候，令他们意想不到的事情发生了，“往往到了该结账的时候，韩方就告诉我们加工的产品发往国外的时候出现褪色等不合格现象，要扣加工费。一旦双方协商，时间就不可避免地拖延，直接影响到下个月的付账。”战元群说。2006 年 7 月 10 日，韩国企业约定的每月结账时间，战元群带着三个月的账单去找韩资“青岛盖特工艺品公司（以下简称盖特）”的老板要账。盖特的老板当时对战元群说正在安排采购货款的钱，让他下午再来结账。战元群以为韩资企业还是比较讲究诚信的，双方一直以来都没有签订正式的合同，仅仅是口头约定。当战元群下午来到盖特的时候，韩国老板已经卷款逃跑了，“当时的欠款有 9 万多元，后来我找企业挽回了一些损失。”战元群说，盖特目前还欠康宇的款项有 43349 元。

“韩国人总是在一开始的时候表现得非常诚信，我也忘记与他们签订正式的合同。”战元群说，“但就是因为这样，我放松了警惕。”而一个更大的韩资客户——“青岛丰广工艺品公司”从 2006 年的 9 月份到 2007 年的 2 月份，累计欠其贷款达 68 万多元。目前，战元群的客户中已经有 4 家韩国企业“不辞而别”了。“我对韩资企业是既爱又恨。”战元群说，不过，他仍然不得不跟韩资企业合作，毕竟还是韩资企业的订单多。而且因为地理原因，他们这个地方韩企比较集中。目前他的工厂每月会接到 80 万元左右的订单，其中 80% 以上都是来自韩资企业的，有时候他们的订单比例会更高。战元群告诉记者，他所能采取的“自救”手段就是一经发现韩资企业没有按照约定的账期

结款，立即停止为对方加工产品，并将对方要求加工的产品作为抵押物品。而战元群的一个朋友只在 2007 年开了半年公司就遭遇了 4 家逃跑韩资企业的欠款。他的朋友也曾经向青岛市的“市长公开电话”反映过他们的遭遇，可是对方只记录了情况，并没有给予肯定“解决问题”的答复。目前他的这位朋友正在考虑要不要委托一个自称是“韩国黑社会老大”的人去韩国收账。“因为与韩资企业没有正式的合同，我们无法去起诉他们，即使起诉了，我看追回来的希望也并不大。”战元群感到十分无助。

据记者了解，目前很多韩国企业打算把工厂迁到山东省更为内陆的地区，或者是安徽、江西、河南等中部省份，甚至一部分韩国企业已经前往越南、老挝等国家去考察了。“别的地方不仅给韩资企业的优惠政策比胶州市要好很多，而且人力成本也比这里低，听说安徽、河南等地只需要支付我们这一半的工资就能雇到工人，也不用担心招不到人。”

事实上，非法撤离的韩资企业主要集中在首饰加工、纺织和皮革生产等技术含量低、高污染、高能耗的传统劳动密集型产业。人民币升值、实施的新《劳动合同法》或多或少增加了企业的用工成本、工人工资上涨、外企税制改革降低了对外企的优惠程度、控制污染的要求更为严格、生产资料价格高涨等因素，都大大地提高了企业的生产成本，而上述劳动密集型企业对于成本的变化恰恰最为敏感。

“如何面对生产成本上升所推动的大规模国际产业转移，如何利用外资撤离提高开放质量并推进产业升级，这不仅仅是青岛市面临的问题，也是全国各省市都要面对的问题。”青岛科技大学东北亚经济研究中心副主任袁晓莉认为。她在 2006 年的 10 月份，曾经向市政府提交了一份名为《提高青岛市对外招商引资质量的对策研究》的报告。袁晓莉写道，“在考核批准项目、引进资金数量的同时，逐步把社会效益、投资效益、税收贡献，特别是地方税收贡献也纳入考核内容，增加投资针对性，提高投资项目质量”。

思考题：

- 1、 根据上述资料分析，韩资企业非正常撤离中国的主要原因是什么？
- 2、 中方企业遭遇经济损失的原因是什么？
- 3、 在吸引外资中如何实现“双赢”？

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第七章 中国企业海外直接投资

教学目的与基本要求：本章主要分析我国企业在海外进行直接投资的经验教训。通过案例分析研讨我国企业做好海外直接投资的对策。

学时分配：6 课时

课堂形式：学生发言、讨论，教师总结评论

成功案例

联想：并购 IBMPC 业务

2004 年 12 月 8 日，联想用 12.5 亿美元购入 IBM 的 PC 业务，自此，位于全球 PC 市场排名第九位的联想一跃升至第三位。这次并购从品牌、技术、管理、产品、战略联盟和运营等各方面对于联想本身都有巨大的提升。并购后，IBM 个人电脑业务的全套研发体系归联想所有，联想的采购和营销成本则由于借助了 IBM 原有的分销渠道得到大大优化。

点评：联想的经验告诉我们，民族企业尽管在技术、管理等方面相比国外企业处于低位，但如果敢于抓住时机，取己所需，那么，借助这种品牌并购迅速上位也是未来中国企业迅速扩大海外影响的可取之道。

海尔：居高临下，步步为营

2005 年底，海尔在总裁张瑞敏制定的名牌化战略带领下进入第四个战略阶段——全球化品牌战略阶段。海尔“走出去”的主要特点是：经营范围——海尔自己的核心产品；发展进程——从创造国内名牌、国际名牌着手，到出口，再到跨国投资，渐进性发展；对外投资方式——以“绿地投资”即新建企业为主；跨国投资效果——成功率高，发展快。如今的海尔已在全球建立了 29 个制造基地，8 个综合研发中心，19 个海外贸易公司，员工总数超过 6 万人，2008 年海尔集团实现全球营业额 1190 亿元。

点评：拥有像海一样宏大目标的海尔，不仅伸开臂膀广纳五湖四海有用之才，更具备了海一样强大的自净能力。它有清晰的自我定位和战略方向，不断提升的创新能力和对市场的准确把握，是海尔如今不断演绎全球神话的筹码。

吉利汽车：并购沃尔沃

吉利在成功实施以自主创新为主的名牌战略之后，开始了以海外收购为主的品牌战略。2009 年 4 月，吉利汽车收购了全球第二大自动变速器制造企业澳大利亚 DSI 公司，使其核心竞争力大大增强。2010 年 3 月 28 日，吉利汽车与美国福特汽车公司在瑞典哥德堡正式签署收购沃尔沃汽车公司的协议。

点评：吉利作为我国汽车行业海外品牌战略的先行者，如果能安全度过磨合期，在实现技术资产有效转移和与工会达成一致上有所突破，真正掌控国际著名品牌，吸收一流技术，增强自主创新能力，就可以说中国汽车产业海外并购之路获得成功。

奇瑞汽车：海外布局，辐射全球

奇瑞与其协作的关键零部件企业和供应商协同，和国内大专院校、科研院所等进行产、学、研联合开发了研发体系，掌握了一批整车开发和关键零部件的核心技术。目前，奇瑞正全面推进全球化布局，产品面向全球 80 余个国家和地区出口，海外 15 个 CKD 工厂已建或在建，通过这些生产基

地的市场辐射能力，实现了全面覆盖亚、欧、非、南美和北美五大洲的汽车市场。

点评：奇瑞的“质量”和“技术创新”的武器使它成功突出重围，不仅得到越来越多国人的认可，也开始在国际舞台上崭露头角，与国际巨头们PK得风生水起。

百度：挑战核心技术

2007年，百度正式宣布“走出去”，并将日本作为国际化战略第一站。经过短短1年发展，百度已经在日本开发出视频搜索、博客搜索等富有特色的产品，从流量方面成为日本第四大独立搜索引擎，在速度、运行稳定方面也全面赶超海外市场主要竞争对手。

点评：百度这个富有中国古典诗意的名字正在被越来越多的外国人所熟识。互联网搜索业务作为现代社会一个标志性的产业，明天的发展空间必将更为广阔。

华为：自主创造与拿来主义的精妙平衡

华为在研发上做足了功课，每年坚持不少于10%的研发投入，并将研发投入的10%用于预研，不断跟踪新技术、新领域。除了通过自主开发技术提升竞争力，华为亦从未拒绝过以开放的心态，“站在巨人肩膀上”去获取商业的快速成功。这也是1996年华为引入IBM对其公司产品开发流程进行改革的直接动力之一。自2001年之后，华为实现了100%产品研发都通过新的流程化产生，为华为2002年开始的深入国际化，奠定了管理和文化的基础。

点评：自主品牌很重要，它从根本上决定了企业在利润链上能否分得那最大的“一杯羹”，但企业的发展，尤其在面对强大的竞争对手时，拼的是效率。不因过度捍卫“自主”而耽误了效率，这就是“华为榜样”的精神实质。

顺德日新：借助国企当跳板

2009年12月26日，顺德日新宣布收购智利一座储量高达30亿吨的铁矿。日新在矿山项目中持股超过七成，投资约10亿元全部来自于自有资金。同时，顺德日新也与中国五金矿产进出口珠海公司签订了战略合作协议，开采之后所有铁矿都将由中国五矿珠海公司进口，承诺智利项目所产矿石将以低于国际市场20%到30%的价格，通过央企中国五矿珠海公司内销渠道，打入国内市场。

点评：民营企业以其灵活的经营方式、敏锐审视市场和捕捉机会的能力，以及快速果决的决策效率，本着“寸有所长，尺有所短”的谦虚姿态，迅速完成海外矿山收购，显示了产权清晰的民营企业独具的灵活性和创新精神在对外扩张中的优势。

中石化、中海油：创造联合收购新模式

2009年7月我国两大石油公司中海油和中石化近日宣布以13亿美元联合收购美国马拉松石油公司持有的安哥拉一石油区块20%的权益。这笔交易是自中海油185亿美元竞购美国优尼科石油公司失败后，首次成功收购美国石油公司的资产。业内人士认为，两大石油公司共同出资进行海外收购，有利于中国公司在海外并购力量最大化，避免国内公司之间不必要的竞争，是中国石油公司“走出去”值得借鉴的模式。

点评：我国央企是与富可敌国的跨国公司抗衡的中流砥柱。而央企的联合收购，是一种新的“走出去”模式，同时，也使西方国家对央企的强大实力和独特行为方式的加倍关注。

葛洲坝：国际工程承包大显身手

中国葛洲坝水利水电工程集团公司是2004年首次登入“全球最大225家国际承包商”排行榜的中国企业之一。在管理型、多元化、现代化、国际化的“一型三化”发展战略指导下，葛洲坝集团“走出去”的步伐明显加快。目前，葛洲坝集团的足迹已经遍及南亚、东南亚、中亚、中东、非

洲、美洲等地区。

点评：葛洲坝集团在对外承包工程中屡战屡胜，得益于它自己多年来在国内工程项目承包市场中积累起来的技术优势和管理优势，有针对性地扬长避短，完整的规划和统一实施的策略，在市场定位和项目管理上的经验。

失败案例

中投公司：投资黑石，资产缩水

2007年3月才开始筹备的中投公司，在5月就斥资30亿美元外汇储备以29.605美元/股的价格参股美国私募基金巨头黑石集团10%的IPO。这项交易成立的初衷旨在为中国1.2万亿美元的外汇储备寻找多元化投资出路，结果却不尽如人意。黑石集团上市后股价连续下跌，也造成了中投公司这笔投资大幅缩水。截至美国时间2008年2月12日，中投公司在黑石投资中的亏损额达12.18亿美元。

点评：这一案例或者可以证明，我国企业尚不具备掌握国际资本市场运行规律的能力，在国际资本市场上的历练，可以帮助我们积累教训、经验，学会选择投资品种，控制风险，把握投资时机。

上汽集团：并购双龙，整合不利

2004年10月28日，上汽以5亿美元的价格高调收购了韩国双龙48.92%的股权。此次收购，上汽的本意是借此迅速提升技术，利用双龙的品牌和研发实力。但并购之后主要遭遇了两个问题：首先，对并购的收益估计过高，双龙汽车虽然拥有自己的研发队伍，在技术和研发上较好，但缺少市场；其次，上汽在收购双龙之前对自身的管理能力和对方的工会文化认识不足，乃至在收购后两个企业的文化难以融合，合作与企业经营拓展无法真正展开。

点评：上汽与双龙并购案的失败，充分暴露出了中国企业在实施海外并购过程中的典型性问题：准备功课不足，盲目上阵，导致对潜在的管理、文化等方面存在的问题识别不清，收购之后又不能及时解决出现的问题。

中铝集团：入股力拓，无疾而终

中铝公司与力拓集团于2009年2月12日签署了合作与执行协议，以总计195亿美元战略入股力拓集团。中铝公司就此次交易完成了210亿美元的融资安排，并获得了澳大利亚竞争与消费者保护委员会、德国联邦企业联合管理局、美国外国投资委员会等监管机构的批准。但力拓集团却在2009年6月5日撤销了双方的合作交易，依据协议向中铝支付了1.95亿美元的违约金，并与必和必拓就合资经营铁矿石业务达成协议。

点评：中国央企在海外投资时往往以资金充裕著称，公关能力却只能勉强徘徊在及格线附近。而央企与政府的连带关系却常常使得企业的投资行为被赋予了国家意志的猜想，在这种情况下，中国国企的收购行为自然就很容易遭到被投资国民众排斥。

力拓集团（Rio Tinto Group），成立于1873年的西班牙。Rio Tinto是西班牙文，意为黄色的河流。1954年，公司出售了大部分西班牙业务。1962年至1997年，该公司兼并了数家全球有影响力的矿业公司，并在2000年成功收购了澳大利亚北方矿业公司，成为在勘探、开采和加工矿产资源方面的全球佼佼者。被称为铁矿石三巨头之一。力拓集团总部在英国，澳洲总部在墨尔本。

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第八章 国际电子商务

教学目的与基本要求：本章主要介绍国内外国际电子商务的情况。通过案例分析了解国际电子商务的现状和发展趋势。

学时分配：3 课时

课堂形式：学生发言、讨论，教师总结评论

案例 8.1 沃尔玛推出社交购物语义搜索 “Polaris”

Polaris 搜索引擎是基于语义的搜索，传统的语形搜索是孤立的，其搜索结果不够精确，而语义搜索通过上下文语境的联系分析，使搜索结果更人性化。

沃尔玛于今年 9 月 3 日推出了一款针对购物的语义搜索引擎 “Polaris”，是专为其网站 Walmart.com、移动网页以及无线 App 打造的。Polaris 会将所有的搜索结果提交到 Walmart.com 网站，并且目前在移动电子产品上也可以用 Polaris 来进行购物搜索。

沃尔玛实验室打造 Polaris

Polaris 由沃尔玛实验室打造，该实验室拥有 15 名工程师，主要由近几年收购的创业公司所组成，这些创业公司包括 Osmix、OneRiot、Grabble、Small Society 等。这些公司的专长在于数据挖掘和各种算法，在移动社交领域也较为精通，它们构成了沃尔玛进军移动互联网和社交购物的重要力量。沃尔玛计划在全球铺开 Polaris，打算首先在南美的巴西开展应用。沃尔玛实验室副总裁 Sri Subramaniam 表示，沃尔玛开发 Polaris 的主要目的就是提升用户在沃尔玛网站上搜索产品的购物体验。

Polaris 基于 Kosmix 的技术

沃尔玛实验室最大的技术基础是 Kosmix 公司的技术，沃尔玛欲借其在搜索、社交和移动购物上发力。去年 4 月 18 日，沃尔玛斥资 3 亿美金收购了社交媒体平台 Kosmix 公司。Kosmix 的技术正是沃尔玛所看重和需要的，其依托 Kosmix 技术试水社交电子商务领域的首个产品是 Shopycat，这是一个 Facebook 网页应用。现在推出的 Polaris 也是基于 Kosmix 的技术和社会化元素。

Polaris 嵌入了 Kosmix 的一种被称作“社交基因”的技术，这是一种通过算法对互联网社交信号进行结果排序的方法。这一技术的一个重要的特性便是和社交网络紧密相连，通过“爱好算法”从用户的信息流、个人档案、添加的“like”按钮中分析出用户的兴趣和爱好，然后据此给出物品的搜索结果、排序和建议。这是 Polaris 语义搜索引擎融入的 Kosmix 的社交元素。

Polaris 的另一个核心技术便是 Kosmix 语义技术，运用这项技术后，Polaris 就能够理解各个产品之间的相关性或等价性，包括人物、事件、地点以及产品之间的关联性。例如用户在搜索“garden furniture”时，Polaris 搜索引擎就能理解其几乎相当于“patio furniture”，因此它不仅会显示直接搜索的关键词“garden furniture”的搜索结果，同时还会将相关产品“patio furniture”的搜索结果显示给用户，即整个产品组的结果全部都能显示出来。这比基于语形的机械式搜索是一个很大的突破和进步。此外，Polaris 的研发团队还会关注用户搜索的高频词，并进一步寻踪他们最后的点击结果，然后做出优化，把这些被点击的结果排序到搜索结果的前面，以使用户下次搜索时能够又快又好地得到所需结果。

Polaris 为下一代搜索引擎的发展指明了方向，向大数据挖掘和分析转型。社交媒体拥有最庞大的社会数据，对其上的数据进行挖掘和分析，了解用户的爱好并预测用户的行为，这不仅能为用户提供更准确的搜索结果、更优质的搜索体验，而且对商家来说，更入心的搜索结果和建议也能促使

用户购买转化，扩大商机。

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《国际商务谈判》教学大纲

张淑静 编写

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《国际商务谈判》教学大纲

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课程中文名称：《国际商务谈判》

课程英文名称：International Business Negotiation

课程号：406010032

学时数：36

学分数：2

先修课程：《国际贸易》、《国际贸易实务》、《国际结算》

一、课程内容与特色

《国际商务谈判》适用于国际商务、工商管理、经济学、民商法、国际法、外语等专业的学生，先修课程为《国际贸易实务》、《国际结算》。选课学生以国际商务专业学生为主，部分学生来自政管院、国际法学院、民商法学院等学院。

《国际商务谈判》是一门综合性学科，融多学科、多方面的知识于一体，具有很强的实践性。我国加入世界贸易组织之后，越来越深入地融入经济全球化大潮，面对世界经济带来的各种机遇和挑战。在国际生产、经营与营销活动中，国际商务谈判的重要性日益突出，面临的人才瓶颈问题亟待突破，需要高等院校培养出英语水平高、兼具商务知识与法律知识、掌握一定谈判技巧的复合型、实干型人才。

《国际商务谈判》旨在帮助学生理解国际商务谈判的性质特点，掌握国际商务谈判的基本原则，熟悉国际商务谈判各个阶段的谈判策略和技巧，为其将来从事国际商务实践工作提供有益的指导，使其能够在今后的谈判实践中随机应变、灵活运用。

二、教学方法

《国际商务谈判》课程采取师生互动、学员合作的多样化教学方法，事例及/或案例分析、戏剧性模拟谈判贯穿始终，重在培养学生的实际运用能力。

三、考核方法

目前开设的《国际商务谈判》课程，是考查课，36课时。平时成绩与期末成绩各占50%。

平时成绩主要源自考勤、课堂表现、有关模拟谈判的书面作业。个人成绩与小组成绩相结合。对个人成绩的评估标准，主要是考勤、课堂表现、平时书面作业与期末试卷；对于小组成绩的评估标准，主要是小组配合的默契程度、模拟谈判的效果、模拟谈判资料的完整性与完美性。

期末考试，采取开卷形式，着重考察学生的分析能力、概括能力与应变能力。形势比较灵活，主要包括案例分析、对其参与的实践经验总结等。旨在引导学生多演练、多积累，以提高学生参与案例学习与模拟谈判的热情和积极性。

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11. 丁建忠，商务谈判（第二版），中国人民大学出版社，2006年12月出版
12. 樊建廷：《商务谈判》，东北财经大学出版社，2005年版。
13. 方其主编：《商务谈判——理论、技巧、案例》，中国人民大学出版社，2004年版。
14. 吕维霞等著：《现代商务礼仪》，对外经济贸易大学出版社，2003年版。

五、教学内容

《国际商务谈判》主要包括7章内容，第2-4章分别是礼仪篇、理论篇与文化篇，第5-7章是策略篇。其中，策略篇是重点。

共36课时，具体课时分配如下：

- 第1章 国际商务谈判概述（2课时）
 - 第2章 国际商务谈判的礼仪和礼节（4课时）
（含1次15分钟第一类选题模拟谈判，加15评述，共30分钟）
 - 第3章 国际商务谈判的文化特色（4课时）
（含1次15分钟第一类选题模拟谈判，加15评述，共30分钟）
 - 第4章 国际商务谈判的理论基础（2课时）
（含1次15分钟第一类选题模拟谈判，加15评述，共30分钟）
 - 第5章 国际商务谈判的准备（8课时）
（含1次15分钟第一类选题模拟谈判，加15评述，共30分钟）
（含1次30分钟第二类选题模拟谈判，加20评述，共50分钟）
 - 第6章 国际商务谈判的实施（8课时）
（含1次30分钟第二类选题模拟谈判，加20评述，共50分钟）
 - 第7章 国际商务谈判的后续（6课时）
（含2次30分钟第二类选题模拟谈判，加20评述，共100分钟）
- 期末考试（2课时）

六、教学进度

第 1 章 国际商务谈判概述（2 课时）

1.1 谈判的类型

非正式谈判、正式谈判；书面谈判、声讯谈判、面对面谈判；餐桌、运动场、谈判桌等不同场所的谈判；主场谈判、客场谈判、中立地谈判；意向性谈判、实质性谈判、决定性谈判；个体谈判、集体谈判；双边谈判、多边谈判；让步型谈判、立场型谈判、原则型谈判；投资、商品供求、技术引进与转让等谈判；谈判、商务谈判、国际商务谈判。

1.2 国际商务谈判的定义

谈判：是有关组织或个人对涉及切身权益的分歧和冲突进行反复磋商，寻求解决途径和达成协议的过程。

商务谈判：是指当事人各方为了自身的经济利益，就交易的各种条件进行洽谈、磋商，最终达成协议的过程。

国际商务谈判：是指在国际商务活动中，处于不同国家或不同地区的商务当事人为了自身的经济利益，就交易的各种条件进行洽谈、磋商，最终达成协议的过程。

1.3 国际商务谈判的特点

以经济利益为谈判的目的，如何在现有政治、外交关系的格局下取得更多的经济利益；

以经济利益作为谈判的主要评价指标。既要考虑从谈判中获得的经济利益，还要关注谈判的成本，主要包括谈判桌上的成本、谈判过程的成本、谈判的机会成本。

以价格作为谈判的核心。

案例 克莱斯勒的巨大机会成本

1.4 国际商务谈判的基本程序

准备阶段：人员、信息、谈判方案等。

开局阶段：寒暄，交换意见，开场陈述。

正式谈判阶段：询盘、发盘、还盘、接受/拒绝。即报价、磋商、成交/失败。

签约阶段：正式合同、确认书、协议书、或备忘录。

1.5 模拟谈判人员及内容分配

(1) 模拟谈判人员组织

选出一名课代表，由课代表统筹全班的模拟谈判的组织与实施工作，直接向任课教师报告。

根据选课人数大致分组，以 40 人为例，分为四个大组。每组选出一位组长。组长标准：组织能力强，责任心强，具有号召力，处事公平。

分组时，要注意男生与女生混搭，经济学专业与法学专业学生配合，充分发挥各自的优势。

组长负责组织本组谈判人员选题、分配任务、协调工作，与任课教师沟通，及时调整谈判选题、谈判方案，协商谈判合同；在学期末，汇总本组的谈判方案、合同、总结等模拟谈判相关资料，向任课教师同时递交电子版与纸质版，纸质版上交教务处，电子版由任课教师存档。

(2) 模拟谈判选题

每大组进行两次戏剧性模拟谈判，从以下两类选题中各选一个：

第一类选题（一般性商务谈判）（2-3 人，15 分钟）

租房、购买电脑、寻找留学中介、买房等

第二类选题（比较正规的国际商务谈判）（8人左右，30分钟）

国际商品买卖、国际项目承包、生产线引进等。

（3）模拟谈判的进程与顺序

模拟谈判的准备与实施贯穿始终。

先进行第一类选题（一般性商务谈判）的模拟谈判，每组一次，由课代表协调顺序。

在进行第二类选题（比较正规的国际商务谈判）的模拟谈判，每组一次，由课代表协调顺序。

在进行第二类选题的模拟谈判时，尽量提高模拟谈判教学环境的仿真度。最好在商务谈判模拟教学实验室或者标准的会议室进行，起码选用有活动桌椅、能够摆出长形谈判桌的教室。

（4）模拟谈判注意事项

第一，模拟谈判时，不要面面俱到，而要谈透一两个问题，要注意技巧。

第二，突出“国际商务谈判”的“国际”特色，强调多元文化对于商务谈判的影响，模拟谈判对手均来自两个不同国家。

第三，注重密切联系实际。建议假扮实际存在的公司成员参与谈判，模仿著名企业或知名品牌的经济活动，利用电媒、纸媒等工具，通过案头调研、实地调查等手段，切实搜集相关信息，确定谈判标的。

第四，在进行第二类选题（比较正规的国际商务谈判）的模拟谈判时，建议穿正装、制作名签与名片，要假戏真做，尽量入戏，贴近生活。

第五，商务谈判与法律分析相结合，充分利用中国政法大学的多学科优势，加强经济学师生与法学师生的交流与互动。

（6）电子版与纸版作业

参与第一类谈判的成员：提交谈判总结。

参与第二类选题的成员：提交谈判方案、合同与谈判总结，总结要使用自制的公司信笺。每大组的甲方与乙方，各交一份。

由各大组长收齐作业，转发/转交任课教师。

各大组长出具清单一份，列明小组成员的分工，做到人人有责，人尽其责。

第 2 章 国际商务谈判的礼仪和礼节（4 课时）

（含 1 次 15 分钟第一类选题模拟谈判，加 15 评述，共 30 分钟）

2.1 国际商务谈判的礼节

迎送礼仪：确定迎送规格；对口、对等；掌握抵达的时间；介绍；献花；陪车；安排食宿；欢送等。迎送均应善始善终，不可虎头蛇尾，要迟退。

会谈礼仪：准确掌握会谈时间、地点和双方参加人员的名单，并及时通知有关人员和有关单位做好必要的安排；主人迎接客人；致辞，介绍，互赠礼品，合影，入座谈判。交谈的三大原则是尊重、肯定、得体。

谈判中的语言礼仪：语速语调、面部表情、谈判用语。

参观礼仪：外商参观我国企业，应重在参观而非招待；在国外参观外国公司，应事先约好。

宴请礼仪：宴请的形式有宴会、冷餐招待会、酒会、茶会、工作进餐等。赴宴时要注意，请帖、时间、着装、位次、湿毛巾、洗手水、餐巾、祝酒、用餐等问题。

馈赠礼仪：礼物的价值、礼物的选择、接受礼物。

信函礼仪：文字、内容、语气、格式，及时处理，立卷归档。

2.2 国际商务谈判的礼仪

（2）商务谈判的礼节

交际的一般礼节：尊时守约、尊妇敬老、尊重对方的风俗习惯、举止文明。

介绍的礼节：“尊者优先了解情况”。

握手的礼节：“尊者先伸手”。要注意，次序、神态、力度、时间、禁忌。

递接名片的礼节：一般次序，“先向尊者递送名片”。

称呼的礼节、电话联系的礼节、服饰的礼节等。

第3章 国际商务谈判的理论基础（4课时）

（含1次15分钟第一类选题模拟谈判，加15评述，共30分钟）

3.1 霍夫施泰德的文化价值观五方面理论

（1）权力距离指标 Power Distance Index (PDI)

在社会或组织中缺乏权力的成员对不公平的权力分配所接受的程度；高——强调等级；低——强调公平与平等。

（2）个人主义指标 Individualism (IDV)

高——个人主义：我，人们只关系自己和自己的家人

低——集体主义：我们，小群体具有强烈凝聚力，忠诚

（3）男性化指标 Masculinity (MAS)

高——男性化：性别角色有明显差异，追求事业成功的价值取向；男主外女主内。

低——女性化：性别角色是重叠的，追求生活质量的价值取向；女性也可以承担较高的管理职位。

（4）不确定性回避 指标 Uncertainty Avoidance Index (UAI)

一种文化中的成员对不确定或不了解的情景感到威胁的程度；高——厌恶风险；低——敢于冒险。

（5）长期取向指标 Long-Term Orientation (LTO)

又称“儒家动力论”。80年代后期，霍与邦德合作，以传统的儒家文化价值观为基础，对包括中国在内的22个崇尚儒家文化的国家和地区进行实证研究的结果。

高——持续性和坚韧性、关系由身份和地位确定、节俭、羞耻感、个体稳定性、保护面子、尊重传统、回报支持和送礼（尤其是前四种）。

3.2 川普涅尔与汉普登-特纳的文化分析模式

（1）普遍性与具体性

普遍性：是以共同的规则为基础的行为价值取向。

具体性：是以关系和情景为基础的行为价值取向。

（2）个人主义与共有主义（与霍氏相似）

（3）中性文化与情感性文化

中性文化：是指对人们的情感加以抑制或控制的文化。

情感性文化：是指情感公开、自然表露的文化。

（4）特殊性文化与扩散性文化

特殊性文化：将工作与私人生活严格区分开来。

扩散性文化：个体公共空间与私人空间是重叠的。

（5）成就文化与归因文化

成就文化：人们的功能与身份必须一致，给予高成就者较高的评价。

归因文化：根据出身、年龄、社会关系等确定人的地位与身份。

（6）时间取向（人们对时间的态度）

对时间的持续性与同时性的理解。

持续性：时间是由不同的点连接起来的直线，强调准时、秩序与效率，注重短期。

同时性：时间是将过去、现在和未来压缩而来的循环与重复。人们常在同一时间内做多种事情，强调时间的灵活性，注重中、长期。

(7) 环境

内在控制的文化：对环境采取的是进攻性态度，强调控制环境，赢得自己的目标；

外在控制的文化：与环境和谐相处；强调适应环境、双赢。

3.3 主要国家的谈判风格、礼仪和禁忌

(1) 盎格鲁撒克逊簇

英国：是世界上率先进入工业化的国家，曾为世界头号经济大国，其经济、政治、军事实力曾经显赫一时。19 世纪以来，其经济实力被削弱，但大国民意识仍旧很强。英国的谈判风格、礼仪和禁忌。冷静，持重，十分注重礼仪，崇尚绅士风度。精明灵活，善于应变，长于交际，待人和善，容易相处。喜欢程序性强的谈判。重诺守约。自信心强，往往固执己见，不肯让步。男士忌讳带有条纹的领带。忌讳以皇家的家事为谈话的笑料。要准确判断苏格兰人、英格兰人或爱尔兰人，用“British”比较安全。

美国：移民国家的多元文化；曾经是英联邦国家。1776 年 7 月 4 日，美国独立日。13 个英属殖民地联合签署了《独立宣言》，宣布脱离大英帝国的统治，组成美利坚合众国。美国的谈判风格、礼仪和禁忌：外露、坦率、诚挚、豪爽、热情、自信、说话滔滔不绝、不拘礼节、幽默诙谐。注重个人能力（牛仔风格）。法律意识根深蒂固。时间观念很强，重视效率，喜欢速战速决。追求物质上的实际利益。喜欢搞全盘平衡的“一揽子交易”。既重视商品质量，又重视商品包装。大多数场合下可直呼名字。小费通常不包括在账单里，一般是 15%。

加拿大的谈判风格、礼仪和禁忌：英联邦国家；靠近美国。英国裔商人，多在多伦多和加拿大的西北部，谨慎、保守，但注重信誉；有耐心。法国裔商人，多在魁北克，没有英国裔商人严谨，对于签约比较马虎，谈判时难以琢磨。华侨，多在温哥华，一般不宜直呼小名。比美国商人更耐心、更温和，注重礼节。

澳大利亚的谈判风格、礼仪和禁忌：英联邦国家；大洋洲。待人随和，不拘束，乐于接受款待，认为招待与生意无关，不喜欢报高价，注重办事效率，谈判人员一般都具有决定权，重视信誉，谨慎签约，较少毁约。

(2) 欧洲拉丁国家簇

法国的谈判风格、礼仪和禁忌：具有浓厚的国家意识和强烈的民族、文化自豪感。讲究幽默与和谐；极为讲究穿戴（巴黎的时装与香水），喜欢做名目繁多的文字记录；谈判时思路灵活，手法多样，习惯于集中精力磋商主要条款，对细节问题不很重视；对商品质量要求是非严格；时间观念不强；注重商业与外交的历史关系和交易的历史状况。

荷兰、比利时的谈判风格、礼仪和禁忌：比较朴素，性格坦率，开诚布公；是靠对外贸易起家的商业国，在国际商贸领域非常有竞争性；擅长赚钱和理财；讲究秩序；会讲多国语言。

比利时的谈判风格、礼仪和禁忌：首都布鲁塞尔是众多的国际机构和军事机构所在地。十分注重礼仪和仪表；商业道德水平相当高；喜欢社交，愿意加班；首都以北为荷兰人后裔，首都以南为法国人后裔，两者积怨很深。使用英文与其往来比较保险。

西班牙的谈判风格、礼仪和禁忌：生性开朗，热情奔放；自信，略显傲慢；穿戴讲究；注重现实；工作、生活态度认真，不轻易认错；与外商洽谈时态度极其认真，谈判人员一般具有决定权；绝不说“不”字，认为直截了当地拒绝别人是无理的；通常在晚餐上谈生意或庆祝生意成功。

意大利的谈判风格、礼仪和禁忌：国家意识比较淡薄；不习惯提国名，更不愿提故乡的名字；强调个人的作用；往往是出面谈判的人决定一切；时间观念淡薄；常常不遵守约会时间。有时不打招呼就不赴约，或单方面推迟会期；工作效率较低；但不马虎，决策较慎重；注重关系、善于社交；

希望在谈论商务之前对对方有一定了解，先建立良好的私人关系；善于社交，但情绪多变，易激动，好争论；看重商品的价格，而在商品的质量、性能、交货日期等方面则比较灵活。

(3) 日耳曼国家簇：

德国的谈判风格、礼仪和禁忌：严谨、刻板、保守、自信、谨慎；“契约之民”，崇尚契约，严守信用，权利和义务的意识很强；注重发展长久的贸易伙伴关系；谈判前准备十分充分；非常讲究效率，讨厌“研究研究”；自信而固执，技术标准相当严格，不太热衷于在谈判过程中采取让步的方式；非常守时；谈判时比较严肃；极其重视自己的头衔。

(4) 拉丁美洲簇：

拉美国家的谈判风格、礼仪和禁忌：经济落后，经济单一化严重，贫富分化明显；具有强烈的民族自尊心，重历史文化；固执，个人人格至上，富于男子气概；不喜欢与女性谈判；比较注重感情、关系，追求比较悠闲、恬淡的生活；喜欢多样化利用时间（同时性，长期），不太守时，谈判会时常中断；工作时间普遍较短，并且松懈；教育水平较低，能够管理业务的经理人才不多，许多商人掌握的国际贸易知识不多；代理商，在拉美做生意，至关重要的是寻找合格代理商。尽管你可以向这些国家派驻代表，但派出的代表同样必须与当地的代理商打交道。采取奖入限出的贸易保护措施，进出口手续比较复杂，一些国家还实行进口许可制度。

墨西哥的谈判风格、礼仪和禁忌：是南美洲、北美洲陆路交通的必经之地，素称“陆上桥梁”；官方语言为西班牙语，有 7.1% 的人讲印第安语；居民中 89% 信奉天主教，6% 信奉基督教新教。墨西哥是拉美经济大国，国内生产总值居拉美第二位，仅次于巴西；很看重密切而持久的关系；比大多数北美人和斯堪的纳维亚人更看重礼节。不太守时，一般会迟到半小时到一小时；但拜访者需要绝对准时。认为中途打断别人谈话不是无礼行为。擅长讨价还价，谈判过程漫长而艰难。

案例：有关墨西哥电讯市场的谈判。

(5) 亚洲簇：

日本的谈判风格、礼仪和禁忌：具有强烈的群体意识，集体决策。讲究礼仪，爱面子，经常显得态度暧昧。注重人际关系。准备充分，计划性强，考虑周全。谈判很有耐心，刻苦耐劳，善于打蘑菇战。等级观念强，尊老敬长。妇女地位较低。注重长远利益。忌讳在谈判过程中偷偷增加人数。忌讳代表团中使用律师、会计师和其他职业顾问。

韩国的谈判风格、礼仪和禁忌：重视谈判前的咨询。知己知彼，百战不殆。注重谈判礼仪和创造良好的气氛。在有名气的酒店、饭店会晤、洽谈。一般走在最前面的是主谈人或地位最高的人，多半也是谈判的拍板者。注重谈判技艺。做事逻辑性强，做事喜欢条理化。远比日本人爽快，但善于讨价还价，被誉为“谈判的强手”。既受儒家文化的影响，爱面子；又受美国文化的影响比较大：独立性强，性格直率，反感强行推销、讲话拐弯抹角、含混不清。不轻易说“不”。

新加坡的谈判风格、礼仪和禁忌：新加坡是连接太平洋与印度洋的咽喉要道，具有十分重要的战略地位。在其种族构成中，华人占大多数，其次是马来人、印度人、巴基斯坦人、白人、混血人种等。新加坡华裔，同甘共苦、重信义，惜友谊，爱面子；一旦签约，绝不违约。喜欢比较直接地讲话，尽量避免说“不”。非常准时。很有礼貌。

(6) 阿拉伯国家：

阿拉伯国家的谈判风格、礼仪和禁忌：尊重伊斯兰文化，非常讲究礼节仪式和宗教规范。权力距离大，等级结构森严；谈判人员包括决策者和专家。高男性化，女性一般不从事商业或娱乐业活动。非常讲究人际关系与社会关系网络，重信义，讲交情。谈判节奏缓慢，特别重视谈判的早期阶段。极爱讨价还价。商务活动一般要通过阿拉伯代理商来开展。习惯使用“IBM”：“神的意志”、“明天再谈”、“不要介意”。不喜欢谈论宗教、政治、国际石油政策、他们忌讳的动物。见面时忌讳饮酒、抽烟、谈女人、拍照。认为左手是“不洁之手”。伊斯兰法禁止收取和支付利息，禁止投资于违反伊斯兰教规的活动，如酒吧、赌场等。一般没有交换礼物的习惯。

案例：金正昆在新疆和田接受礼物

案例：烟建集团设计的乌干达温莎公寓

(7) 俄罗斯的谈判风格、礼仪和禁忌

前苏联（社会主义国家，1991 年解体）的主要加盟共和国，俄罗斯联邦是一个十分有影响力的大国，特别是在由 10 个前苏联加盟共和国组成的独联体组织内。俄罗斯继承苏联，成为联合国安全理事会常任理事国，对安理会议案拥有否决权；是军事大国。四大爱好：喝酒、抽烟、跳舞、运动。一般显得忧虑、自信心不足，进取心差，虽然待人谦恭，但缺乏信任。办事效率很低。会千方百计地迫使对方降价。喜欢研究过俄罗斯文化艺术的外商，文明程度很高，注重仪表，讲究卫生。

第4章 国际商务谈判的理论基础（2课时）

（含1次15分钟第一类选题模拟谈判，加15评述，共30分钟）

4.1 输赢理念与赢赢理念

（1）输赢理念

零和博弈、非赢即输。遵循的步骤是，确定谈判己方的利益和立场，捍卫己方的利益和立场，各方讨论做出让步的可能性，达成妥协方案，或者，宣布谈判失败。

（2）赢赢理念

双赢。遵循的步骤是，确定谈判己方的利益和需求，寻找对方的利益和需求，提出建设性的提议和解决办法，宣布谈判成功，或者，宣布谈判失败或谈判陷入僵局。

4.2 合作原则谈判法

（1）对事不对人

坚持对事不对人，在原则问题上毫不让步，但对待谈判对手要与人为善。当对方的看法不正确时，应寻求机会让他纠正。当对方情绪太激动时，应给予一定的理解。当发生误解时，应设法加强双方的沟通。

（2）着眼于利益而非立场

谈判中的基本问题，不是双方立场上的冲突，而是双方利益、需求、欲望的冲突。谈判的目的，就是为了协调双方利益而达成某种协议。任何一种利益一般都有多种可以满足的方式；在对立立场背后，双方之间存在着共同利益和冲突性利益，并且所存在的共同利益往往大于冲突性利益。

（3）制定双赢方案

双赢理念的核心，是强调共同的胜利和利益的一致性。所谓共同的胜利，是指谈判一方在尽可能取得己方利益的前提下，或者至少在不危害己方利益的前提下，使对方的利益得到一定的满足。寻求各方利益的一致性，是指在谈判中应努力挖掘各方利益相同的部分，再通过共同的努力将利益的蛋糕做大，如此各方都可获得更多的利益。

案例：关于大型水坝修建问题的谈判

（4）引入客观评判标准

客观标准的特点是，中立性、公平性、科学性、有效性。对不同事物，有不同的客观标准。引入客观评判标准的步骤是，寻求不同的客观标准，探讨不同客观标准的可行之处，寻求公正的处理程序。

案例：海洋矿藏勘探公司向资源国支付初期费的谈判

第 5 章 国际商务谈判的准备（8 课时）

（含 1 次 15 分钟第一类选题模拟谈判，加 15 评述，共 30 分钟）

（含 1 次 30 分钟第二类选题模拟谈判，加 20 评述，共 50 分钟）

5.1 国际商务谈判人员的组织与管理

（1）商务谈判人员的个体素质。

谈判人员应具备的基本观念：忠于职守、平等互利、团队精神。谈判人员的基本知识（T 型知识结构）：横向广博的知识，纵向较深的专门知识。谈判人员应有的能力和心理素质：敏捷清晰的思维推理能力和较强的自控能力，信息表达与传达能力，坚强的毅力、百折不挠的精神及不达目的绝不罢休的自信心和决心，敏锐的洞察力，高度的预见和应变能力。

（2）商务谈判人员的群体构成。

谈判组织的构成原则：根据谈判对象确定组织规模；谈判人员具备法人或法人代表资格；谈判人员应层次分明、分工明确；组成谈判队伍时要贯彻节约原则。

谈判人员的分工配合：第一层次的人员，领导人或首席代表，即主谈人；第二层次的人员，技术、商务、法律、财务、翻译等方面的人员；第三层次的人员，谈判必需的工作人员，如速记或打字员。

（3）主谈人的重要作用

主谈人在谈判过程中的作用：是谈判小组与其所属单位的纽带；在双方信息交流方面起接口作用；是谈判过程的指挥员；在掌握双方利益分界点上起关键性作用。

主谈人对谈判过程的驾驭：明确达到目标需要解决多少问题；抓住分歧的实质；不断小结谈判成果，并能够提出任务；掌握谈判的节奏。

5.2 国际商务谈判前的信息准备

（1）谈判信息的作用

制定谈判战略的依据；控制谈判过程的手段；谈判双方相互沟通的中介。

（2）谈判信息的分类：

按信息载体：语言、文字、声像、实物。

按信息活动范围：经济、政治、社会、科技。

按信息内容：有关谈判主题的市场信息；有关谈判对手的资料；有关竞争对手的资料；政策法规；金融信息；货单、样品的准备。

（3）谈判对象的确定

拟定谈判对象。注意寻找己方目标与对方条件的最佳结合点，即通过比较，择定一个或两个最有利于实现己方目标的可能谈判者作为正式洽谈的伙伴。应知己知彼，从经营的总体利益出发，以己方付出较小代价而收益较大为标准，慎重选择正式谈判对象。

案例：中铁建沙特麦加轻轨项目巨亏 41 亿元

（4）谈判信息资料的处理

信息资料的整理与分类；评价、筛选、分类、保存；信息资料的交流与传递。

5.3 国际商务谈判方案的制定

样本方案：解决汽轮机转子毛坯延迟交货索赔问题

(1) 谈判主题

就是参加谈判的目的，对谈判的期望值和期望水平。表达应言简意赅。

(2) 谈判团队人员

(3) 谈判目标：

谈判目标就是谈判主题的具体化。谈判方案的核心内容，是配置好己方的交易条件，分清这些交易条件中盘的虚实，将它作为己方行为的基础。交易条件的构成，主要是集中研究并准备好文字条件和数字条件。谈判的具体目标并非一成不变

(4) 谈判议题

案例：计算机生产线技术转让的谈判

第6章 国际商务谈判的实施（8课时）

（含1次30分钟第二类选题模拟谈判，加20评述，共50分钟）

6.1 开局阶段

（1）为整个谈判过程确定基调。可以是热烈、积极、友好、诚挚、轻松、合作的基调；也可以是冷淡、对立、紧张的；或者热中有冷，快中有慢，对立当中存在友好，严肃当中包含轻快。

（2）内容：交换意见，谈判的目标、计划、进度、人员；开场陈述，双方分别阐明自己对有关问题的看法和原则，双方分别陈述后，需要做出一种能把双方引向寻求共同利益的陈述，即倡议。提出各种设想和解决问题的方案。

（3）开局阶段应考虑的因素：双方关系；双方实力。

（4）表达开局目标的策略：

一致式开局策略：以协商、肯定的语言进行陈述，使对方对己方产生好感，产生双方对谈判充满一致性的感觉，从而使谈判在友好、愉快的气氛中进行。

保留式开局策略：在谈判开始时，对谈判对手提出的关键问题不做彻底、确切的答复，故作神秘，以吸引对手步入谈判。

慎重式开局策略：以严谨、凝重的语言进行陈述，表达出对谈判的高度重视和鲜明的态度。

还有坦诚式开局策略、挑剔式开局策略、进攻式开局策略等。

案例：中美双方的“世纪握手”

6.2 报价阶段

（1）报价的概念：国际商务谈判中的报价，是指谈判者所有要求的总称，通常特指价格处理。不同目的的谈判包含不同的谈判要素。

案例 某市醋酸化工厂引进生产设备的谈判

（2）报价的先后：一般情况下，发起谈判者或卖方先报价。

（3）先报价的利与弊（以卖方先报价为例）：利，为谈判划定了一个框架或基准线；弊，如果卖方报价太高，可能使买方放弃交易，或者改变原计划。如果卖方报价太低，买方会改变原计划，使其更有利于己方。

（4）报价时的注意事项

报价的基础是掌握行情。报价的原则，不仅要考虑报价所能获得利益，还要考虑报价能否被接受，寻找二者的最佳结合点。

报价的虚头，必须是合情合理的。报价必须明确清楚，必要时应向对方提供书面的报价单，或一边解释一边写出来。报价时，不需对所报价格作过多解释、说明和辩解。

（5）两种典型报价术

日本式报价——低开高走，做加法。日本卖方将最低价格列在价格表上，以求首先引起买方的兴趣。由于这种价格一般是以对卖方最有利的结算条件为前提的，并且，在这种低价格交易条件下，各个方面都很难全部满足买方的需要，如果买方要求改变有关条件，则日本卖方就会相应提高价格。因此，买卖双方最后成交的价格，往往高于价格表中的价格。

西欧式报价——高开低走，做减法。西欧式报价战术则是：首先提出含有较大虚头的价格，然后逐步软化和接近买方的市场和条件，最后达成交易。

（6）敢于设定高目标

设定高目标的目的：拉开初始开价与底价的距离，以增大谈判空间；获得较理想的谈判结果；让对方有赢家的感觉；无论是买方还是卖方，都要敢于设定高目标。双方的承受力各不相同，切勿想当然地认为这个价对方不会接受，而降低了期望值。

(7) 报价策略

报高价法：适用于一次性、垄断性或时限较宽的谈判

报保本低价：以占有市场率为目标

鱼饵报价法：在维护己方利益的基础上，兼顾谈判对手的利益

加法、除法报价法：分解价格。强调价格的客观性，或者使买方觉得价格不贵，可以接受

哄抬报价法：创造一种竞争局面，提高价格

案例：关于约旦国家核电站的招投标谈判

(8) 如何对待对方的报价

认真听取，并尽力完整、准确、清楚地把握对方的报价内容；之后，不急于还价，而是要求对方作出价格解释；再后，要求对方降低报价，或者，提出自己的报价

(9) 进行报价解释时必须遵循的原则

不问不答；有问必答；避虚就实；能言不书。

6.3 磋商阶段

磋商阶段，又叫讨价还价阶段，是谈判的关键阶段，也是最困难、最紧张的阶段

还价前的准备。将双方的意图和要求逐一比较，弄清双方分歧所在，判断对方的谈判重点。确定己方还价的幅度，设想双方合同的大致面目。牢记：不能做出让步的交换条件；可优惠对方的具体项目和让步的幅度。

(1) 拒绝

拒绝，只是否定了对方的进一步要求，却蕴含着对以前的报价或已承诺的让步的肯定。大多数拒绝是单一的、有针对性的，决不是宣布谈判失败。要选择恰当的语言、恰当的方式、恰当的时机，留有余地地巧妙拒绝。

(2) 常见的拒绝策略

问题法、借口法、补偿法、转折法、条件法、不说理由法、幽默法。

(3) 更高权威策略——借口法

不要让对方知道你有权作出最终决定。你的更高权威一定要是一个模糊的实体，而不是某一个具体的人。即便你是公司的老板，你也可以告诉对方你需要征求某个部门的意见。

案例 卡内基巧妙拒绝租用的纽约某饭店大舞厅提高租金

(2) 让步

让步的原则：一定要索取回报；不要做无谓的让步，要考虑对方的反应；要让在关键环节上；在重要的问题上要力求对方先让步，在次要的问题上己方可考虑先让步

让步欠妥，也可收回；要使对方觉得己方让步不是轻而易举的；一次让步的幅度不要过大，节奏不宜太快。

(3) 运用适当的让步策略

互惠互利的让步策略：一方做出了让步，必然期望对方对此有所补偿，获得更大的让步。

予远利谋近惠的让步策略：为了避免现实的让步，而给予对方远利，例如长期业务关系的保持。

丝毫无损的让步策略：当谈判的对方就某个交换条件要求己方做出让步时，己方表示充分理解对方的要求，也认为对方的要求有一定的合理性，同时表明因条件所限己方实在难以接受对方的要求，同时保证在这个问题上己方给予其他客户的条件，绝对不比给对方的好，希望对方能够理解。

案例 某市机械进出口公司向国外订购一台专用设备

6.4 打破僵局的策略

软硬兼施法、外搬援兵法、最后通牒法、最佳替代方案（BATNA）、蘑菇战之车轮战。

最后通牒：谈判破裂前的“最后的话”。最后通牒只是一种在特定环境下不得已而为之的策略，使用时必须谨慎，容易造成双方对抗，导致谈判的破裂。包括最后出价与最后时限。

案例 中国在向日本厂商发出最后通牒之后如何收场

案例 2011 年 NBA 劳资谈判

6.5 收尾的策略

最后让步，不忘最后获利。利用最后的时刻去争取最后的一点收获，达成协议而成交，及时握手以结束谈判。将所有谈判结果形成文字，包括技术附件和合同文本，并约好签约的时间与方式等具体操作性问题。注意为双方庆贺。

案例 中国与阿联酋关于纺织品贸易的谈判

第7章 国际商务谈判的后续（6课时）

（含2次30分钟第二类选题模拟谈判，加20评述，共100分钟）

7.1 签约的要诀

双方达成共识后，尽快签约。谈判的协议文字要简明扼要，但内容要具体、明确。别让误解和歧义不加质疑地过去。尽可能由己方起草合同，并充分考虑各种细节。如果是对方草拟的合同，则要认真研读合同内容，谨防遗漏某些对己方有利的条款，同时也要防范可能存在的风险。签约后，不可得以忘形透露自己的底价，否则会让对方有上当或不舒服之感。即使你占了便宜，也要让对方感到你付出了很多，能达成合作很不容易，以使对方有满足感和成就感，并让对方保持尊严。

7.2 合同文本的审核

（1）合同正文

合同正文的三条最基础的条款：标的，明确交易物的名称、特性、数量要求；价格，明确交易标的价值（价格）、支付货币；支付方式，包括价格性质、支付方式、支付进度、支付的流向。

合同正文的扩充构成，正文中三条最基础条款以外的条款。

（2）附件

起补充说明作用，并要承担交易文本的某一任务。附件的构成，包括政策性附件、金融性附件、技术附件等。

合同样本：北京市家庭居室装饰装修工程施工合同条款

（3）签字前的遗漏审核

核对合同文本的一致性（两种文字时）；或文本与谈判协议条件的一致性（一种文字时）；核对各种批件是否完备，与合同内容是否一致。批件包括项目批件、许可证、用汇证明、订货卡片等。

案例 长虹遭遇巨额海外货款损失

7.3 签约人与签约仪式

（1）签字人的选择

一般应由企业法人代表来签字。不同人员有不同额度的签字授权。

选择适当的签字仪式。有繁有简。

正规签字仪式的准备：布置好签字厅；安排好签字时的座次；预备好待签的合同文本；规范好签字人员的服饰。

正规签字仪式的程序：签字仪式开始；签字人正式签署合同文本；签字人正式交换已经有关各方正式签署的合同文本；共饮香槟酒相互道贺。

7.4 后续谈判

（1）后续谈判

合同不能履行或不完全履行时，合同当事人双方要进行谈判，分析争议的原因，对事故进行认定，掌握违约的行为是什么。

（2）事故认定

掌握法律依据，即合同和适用的法律规定；掌握事实依据，即违约的事实、情节、书面证明。

（3）责任归属

责任在哪一方或哪一方负主要责任。

(4) 索赔与理赔的概念

一个问题的两个方面。索赔是当事人在遭受损失后向违约责任方提出赔偿的请求；理赔是违约方对受害人赔偿的要求所作的受理或处理。

(5) 索赔谈判的原则

实事求是、有根有据、合情合理、讲求实效。

(6) 索赔谈判的策略

索赔谈判中注意方式方法；索赔处理时作适当、必要的让步；发挥公关能力。

(7) 解决索赔的方法

协商解决、调解、仲裁、法院判决。

案例 合同中有关商品内包装盒子的规定

案例 2150 队与任丘市政府关于震源车损毁路面的谈判

7.5 合作关系的维系

PRAM 谈判模式：制订谈判计划、建立关系、达成使双方都能接受的协议、协议的履行与关系的维持，形成良性循环。

期末考试（2 课时）

《计量经济学（双语）》教学大纲

李泳 编写

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一、课程简介与课程性质

计量经济学是在对社会经济现象作定性分析的基础上,探讨如何运用数学模型方法定量分析和描述具有随机性特征的经济变量关系的经济学分支。它是经济类各专业的核心课程。通过本课程的教学,要求学生达到了解计量经济学作为现代经济学的重要组成部分所具有的特征与地位,了解计量经济分析方法在经济学科的发展和实际经济工作中的作用;掌握计量经济学分析经济问题的基本思想,掌握计量经济学建模的基本原理;熟知计量经济分析的基本内容和工作程序;能够建立(含运用计量经济分析专门软件)简单的计量经济模型分析问题;打下基础,具有进一步学习计量经济学和应用的能力。

Econometric modelling and forecasting have become one of the most important tools for policy makers of the day in quantifying the impacts of various policies on their economies. To tackle practical problems policy makers and business managers need to build empirical models. So it is necessary for participants to conceptualise the vital concepts and issues of econometric analysis and modeling; To apply the econometric concepts and tools to understand and analyse their countries' economic behaviour; To understand the complex nature and inter-linkages among sectors and markets of their economies; To acquire skills and knowledge of econometric modelling for strategic thinking and understanding; To acquire methodological foundation necessary for future studies; and to synthesis of ideas, views and evidence.

二、课程教学目标

1.通过教学和学习,使学生对计量经济方法中的基本原理、基本知识以及这些理论、知识在实证分析中的运用机制和方法、变量选取、数据处理等有较全面的认识和理解。

2.通过教学和学习,使学生学会运用和分析经济模型建立的基本假设、条件及可能出现的问题及正确的解决方法,培养学生辨析、运用模型和解决实际经济问题的能力。

3.注意培养学生树立正确的计量经济分析意识和全新的建模理念,在教学和学习过程中,既注重对基本建模理论的传递与积累,更要注重利用建模理论分析我国经济发展的现状,理论联系实际,做到运用理论分析现实经济的运行,以现实经济发展的实际丰富经济理论。

The objectives of the course are to explore various econometric methods to overcome the above-mentioned problems and construct various econometric models for students' own economies. These models will be useful for policy makers in their deliberation to achieve high standards of living for their citizens. This course is also designed to provide the practical illustration of techniques used in applied macroeconometric and a clear understanding of the salient features, challenges and opportunities of the participants' own economies. This course is highly recommended for students who intend to do quantitative analysis (using time series data in particular) in their thesis writing.

三、课程教学内容及学时分配

CHAPTER 1 Introduction to Time Series Analysis

教学目的与基本要求:

The object of this chapter is to help students to make sense of time series problems of obvious importance around economics. Although this chapter doesn't use any the analytical tools, it indeed makes students to confront some data and data sources for various regions around the world. Relevant concepts

will be informed to students, such as how do economists define a stochastic process or sometimes random process, the independent and identically distributed, White noise and Simple Random Walk, and why do econometrists care about these variables. Also, students need to grasp a formal definition of the Stationarity, as well as how to judge a time series is Stationarity or not Stationarity.

学时分配: 3 学时

1. Definition of Time Series

A time series model for the observed data $\{y_t\}$ is a specification of the joint distributions (or possibly only the means and covariances) of a sequence of random variables $\{Y_t\}$ of which $\{y_t\}$ is postulated to be a realization.

2. Objectives of Time Series Analysis – model building

– Forecasting

The objectives of time series analysis is important because:

- (1) They may tell us something about the nature of the system generating the time series;
- (2) They can be used for obtaining *optimal forecasts* of future values of the series;
- (3) When two or more related time series are under study, the models can be extended to represent dynamic relationships between the series and hence *to estimate transfer functions* ;
- (4) They can be used to derive *optimal control policies* showing how a variable under one's control should be manipulated so as to minimize disturbances in some dependent variable.

3. Simplest time series

1) White noise

White noise is a random signal (or process) with a flat power spectral density. $\{r_t\} = \text{WN}(0, \sigma^2)$

2) Simple Random Walk

A random walk is a mathematical formalisation of a trajectory that consists of taking successive random steps.

4. Stationarity

Strict stationarity: The time series $\{X_t, t \in Z\}$ is said to be strict stationary if the

joint distribution of $(X_{t_1}, X_{t_2}, \dots, X_{t_k})$ is the same as that of $(X_{t_1+h}, X_{t_2+h}, \dots, X_{t_k+h})$.

In other words, strict stationarity means that the joint distribution only depends on the ‘difference’ h , not the time (t_1, \dots, t_k) .

Weak stationarity: The time series $\{X_t, t \in Z\}$ (where Z is the integer set) is said to be stationary if

(I) $E(X_t^2) < \infty, \forall t \in Z.$

(II) $EX_t = \mu, \forall t \in Z.$

(III) $\gamma_X(s, t) = \gamma_X(s+h, t+h) \forall s, t, h \in Z.$

5. How to judge a time series is Stationarity or not Stationarity?

1) White noise: The time series $\{\epsilon_t\}$ is said to be a white noise with mean zero and variance σ^2 , written as $\epsilon \sim \text{WN}(0, \sigma^2)$

$$\gamma_\epsilon(h) = \begin{cases} \sigma_\epsilon^2 & \text{if } h = 0 \\ 0 & \text{if } h \neq 0 \end{cases}$$

It is clear that a white noise process is stationary. Note that white noise assumption is weaker than identically independent distributed assumption.

To tell if a process is covariance stationary, we compute the unconditional first two moments, therefore, processes with conditional heteroskedasticity may still be stationary.

2) **Simple random walk**

Let S_t be a random walk $S_t = \sum_{s=0}^t X_s$ with $S_0 = 0$ and X_t is independent and identically distributed

with mean zero and variance σ^2 . Then for $h > 0$,

$$\begin{aligned} \gamma_S(t, t+h) &= Cov(S_t, S_{t+h}) \\ &= Cov\left(\sum_{i=1}^t X_i, \sum_{j=1}^{t+h} X_j\right) \\ &= Var\left(\sum_{i=1}^t X_i\right) \quad \text{since } Cov(X_i, X_j) = 0 \text{ for } i \neq j \\ &= t\sigma^2 \end{aligned}$$

In this case, the autocovariance function depends on time t , therefore the random walk process S_t is not stationary.

3) **Moving average process**, Let $\epsilon_t \sim i.i.d.(0, 1)$, and $X_t = \epsilon_t + 0.5\epsilon_{t-1}$

then $E(X_t) = 0$ and $\gamma_X(s, t) = E(X_s X_t)$. Let $s \leq t$. When $s = t$,

$$\gamma_X(t, t) = E(X_t^2) = 1.25,$$

when $t = s + 1$,

$$\gamma_X(t, t + 1) = E[(\epsilon_t + 0.5\epsilon_{t-1})(\epsilon_{t+1} + 0.5\epsilon_t)] = 0.5,$$

when $t - s > 1$, $\gamma_X(s, t) = 0$.

4) The process $Y_t = 2 + t + e_t + 0.5e_{t-1}$ where $\{e_t\}$ is a $WN(0, \sigma^2)$ process.

拓展阅读书目：

1. Time Series Analysis with Applications in R (2008) by Jonathan D. Cryer and Kung-Sik Chan; Springer.
2. Time Series Analysis (1994), James D. Hamilton.

CHAPTER 2 Decomposition

教学目的与基本要求：

This chapter introduces the removal of trend and seasonality of a time series by the decomposition method. And several definitions should be introduces: Estimation of mean, Estimation of variance, Estimation of linear trend in time and Least Square Method. This chapter is a basic one of the whole book, for it gives a basic decomposition method of a

time series. A good matter for this, decomposition helps students comprehend the complex

econometrics in a simple and brief way.

学时分配：3 学时

1. Model with a constant mean

$$Y_t = \mu + X_t$$

$$\text{Mean } \mu = \frac{1}{n} \sum Y_t$$

$$\text{Variance} = E[\sum(Y_t - \mu)]^2$$

reflects differences (a change) between mean value and actual value.

2. Regression methods

1) Linear and Quadratic Trends in time

$\mu_t = \beta_0 + \beta_1 t$, use least square estimate method to determine intercept and slope:

The criteria we have used here is $Q = \min \sum [Y_t - (\beta_0 + \beta_1 t)]^2$,

$$\frac{\partial Q}{\partial \beta_0} = \sum (Y_t - \beta_0 - \beta_1 t) = 0,$$

$$\frac{\partial Q}{\partial \beta_1} = \sum (Y_t - \beta_0 - \beta_1 t)t = 0$$

$$\begin{cases} \sum Y_t = n\beta_0 + \beta_1 \sum t \\ \sum Y_t t = \beta_0 \sum t + \beta_1 \sum t^2 \end{cases}, \begin{cases} \hat{\beta}_1 = \frac{\sum_{t=1}^n (Y_t - \bar{Y})(t - \bar{t})}{\sum_{t=1}^n (t - \bar{t})^2} \\ \hat{\beta}_0 = \bar{Y} - \hat{\beta}_1 \bar{t} \end{cases}$$

3. T-statistic

A **T-statistic** is used to measure how confident we are given the results of the regression that the true β is different from 0. For instance if we measured a very high value for β with a very small standard error we would be very confident. On the other hand if we found a small value of β with a high standard error we would be far less confident. The t-statistic is calculated as

$$T = \frac{\hat{\beta}_i - \beta_i}{S_{\hat{\beta}_i}}$$

4. Testing the goodness-of-fit

The coefficient of determination R^2 is defined as a ratio of “explained” variance to the “total” variance of the dependent variable Y_t , where TSS is the **total sum of squares** for the dependent variable

$$R^2 = \frac{\sum (\hat{Y}_t - \bar{Y})^2}{\sum (Y_t - \bar{Y})^2} = \frac{ESS}{TSS} = 1 - \frac{RSS}{TSS}$$

In that case, R^2 will always be a number between 0 and 1, with values close to 1 indicating a good degree of fit.

5. F statistic

R^2 measures the proportion of explained variance to the total variance.

F statistic measure the explained over unexplained

$$F = \frac{ESS/k}{RSS/(n-k-1)}$$

拓展阅读:

1. Time Series Analysis with Applications in R (2008) by Jonathan D. Cryer and Kung-Sik Chan; Springer.
2. Time Series Analysis (1994) by James D. Hamilton.
3. Applied Econometric Time Series by Walter Enders.

CHAPTER 3. Moving Average and Autoregressive processes

教学目的与基本要求:

The purpose of this chapter is to inform students what is Moving Average and Autoregressive processes and the key ingredient of Moving Average and Autoregressive processes. In this chapter, we'll introduce MA(1), ..., MA(q), AR(1), ..., AR(p) and their stationary conditions.

学时分配: 6 学时

1. moving-average model

White noise process $x_t \sim i.i.d \ N(0, \sigma^2)$ A sequence $\{x_t\}$ is a white noise process if each value in the sequence has

1) zero-mean $E(x_t) = E(x_{t-1}) = \dots = 0$

2) constant conditional variance $E(x_t^2) = E(x_{t-1}^2) = \dots = \sigma^2 = \text{Var}(x_{t-i})$

3) is uncorrelated with all other realizations

$$E(x_t x_{t-s}) = E(x_{t-j} x_{t-j-s}) = \dots = 0 = \text{Cov}(x_{t-j}, x_{t-j-s})$$

2. MA(1)

$$Y_t = e_t - \theta e_{t-1}$$

$$\gamma_0 = \text{Var}(e_t - \theta e_{t-1}) = (1 + \theta^2) \sigma_e^2$$

$$\gamma_1 = \text{Cov}(Y_t, Y_{t-1}) = \text{Cov}(e_t - \theta e_{t-1}, e_{t-1} - \theta e_{t-2}) = -\theta$$

$$\rho_1 = \frac{-\theta}{1 + \theta^2}, \quad \rho_k = 0, \quad k = 2, 3, \dots$$

3. MA (2)

$$\gamma_0 = \text{Var}(e_t - \theta_1 e_{t-1} - \theta_2 e_{t-2}) = (1 + \theta_1^2 + \theta_2^2) \sigma_e^2$$

$$\begin{aligned} \gamma_1 &= \text{Cov}(Y_t, Y_{t-1}) = \text{Cov}(e_t - \theta_1 e_{t-1} - \theta_2 e_{t-2}, e_{t-1} - \theta_1 e_{t-2} - \theta_2 e_{t-3}) \\ &= [-\theta_1 + \theta_1 \theta_2] \sigma_e^2 \end{aligned}$$

$$\begin{aligned} \gamma_2 &= \text{Cov}(Y_t, Y_{t-2}) = \text{Cov}(e_t - \theta_1 e_{t-1} - \theta_2 e_{t-2}, e_{t-2} - \theta_1 e_{t-3} - \theta_2 e_{t-4}) \\ &= -\theta_2 \sigma_e^2 \end{aligned}$$

4. MA(q) process

$$Y_t = e_t - \theta_1 e_{t-1} - \theta_2 e_{t-2} - \dots - \theta_q e_{t-q}$$

$$\gamma_0 = \text{Var}(e_t - \theta_1 e_{t-1} - \theta_2 e_{t-2} - \dots - \theta_q e_{t-q}) = (1 + \theta_1^2 + \theta_2^2 + \dots + \theta_q^2) \sigma_e^2$$

$$\begin{aligned} \gamma_1 &= \text{Cov}(Y_t, Y_{t-1}) = \text{Cov}(e_t - \theta_1 e_{t-1} - \theta_2 e_{t-2} - \dots - \theta_q e_{t-q}, e_{t-1} - \theta_1 e_{t-2} - \theta_2 e_{t-3} - \dots - \theta_q e_{t-q-1}) \\ &= [-\theta_1 + \theta_1 \theta_2 + \theta_2 \theta_3 + \dots] \sigma_e^2 \end{aligned}$$

$$\begin{aligned} \gamma_2 &= \text{Cov}(Y_t, Y_{t-2}) \\ &= \text{Cov}(e_t - \theta_1 e_{t-1} - \theta_2 e_{t-2} - \dots - \theta_q e_{t-q}, e_{t-2} - \theta_1 e_{t-3} - \theta_2 e_{t-4} - \dots - \theta_q e_{t-q-2}) \\ &= [-\theta_2 + \theta_1 \theta_3 + \dots] \sigma_e^2 \end{aligned}$$

Definition:

$Y_t = e_t - \theta_1 e_{t-1} - \theta_2 e_{t-2} - \dots - \theta_q e_{t-q}$, where $\{e_t\} \sim \text{WN}(0, \sigma_e^2)$

The ACF is

$$\rho_k = \begin{cases} \frac{-\theta_1 + \theta_1 \theta_{k+1} + \dots + \theta_{q-k} \theta_q}{1 + \theta_1^2 + \dots + \theta_q^2}, & \text{if } 1 < k \leq q \\ 0, & \text{if } k > q \end{cases}$$

The MA(q) process is q -correlated.

5. AR(1) process

$$Y_t = \phi Y_{t-1} + e_t \quad (1)$$

Take variances of both sides of above equation and obtain

$$\gamma_0 = \phi^2 \gamma_0 + \sigma_e^2$$

$$\gamma_0 = \frac{\sigma_e^2}{1 - \phi^2} \text{ notice the immediate implication that } \phi^2 < 1, \text{ or that } |\phi| < 1$$

6. AR(2) process

$$Y_t = \phi_1 Y_{t-1} + \phi_2 Y_{t-2} + e_t$$

$$\gamma_0 = \phi_1 \gamma_1 + \phi_2 \gamma_2 + \sigma^2$$

$$\gamma_1 = \phi_1 \gamma_0 + \phi_2 \gamma_1$$

$$\gamma_s = \phi_1 \gamma_{s-1} + \phi_2 \gamma_{s-2}$$

$$\rho_1 = \phi_1 \rho_0 + \phi_2 \rho_1 \quad (1)$$

$$\rho_s = \phi_1 \rho_{s-1} + \phi_2 \rho_{s-2} \quad (2)$$

$$\rho_0 = 1, \rho_1 = \frac{\phi_1}{1 - \phi_2}, \rho_2 = \frac{\phi_1^2}{1 - \phi_2} + \phi_2, \rho_3 = \phi_1 \left[\frac{\phi_1^2}{1 - \phi_2} + \phi_2 \right] + \phi_2 \left[\frac{\phi_1}{1 - \phi_2} \right]$$

7. AR(p) process

$$Y_t = \phi_1 Y_{t-1} + \phi_2 Y_{t-2} + \dots + \phi_p Y_{t-p} + e_t \text{ mean white noise error term.}$$

$$(1 - \phi_1 L - \phi_2 L^2 - \dots - \phi_p L^p) Y_t = e_t$$

We call lag polynomial: $\phi(L) = 1 - \phi_1 L - \phi_2 L^2 - \dots - \phi_p L^p$

And corresponding AR characteristic equation $1 - \phi_1 L - \phi_2 L^2 - \dots - \phi_p L^p = 0$

Stability condition for an AR(p) process

$$(1 - \phi_1 L - \phi_2 L^2 - \dots - \phi_p L^p) Y_t = \phi(L) Y_t = e_t$$

The process is stable if $\phi(L) \neq 0$ for all L satisfying $|L| > 1$, or if the roots of the characteristic polynomial lie outside the unit circle.

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CHAPTER 4 ARMA(p,q) model

教学目的与基本要求：

The aim of this chapter is to help students to grasp the idea of model **ARMA(p,q)**, and the usage of this model. A good understanding is required for: ARMA process, **Partial Autocorrelation Function**, PACF.

学时分配：3 学时

1. ARMA process

$$\text{ARMA}(p,q): \phi(L)Y_t = \theta(L)e_t$$

$$(1 - \phi_1 L - \phi_2 L^2 - \dots - \phi_p L^p) Y_t = (1 + \theta_1 L + \theta_2 L^2 + \dots + \theta_q L^q) e_t$$

If $q=0$ pure AR(p) process

If $p=0$ pure MA(q) process

If all characteristics roots of $Y_t = \sum_{i=1}^p \phi_i Y_{t-i} + \sum_{i=0}^q \theta_i e_{t-i}$ are within the unit circle, then this is an ARMA(p,q) process. If one or more roots lie outside the unit circle, then this is an integrated ARIMA(p,d,q) process.

Stability condition for ARMA(1,1) process

--Favero, p.37—

$$x_t = \phi x_{t-1} + e_t - \theta e_{t-1}$$

$$(1 - \phi L)Y_t = (1 - \theta L)e_t \Rightarrow Y_t = \left(\frac{1 - \theta L}{1 - \phi L} \right) e_t$$

If $|\phi| < 1$ then we can write

$$Y_t = (1 - \theta L)(1 + \phi L + (\phi L)^2 + \dots)e_t$$

$$= (1 + \phi L + (\phi L)^2 + \dots - (\theta L + \theta \phi L^2 + \dots))e_t$$

$$= (1 + (\phi - \theta)L + \phi(\phi - \theta)L^2 + \phi^2(\phi - \theta)L^3 + \dots)e_t \rightarrow \text{an } MA(\infty) \text{ representation.}$$

$$E(Y_t) = 0 \quad \text{finite}$$

$$Var(Y_t) = \gamma(0) = \left(1 + \frac{(\phi - \theta)^2}{1 - \phi^2} \right) \sigma_e^2 \quad \text{finite}$$

Covariances --finite

$$\gamma(1) = \phi Var(Y_t) + \theta \sigma_e^2$$

$$\gamma(2) = \phi(\phi Var(Y_t) - \theta \sigma_e^2) = \phi \gamma(1) \Rightarrow \gamma(j) = \phi \gamma(j-1), \quad j \geq 2$$

Autocov functions :

$$\rho_1 = \frac{\gamma(1)}{\gamma(0)}$$

$$\rho_2 = \phi \rho_1$$

$$\rho_3 = \phi \rho_2 = \phi^2 \rho_1$$

Any stationary time series can be represented with an ARMA model:

$$AR(p) \Rightarrow MA(\infty)$$

$$MA(p) \Rightarrow AR(\infty)$$

ACF for ARMA(1,1) process

$Y_t = \phi_1 Y_{t-1} + e_t - \theta e_{t-1}$; using the now familiar procedure, we find the Yule-Walker equation:

$$E Y_t Y_t = \phi E Y_{t-1} Y_t + E e_t Y_t + \theta E e_{t-1} Y_t \Rightarrow \gamma_0 = \phi \gamma_1 + \sigma^2 + \theta(\phi + \theta)\sigma^2 \quad (1)$$

$$E Y_t Y_{t-1} = \phi E Y_{t-1} Y_{t-1} + E e_t Y_{t-1} + \theta E e_{t-1} Y_{t-1} \Rightarrow \gamma_1 = \phi \gamma_0 + \theta \sigma^2 \quad (2)$$

$$E Y_t Y_{t-s} = \phi E Y_{t-1} Y_{t-s} + E e_t Y_{t-s} + \theta E e_{t-1} Y_{t-s} \Rightarrow \gamma_2 = \phi \gamma_1$$

Solving (1) and (2) simultaneously for γ_0 and γ_1 yields

$$\gamma_0 = \frac{1 + \theta^2 + 2\phi\theta}{1 - \phi^2} \sigma^2, \quad \gamma_1 = \frac{(1 + \phi\theta)(\phi + \theta)}{1 - \phi^2} \sigma^2$$

$$\text{Hence, } \rho_1 = \frac{(1 + \phi\theta)(\phi + \theta)}{1 + \theta^2 + 2\phi\theta} \sigma^2$$

$$\text{And } \rho_s = \phi \rho_{s-1} \quad \text{for all } s \geq 2$$

Thus, the ACF for an ARMA(1,1) process is such that the magnitude of ρ_1 depends on both θ and ϕ .

Beginning with this value of ρ_1 , the ACF of an ARMA(1,1) process looks like that of the AR(1) process. If $0 < \theta < 1$, convergence will be direct, and if $-1 < \theta < 0$, the autocorrelations will oscillate. You should be able to recognize the point that the correlogram can reveal the pattern of the autoregression coefficients.

2. The ACF of an ARMA(p,q) process will begin to decay at lag q. Beginning at lag q, the coefficients of the ACF (i.e., the ρ_i) will satisfy the difference equation ($\rho_i = \phi_1 \rho_{i-1} + \phi_2 \rho_{i-2} + \dots + \phi_p \rho_{i-p}$). Since the characteristic roots are inside the unit circle, the autocorrelation will decay beginning at lag q. Moreover, the pattern of the autocorrelation coefficients will mimic that suggested by the characteristic roots.

3. The PACF of an ARMA(p,q) process will begin to decay at lag p. Beginning at lag p, the coefficients of the PACF (i.e., the ϕ_{ss}) will mimic the ACF coefficients from the model $Y_t / (1 - \theta_1 L - \theta_2 L^2 - \dots - \theta_q L^q)$.

The usefulness of the ACF and PACF function: suppose that a researcher collected sample data and plotted the ACF and PACF function, if the ACF shows the monotonic decay of the autocorrelations, while the PACF exhibits the single spike at lag 1, the researcher might try to estimate data using an AR(1) model. Correspondingly, if the ACF exhibited a single spike and the PACF monotonic decay, the researcher might try an MA(1) model.

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CHAPTER 5 Nonstationary time series

教学目的与基本要求:

In the previous chapters, time series are assumed to be stationary. Ideally this was an acceptable simplification. Most of the time series processes encountered in real life are nonstationary. We have seen that time series containing linear, quadratic and polynomial trends can be made stationary by successive

differencing. The purpose of this chapter is to introduce the process of nonstationary in the real economic situation.

学时分配：3学时

1. ARIMA(1,1,1) process with a mean term

Let us consider the following ARIMA(1,1,1) process:

$$(1 - \phi L)(1 - L)Y_t = \mu + (1 - \theta L)e_t$$

Let $X_t = (1 - L)Y_t$. Then $\{X_t\}$ is an ARMA(1,1) process. Thus, $E(X_t) = \frac{\mu}{1 - \phi}$,

$$\begin{aligned} E(Y_t) &= \frac{\mu}{1 - \phi} + E(Y_{t-1}) \\ &= \frac{2\mu}{1 - \phi} + E(Y_{t-2}) \\ &= \dots \\ &= \frac{t\mu}{1 - \phi} + E(Y_0) \end{aligned}$$

or $E(Y_t - Y_{t-1}) = \frac{\mu}{1 - \phi}$, which means

2. Testing Unit Root in Autoregressive Processes : Dicky-Fuller Test

Dicky and Fuller (1976) proposed a formal way to test for the presence of unit roots in autoregressive models. Consider an AR(1) process

$$Y_t = \mu + \phi Y_t + e_t$$

Where $e_t \sim WN(0, \sigma_e^2)$, We are interested in testing the null hypothesis $H_0: \phi=1$. Note that the asymptotic properties of the maximum likelihood estimator $\hat{\phi}$ no longer holds under H_0 , and hence, its distribution cannot be used to test departure from H_0 . To perform this test, note that, $\nabla Y_t = \mu + \phi * Y_{t-1} + e_t$

3. Forecasting ARIMA Processes

let us consider an ARIMA(p, 1, q) given by $\square X_t = Y_t$, where Y_t is a zero-mean ARMA(p, q) process.

Now,

$$X_t = Y_t + X_{t-1} \tag{3}$$

$$= Y_t + Y_{t-1} + \dots + Y_1 + X_0, \tag{4}$$

where X_0 is a random variable with mean $E(X_0)$ and variance $V(X_0)$. Suppose we have observed

X_0, X_1, \dots, X_n and want to make a one-step ahead forecast $P X_{n+1}$. Note the following:

1. $E(X_t) = E(X_0)$, but $cov(X_t, X_{t+h})$ depends on $V(X_0)$ and $cov(X_0, Y_j)$.
2. Observing X_0, X_1, \dots, X_n is equivalent to observing Y_1, \dots, Y_n .
3. Y_n 's can be expressed as a linear combination of X_n, X_{n-1}, \dots and vice-versa.

From (3), we have

$$\begin{aligned} P_n X_{n+1} &= P_n(Y_{n+1} + X_n) \\ &= P_n Y_{n+1} + X_n. \end{aligned} \quad (5)$$

4. Box-Cox transformations to variance-nonstationary processes

Box & Cox (1964) proposed a parametric power transformation technique in order to reduce anomalies such as non-additivity, non-normality and heteroscedasticity.

The **power transform** is from a family of functions that are applied to create a rank-preserving transformation of data using power functions. This is a useful data (pre)processing technique used to stabilize variance, make the data more normal distribution-like, improve the Pearson correlation] between variables and for other data stabilization procedures. The Box–Cox transformation, by statisticians George E. P. Box and David Cox, is one particular way of parameterising a power transform that has advantageous properties.

Assume $\sqrt{\text{var}(Y_t)} \propto [E(Y_t)]$.

Then, $\text{var}[\log(Y)]$ is approximately constant over time.

Also, $E[\log(Y)] \approx \log(\mu_t)$.

The Box-Cox family of power transformations

Assume $\sqrt{\text{var}(Y_t)} \propto [E(Y_t)]^\alpha$.

Then, for $\lambda = 1 - \alpha$, the transformed variable

$$g(Y_t) = \begin{cases} \frac{Y_t^\lambda - 1}{\lambda}, & \lambda \neq 0 \\ \log(Y_t), & \lambda = 0 \end{cases}$$

has approximately constant variance.

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CHAPTER 6 Model specification

教学目的与基本要求：

If we think about the **Model specification, Estimation methods** should be taken into consideration. This is what we do in this chapter. Key terms and methods should be mentioned and understood in this section: **The ordinary least squares estimation, Maximum likelihood estimation, and Method of Moments.**

学时分配：3学时

1. The ordinary least squares estimation of θ , which is defined by

$$\hat{\theta} = \arg \min \sum_{t=2}^T (Y_t - \theta e_{t-1})^2$$

Least squares estimation using backcasting procedure $Y_t = e_t - \theta_1 e_{t-1} - \theta_2 e_{t-2} - \dots - \theta_q e_{t-q}$

Given some initial values $\delta^{(0)} = (\theta_1^{(0)}, \dots, \theta_q^{(0)})'$

1) Compute the unconditional residuals $\hat{Y}_t = e_t - \theta_1^{(0)} e_{t-1} - \theta_2^{(0)} e_{t-2} - \dots - \theta_q^{(0)} e_{t-q}$

2) Backcast values of e_t for $t = -(q-1), \dots, T$ using the backward recursion

$$\tilde{e}_t = \hat{Y}_t + \theta_1^{(0)} e_{t+1} + \theta_2^{(0)} e_{t+2} + \dots + \theta_q^{(0)} e_{t+q}$$

where the q values for e_t beyond the estimation sample are set to zero : $\tilde{e}_{T+1} = \dots = \tilde{e}_{T+q} = 0$,

and $\hat{Y}_t = 0$ for $t < 1$.

3) Estimate the values of e_t using a forward recursion

$$\hat{e}_t = \hat{Y}_t + \theta_1^{(0)} \tilde{e}_{t-1} + \theta_2^{(0)} \tilde{e}_{t-2} + \dots + \theta_q^{(0)} \tilde{e}_{t-q}$$

4) Minimize the sum of squared residuals using the fitted values \hat{e}_t :

$$\sum_{t=q+1}^T (Y_t - \hat{e}_t + \theta_1 \hat{e}_{t-1} + \theta_2 \hat{e}_{t-2} + \dots + \theta_q \hat{e}_{t-q})^2$$

and find $\delta^{(1)} = (\theta_1^{(1)}, \dots, \theta_q^{(1)})'$

5) Repeat the backcast step, forward recursion, and minimization procedures until the estimates of the moving average part converge.

Remark: The backcast step can be turned off $\tilde{e}_{-(q-1)} = \dots = \tilde{e}_0 = 0$ and the forward recursion is only used.

2. Maximum likelihood estimation

1) One observes a sample of (conditionally) i.i.d. observations (t, x_t, y_t) . These observations are realizations of random variables with a known distribution but unknown parameters.

2) The basic idea is to maximize the probability of observing these realizations(given a known parametric distribution with unknown parameters).

3) The probability of observing these realizations is provided by the joint density(or pdf)of the observations(or evaluated at the observations).

4) This joint density is the likelihood function,with the exception that it is a function of the unknown parameters(and not the observations!).

3.Method of moments

Method of moments estimation for θ in AR(1)(The Yule-Walker Estimation)

Estimate θ by equating sample and population ACF of order 1:

$$\gamma_1 = -\frac{\hat{\theta}}{1 + \hat{\theta}^2}$$

Solving $\gamma_1 + \gamma_1 \hat{\theta}^2 + \hat{\theta} = 0$;

$$\hat{\theta} = \frac{-1 \pm \sqrt{1 - 4\gamma_1^2}}{2\gamma_1}$$

Choose the root so that the root satisfying the invertibility condition

$$1 - 4\hat{\rho}_1^2 \geq 0 \Rightarrow 0.25 \geq \hat{\rho}_1^2$$

$$-0.5 \leq \hat{\rho}_1 \leq 0.5$$

If $\hat{\rho}_1 = \pm 0.5$, unique real roots but non-invertible.

If $|\hat{\rho}_1| > 0.5$, on real roots exists and MME fails.

If $|\hat{\rho}_1| < 0.5$, unique real roots and invertible.

Which solution to choose?

Estimate σ_e^2 by equating sample and population

variance of yt: $\hat{\gamma}_0 = \sigma_e^2 (1 + \hat{\theta}^2)$

Plugging $\hat{\gamma}_0 = s^2$, the estimated variance of Y_t , $\sigma_e^2 = \frac{s^2}{(1 + \hat{\theta}^2)}$

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CHAPTER 7 Diagnostic checks

教学目的与基本要求：

For this chapter, the method of Diagnostic checks, and the modified, should be grasped.

时分配：3学时

1. Method of moments estimator for AR(p) process: Yule-Walker equations

It is also known as Yule-Walker estimation. Easy but not efficient estimation method. Works for only AR models for large n.

BASIC IDEA: Equating sample moment(s) to population moment(s), and solve these equation(s) to obtain the estimator(s) of unknown parameter(s).

$$E(Y_t) = \frac{1}{n} \sum_{t=1}^n Y_t \Rightarrow \mu = \bar{Y}$$

$$E(Y_t Y_{t-k}) = \frac{1}{n} \sum_{t=1}^n Y_t Y_{t-k} \Rightarrow \gamma_k = \hat{\gamma}_k$$

$$\rho_k = \hat{\rho}_k$$

Yule-Walker method: For an AR(p) process $Y_t = \phi_1 Y_{t-1} + \phi_2 Y_{t-2} + \dots + \phi_p Y_{t-p} + e_t$

The system of Yule-Walker equations is

$$E Y_t Y_t = \phi_1 E Y_{t-1} Y_t + \phi_2 E Y_{t-2} Y_t + \dots + \phi_p E Y_{t-p} Y_t + E e_t Y_t$$

$$E Y_t Y_{t-1} = \phi_1 E Y_{t-1} Y_{t-1} + \phi_2 E Y_{t-2} Y_{t-1} + \dots + \phi_p E Y_{t-p} Y_{t-1} + E e_t Y_{t-1}$$

...

$$E Y_t Y_{t-s} = \phi_1 E Y_{t-1} Y_{t-s} + \phi_2 E Y_{t-2} Y_{t-s} + \dots + \phi_p E Y_{t-p} Y_{t-s} + E e_t Y_{t-s}$$

$$\gamma(s) = \phi_1 \gamma(s-1) + \phi_2 \gamma(s-2) + \dots + \phi_p \gamma(s-p) \quad s = 0, 1, 2, \dots, p \quad (1)$$

In matrix notation, (1) becomes

$$\begin{bmatrix} \gamma_1 \\ \gamma_2 \\ \gamma_3 \\ \vdots \end{bmatrix} = \begin{bmatrix} \gamma_0 & \gamma_{-1} & \gamma_{-2} & \dots \\ \gamma_1 & \gamma_0 & \gamma_{-1} & \dots \\ \gamma_2 & \gamma_1 & \gamma_0 & \dots \\ \vdots & \vdots & \vdots & \ddots \end{bmatrix} \begin{bmatrix} \phi_1 \\ \phi_2 \\ \phi_3 \\ \vdots \end{bmatrix} \Rightarrow \hat{\phi} = \Gamma_p^{-1} \hat{\gamma}_p$$

Obtain estimate of ϕ_1, \dots, ϕ_p .

For $s=0, \sigma_e^2 = \gamma(0) - \phi_1 \gamma(1) - \phi_2 \gamma(2) - \dots - \phi_p \gamma(p)$ which allows us to solve σ_e^2 .

The above equations (the Yule-Walker equations) provide one route to estimating the parameters of an AR(p) model, by replacing the theoretical covariances with estimated values. One way of specifying the estimated covariances is equivalent to a calculation using least squares regression of values X_t on the p

previous value of the same series. ,then estimate σ_e^2 by plugging in $\hat{\phi}_1, \dots, \hat{\phi}_p$, $\sigma_e^2 = \hat{\gamma}(0) - \hat{\gamma}'_p \hat{\Gamma}_p^{-1} \hat{\gamma}_p$.

The direct matrix inversion can be very troublesome for large sample size and moderate order p. In practice, a recursive scheme such as the Durbin-Levinson algorithm is used.

2. Why doesn't Y-W approach work for MA and ARMA models? Part I

Note that MA models are not linear models even if conditioned on a set of initial values. In this case Y-W estimators are not all similar to least squares and are, therefore, suboptimal.

Y

Consider MA(1) model $Y_t = e_t - \theta e_{t-1}$. Then, the moment equations would

$$\text{give us } \rho(1) = \frac{\theta}{1 + \theta^2};$$

therefore, $\hat{\rho}_1 = \frac{\hat{\theta}}{1 + \hat{\theta}^2}$. Out of the two solutions, choose the invertible one, note that it is not always true

that $|\hat{\rho}_1| \leq 0.5$ due to computation errors; thus, the real-valued solution may not exist at all.

3. Why doesn't Y-W approach work for MA and ARMA models? Part II

It can be shown that that solution is

$$\hat{\theta} \sim AN\left(\theta, \frac{1 + \theta^2 + 4\theta^4 + \theta^6 + \theta^8}{n(1 - \theta^2)^2}\right) \text{ where AN stands for "asymptotically normal".}$$

The asymptotic variance can be 3.5 times larger than the variance of the MLE for some values of θ ... thus, a new approach needed.

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CHAPTER 8 Building ARMA models

教学目的与基本要求：

Box and Jenkins (1970) were the first to approach the task of estimating an ARMA model in a systematic manner. There are 3 steps to their approach: Identification, Estimation, and Model diagnostic.

In this chapter, student should grasp the following concepts and principles: estimating an ARMA model in a systematic manner, Information Criteria for Model Selection, diagnostic of residuals, and forecasting.

学时分配：6学时

1. The approach estimating an ARMA model in a systematic manner

Step 1:

- Involves determining the order of the model
- Use of graphical procedures

--A better procedure is now available

Step2:

--Estimation of the parameters

--Can be done using least squares or maximum likelihood depending on the model

Step 3

--Model checking

Box and Jenkins suggest 2 methods:

--overfitting

--residual diagnostics

Some more recent development in ARMA modeling

Identification would typically not be done using ACF's and PACF's plots.

2. Information Criteria for Model Selection

The information criteria vary according to how stiff the penalty term is. The three most popular criteria are Akaike's (1974) information criterion (AIC), Schwarz's (1978) Bayesian information criterion (SBIC), and the Hannan-Quinn criterion (HQIC)

$$AIC = \ln(\hat{\sigma}^2) + 2k/T$$

$$SBIC = \ln(\hat{\sigma}^2) + \frac{k}{T} \ln T$$

$$HQIC = \ln(\hat{\sigma}^2) + \frac{2k}{T} \ln(\ln(T)) \text{ where } k=p+q+1$$

Where $k=p+q+1$, T =sample size. So we min. IC s.t. $p \leq \bar{p}$, $q \leq \bar{q}$, SBIC embodies a stiffer penalty term than AIC.

3. Diagnostic tests for residuals

i. Test of whether the kth order autocorrelation is significantly different from zero:

The null hypothesis: there is no residual autocorrelation up to order s

The alternative: there is at least one nonzero autocorrelation

$$H_0 : r_k = 0 \text{ and } k=1, \dots, s$$

$$H_1 : r_k \neq 0 \text{ for at least one } k=1, \dots, s$$

where r_k is the k -th autocorrelation.

If the null is rejected, then at least one r is significantly different from zero. The null is rejected for large values of Q . If there are any remaining residual autocorrelation, must use a higher order of lag.

· The Box-Pierce Q-statistics (Portmanteau test for residual autocorrelation)

$$Q = T \sum_{k=1}^s r_k^2 \sim \chi^2(s)$$

T=# observations.

But not reliable for small samples and it has reduced power for large s . Instead, use

· Ljung-Box Q statistics:

$$Q_{LB} = T(T+2) \sum_{k=1}^s r_k^2 / (T-k)$$

With similar null and alternative hypotheses.

It can also be used to check if the residuals from an estimated ARMA(p, q) model are white noise (adjust for the lags in AR(p) and MA(q)):

$Q \sim \chi^2(s-p-q)$ or $\chi^2(s-p-q-1)$ with a constant.

ii. Breusch-Godfrey(LM) test for autocorrelation for AR models for residuals:

The test is named after Trevor S. Breusch and Leslie G. Godfrey.

Suppose the model you estimate is an AR(p):

$$y_t = \gamma + \sum_{j=1}^p \alpha_j y_{t-j} + u_t$$

You fit an auxiliary equation (*) $\hat{e}_t = \sum_{j=1}^p \phi_j y_{t-j} + \sum_{i=1}^h \beta_i \hat{e}_{t-i} + error_t$ where \hat{e}_t is the OLS residual from the AR(p) model for y.

$$H_0 : \beta_1 = \dots = \beta_h = 0$$

$$H_1 : \beta_1 \neq 0 \text{ or } \beta_2 \neq 0, \dots$$

The LM statistics for the null: $LM_h = T \cdot R^2 \sim X^2(h)$, WHERE R^2 is obtained from fitting (*).

For better small sample properties use an F version:

$$FML_h = \frac{R^2}{1-R^2} \frac{T-p-h-1}{h} \sim F(h, T-p-h-1)$$

Computing and interpreting the Durbin-Watson statistic

If e_t is the residual associated with the observation at time t, then the test statistic is

$$d = \frac{\sum_{t=2}^T (\hat{e}_t - \hat{e}_{t-1})^2}{\sum_{t=1}^T \hat{e}_t^2} = 2(1 - \rho)$$

o test for **positive autocorrelation** at significance α , the test statistic d is compared to lower and upper critical values ($d_{L,\alpha}$ and $d_{U,\alpha}$):

· If $d < d_{L,\alpha}$, there is statistical evidence that the error terms are positively autocorrelated.

· If $d > d_{U,\alpha}$, there is **no** statistical evidence that the error terms are positively autocorrelated.

· If $d_{L,\alpha} < d < d_{U,\alpha}$, the test is inconclusive.

To test for negative autocorrelation at significance α , the test statistic $(4-d)$ is compared to lower and upper critical values ($d_{L,\alpha}$ and $d_{u,\alpha}$):

· If $(4-d) < d_{L,\alpha}$, there is statistical evidence that the error terms are negatively autocorrelated.

· If $(4-d) > d_{U,\alpha}$, there is **no** statistical evidence that the error terms are negatively autocorrelated.

· If $d_{L,\alpha} < (4-d) < d_{U,\alpha}$, the test is inconclusive.

iii. Jarque-Bera test for nonnormality

It tests if the standardized residuals are normally distributed, based on the third and fourth moments, by measuring the difference of the skewness and the kurtosis of the series with those from the normal distribution.

$$H_0 : E(e_t^h)^3 = 0 \text{ (skewness) and } E(e_t^h)^4 = 3 \text{ (kurtosis)}$$

$$H_1 : E(e_t^h)^3 \neq 0 \text{ or } E(e_t^h)^4 = 3$$

JB $\sim \chi^2(2)$ and the null is rejected if JB is large. In this case, residuals are considered nonnormal.

Note:

· most of the asymptotic results are also valid for nonnormal residuals.

· the results may be due to nonlinearities. Then you should look into ARCH effects or structural changes.

iv. ARCH-LM test for conditional heteroscedasticity

Fit an ARCH(q) model to the estimation of the residuals

$$\hat{e}_t^2 = \sum_{i=0}^q \beta_i \hat{e}_{t-i}^2 + error_t \quad \text{and test if}$$

$$H_0 : \beta_1 = \dots = \beta_q = 0$$

$$H_1 : \beta_1 \neq 0 \quad \text{or} \quad \beta_2 \neq 0, \dots$$

ARCH-LM(q) $\sim \text{TR}^2 \sim \chi^2(q)$. Large values of ARCH-LM show that the null is rejected and there are ARCH effects in the residuals. Then fit an ARCH or GARCH model.

v. RESET

Tests a model specification against alternatives (nonlinear).

Ex: you are estimating a model

$$y_t = ax_t + bz_t + u_t$$

Where z can be missing variable(s) or a multiplicative relation. The test checks if powers of predicted values of y is significant. These consist of the powers and cross-product terms of the explanatory variables:

$$z_t = \{\hat{y}_t^2, \hat{y}_t^3, \dots\}$$

$$H_0 : b = 0 \text{ --no misspecification}$$

The test statistics has an F(h-1, T) distribution. The null is rejected if the test statistics is too

large.
$$F = \frac{ESS/k}{RSS/(T-p-q-s-1)}$$

vi. Stability analysis

Recursive plot of residuals, of estimated coefficients;

CUSUM test (cumulative sum of recursive residuals): if the plot diverges significantly from the zero line, it suggests structural instability.

CUSUMSQR (square of CUSUM) in case there are several shifts in different directions.

Chow test: for exogenous break points.

Chow Test for Structural Stability

A series of data can often contain a structural break, due to a change in policy or sudden shock to the economy, i.e. 1987 stock market crash. In order to test for a structural break, we often use the Chow test, this is Chow's first test (the second test relates to predictions). The model in effect uses an F-test to determine whether a single regression is more efficient than two separate regressions involving splitting the data into two sub-samples. This could occur as follows, where in the second case we have a structural break at t:

In the first case we have just a single regression line to fit the data points (scatterplot), it can be expressed as:

$$y_t = \alpha_0 + \alpha_1 x_t + u_t$$

In the second case, where there is a structural break, we have two separate models, expressed as:

$$y_t = \beta_1 + \beta_2 x_t + u_{1t}$$

$$y_t = \delta_1 + \delta_2 x_t + u_{2t}$$

The stages in running the Chow test are:

- 1) Firstly run the regression using all the data, before and after the structural break, collect RSS_c.
- 2) Run two separate regressions on the data before and after the structural break, collecting the RSS in both cases, giving RSS₁ and RSS₂.
- 3) Using these three values, calculate the test statistic from the following formula:

$$F = \frac{RSS_c - (RSS_1 + RSS_2) / k}{RSS_1 + RSS_2 / n - 2k}$$

- 4) Find the critical values in the F-test tables, in this case it has F(k, n-2k) degrees of freedom.
- 5) Conclude, the null hypothesis is that there is no structural break.

4. Forecasting

Forecasting is a common objective of many time-series models and begins with a loss function. A loss function has the three following properties:

- The loss of an error is non-negative
- There exists a point, c where the loss function takes the value 0.
- The loss is non-decreasing away from c.

The most common loss function is the Mean-Square error (MSE) which chooses the forecast to minimize $E[(Y_{t+h} - \hat{Y}_{t+h|t})^2]$

where $\hat{Y}_{t+h|t}$ is the time t forecast of y_{t+h} . Notice that this is just the optimal projection problem and the optimal forecast is the best linear model for the mean. Other loss functions include Mean Absolute Deviation (MAD), Quad-Quad and Linex.

拓展阅读书目:

1. Time Series Analysis with Applications in R (2008) by Jonathan D. Cryer and Kung-Sik Chan; Springer.
2. Time Series Analysis (1994) by James D. Hamilton.
3. Applied Econometric Time Series by Walter Enders.

CHAPTER 9 Modelling nonstationarity, decomposition

教学目的与基本要求:

Firstly to introduce the framework econometricists use to think about nonstationarity. Then to focus on the decomposition of nonstationarity time series. Relevant terms should be mentioned in this section: Deterministic trend and Stochastic trend, ARIMA model, I(1) processes, Unit root tests, Prediction with ARIMA model.

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1. Transforming non-stationary series to stationarity:

Using the **Additive decomposition**:

$$Y_t = T_t + S_t + R_t$$

Tt: trend(-cycle), St: seasonal component, Rt: **stationary** component.

Mean (and variance) of nonstationary Tt and St evolve over time.

Conventional assumption to distinguish Tt and St:

$$E(S_t + S_{t+1} + S_{t+2} + S_{t+3}) = 0 \text{ for quarterly data.}$$

Use the log transformation for a **multiplacative decomposition**.

Deterministic Trend(DT) and interval forecasting

The simplest deterministic trend model is the **lineartime trend**:

$$Y_t = \alpha + \beta t + e_t,$$

so that mean growth β is derived from

$$\Delta Y_t = \beta + e_t - e_{t-1}$$

And h-step prediction $Y_{n+h} : \hat{Y}_{n+h} = \alpha + \beta(n+h)$ and

$$E[(Y_{n+h} - \hat{Y}_{n+k})^2] \sim \sigma_e^2, \quad h \rightarrow \infty, \quad h/n \rightarrow 0$$

Prediction interval stays finite for $h \rightarrow \infty$ if n grows at a faster rate.

2. Stochastic Trend

The simplest **stochastic trend model** is the **random walk model(with drift)**: $\Delta Y_t = a + e_t$,

$$\text{so that } Y_t = Y_1 + a(t-1) + \sum_{s=2}^t e_s$$

but

$$E[(Y_{n+h} - \hat{Y}_{n+k})^2] \sim h\sigma_e^2, \quad h \rightarrow \infty, \quad h/n \rightarrow 0$$

Prediction interval becomes infinitely large at rate $h^{1/2}$, even if we know the value of a!

In Finance (value-at-risk analysis), this is known as the root h-law for standard errors of multi-step predictions of logs of stock prices.

3. ARIMA forecasting in Eviews

To forecast by ARIMA models use “Auto-Series”: an Eviews-expression in place of a series. This allows forecasting for “differenced” and “level” series using one menu.

E.g. for forecasting $(1-L)^d(1-L^s)Y_t = \mu + (1-\theta L)(1-\Theta L^s)e_t$ use:

Ls d(y,n,s) MA(1) SNA(s) c mean of d(y,n,s)

forecast(d) ’ multistep forecast of d(y,n,s)

forecast(u) ’ multistep forecast of y

forecast(s) ’ forecast regression part only’ here: only the constant mean term

4. Unit Roots and Characteristic Roots

One way to determine if an AR(p) process such as:

$$Y_t = \phi_1 Y_{t-1} + \phi_2 Y_{t-2} + \dots + \phi_p Y_{t-p} + e_t$$

is stationary is to look at the roots of the characteristic equation. This equation is obtained by expressing the process in lag polynomial notation:

$$(1 - \phi_1 L - \phi_2 L^2 - \dots - \phi_p L^p) Y_t = e_t$$

To get the characteristic equation, replace the lag operator L by a variable (call it z), and set the resulting polynomial equal to zero:

$$1 - \phi_1 z - \phi_2 z^2 - \dots - \phi_p z^p = 0$$

The characteristic roots are the values of z that solve this equation. There are p of them, although some of them may be equal. Y_t is stationary if all of the roots lie outside the unit circle. This phrase reflects the fact that some may be complex numbers. If there are real numbers (that is, none of the roots are complex), then we can say that Y_t is stationary if the absolute values of all of these real roots are greater than one. If a root equals one or minus one, it is called a unit root. If there is at least one unit root, or if any root lies between plus and minus one, then the series is not stationary.

For example, the AR(1) process: $Y_t = \phi_1 Y_{t-1} + e_t$ has a characteristic equation: $1 - \phi_1 z = 0$ and its one characteristic root is $z = 1/\phi_1$. The series is stationary as long as $\phi_1 < 1$ which is the same condition as $|z| > 1$.

For ARMA(p, q) processes, the MA(q) part is irrelevant for determining stationarity, so the MA(q) part can be ignored as long as q is finite.

The roots of a quadratic equation $az^2 + bz + c = 0$ are $z = [-b \pm \sqrt{b^2 - 4ac}]/(2a)$. You may also be able to find roots by factoring. For a quadratic, for example, look for values of d, e, f, g such that $az^2 + bz + c = (d - ez)(f - gz) = 0$. Then the characteristic roots are $z^* = d/e$ and $z^* = f/g$.

拓展阅读书目:

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CHAPTER 10 Seasonality and Diurnality

教学目的与基本要求:

Chapter 10 shows how the time series is decomposed by the technological process.

Then it returns to how to interpret them in the light of the methods we have developed.

Whether and how Seasonality and Diurnality can be realized by Eviews.

Relevant terms should be grasped: Seasonality, Diurnality, and Multiplicative Seasonal ARIMA.

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1. Seasonality

Cyclical movements observed in daily, monthly or quarterly data. Often it is useful to remove it if it is visible in lags $s, 2s, 3s, \dots$ of the ACF and the PACF. You add an AR or MA coefficient at the appropriate lag.

Possibilities:

Quarterly seasonality with MA at lag 4:

$$x_t = a_1x_{t-1} + e_t + b_1e_{t-1} + b_4e_{t-4}$$

Quarterly seasonality with AR at lag 4:

$$x_t = a_1x_{t-1} + a_4x_{t-4} + e_t + b_1e_{t-1}$$

Multiplicative seasonality

Accounts for interaction of the ARMA and seasonal effects.

MA term at lag 1 interacting with the seasonal MA term at lag 4:

$$(1 - a_1L)x_t = (1 + b_1L)(1 + b_4L^4)e_t$$

$$x_t = a_1x_{t-1} + e_t + b_1e_{t-1} + b_4e_{t-4} + b_1e_{t-1}b_4e_{t-4}$$

AR term at lag 1 interacting with the seasonal AR term at lag 4:

$$(1 - a_1)(1 - a_4L^4)x_t = (1 + b_1L)e_t$$

$$x_t = a_1x_{t-1} + a_4x_{t-4} - a_1a_4x_{t-1}x_{t-4} + e_t + b_1e_{t-1}$$

One solution to remove strong seasonality is to transform the data by seasonal differencing.

Quarterly data:

$$y_t = (1 - L^4)x_t$$

If the data is not stationary, then also need to first difference it:

$$y_t = (1 - L)(1 - L^4)x_t$$

2. Eviews:

Several methodologies for seasonal adjustment

Series—Proc—Seasonal Adjustment

Census X12

Census 11

Moving Average Methods

Tramo-Seat method

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CHAPTER 11 ARCH/GARCH Models

教学目的与基本要求:

This chapter dwells on the regression of ARCH/GARCH Models. Before we get to the more modern approach of dealing with serial correlation, I want to have a brief aside on ARCH/GARCH models. Traditionally, we have been alert to the possibility of heteroskedasticity in cross-sectional data and to

autocorrelation in time series data. However, Engle (1982) suggested that heteroskedasticity might also be a problem in time series contexts – he had noticed that large and small errors tended to occur in clusters in speculative financial markets such as exchange rates and stock market returns. Engle proposed the ‘autoregressive conditional heteroskedasticity (ARCH)’ model to look at heteroskedasticity in time series data. In other words, ARCH models help us when we are interested in the mean *and* variance of time series. The ARCH model has been expanded in a number of different ways and has been gradually adopted by some political scientists (Maestas & Preuhs 2000, Leblang & Bernhard 2006, Bernhard & Leblang 2006). These models can be useful if we are interested in understanding why a time series is more or less volatile.

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1. ARCH Models

Consider the following model.

$$Y_t = \rho Y_{t-1} + X\beta + \varepsilon_t \quad (24)$$

We typically treat the variance of $\varepsilon_t = \sigma^2$ as a constant. However, we might think to allow the variance of the disturbance to change over time i.e. the conditional disturbance variance would be σ_t^2

Engle postulated that the conditional disturbance variance should be modeled as:

$$\sigma_t^2 = \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + \dots + \alpha_p \varepsilon_{t-p}^2 \quad (25)$$

The lagged ε^2 terms are called ARCH term and you can see why this is an ‘autoregressive’ or AR process.

The Eq.(25) specifies an ARCH model of order p i.e. an ARCH(p) model. The conditional disturbance variance is the variance of ε_t conditional on information available at time $t-1$ i.e.

$$\begin{aligned} \sigma_t^2 &= \text{var}(\varepsilon_t | \varepsilon_{t-1}, \dots, \varepsilon_{t-p}) \\ &= E(\varepsilon_t^2 | \varepsilon_{t-1}, \dots, \varepsilon_{t-p}) \quad (26) \\ &= E_{t-1}(\varepsilon_t^2) \end{aligned}$$

where E_{t-1} indicates taking an expectation up to the end of period $t-1$.

We can test for ARCH effects by:

- 1). Run a regression of Y on X . Obtain the residuals $\hat{\varepsilon}_t$.
- 2). Compute the OLS regression: $\hat{\varepsilon}_t^2 = \hat{\alpha}_0 + \hat{\alpha}_1 \hat{\varepsilon}_{t-1}^2 + \dots + \hat{\alpha}_p \hat{\varepsilon}_{t-p}^2$
- 3). Test the joint significance of $\hat{\alpha}_1, \hat{\alpha}_2, \hat{\alpha}_3$, etc.

e.g. The simplest model is an ARCH(1) model. In other words, the conditional disturbance variance i.e. $\text{var}(\varepsilon_t | \varepsilon_{t-1})$ is

$$\sigma_t^2 = \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 \quad (30)$$

And hence our model is

$$Y_t = \rho Y_{t-1} + X\beta + v_t \sqrt{\alpha_0 + \alpha_1 \varepsilon_{t-1}^2} \quad (31)$$

It follows that

$$\begin{aligned} E[\varepsilon_t] &= E[v_t \sqrt{\alpha_0 + \alpha_1 \varepsilon_{t-1}^2}] \\ &= E[v_t] E[\sqrt{\alpha_0 + \alpha_1 \varepsilon_{t-1}^2}] = 0 \end{aligned} \quad (32)$$

since $E[v_t]=0$. It also follows that $E[Y_t]=X\beta$. As a result, it is easy to see that this setup is a classical regression model.

While the unconditional disturbance variance (long-run variance) is constant i.e.¹²

¹²To see where this comes from, see Greene (2003, 238-239). This equation requires that we impose the constraints that $\alpha_0 > 0$ and that $0 < \alpha_1 < 1$ in order to keep the variance of the ε_t s positive (and stationary).

$$\text{var}(\varepsilon_t) = \frac{\alpha_0}{1 - \alpha_1} \quad (33)$$

We already know that the conditional disturbance variance (short-run variance) varies over time i.e. $\text{var}(\varepsilon_t | \varepsilon_{t-1}) = \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 = \sigma_t^2$ (34)

In other words, the disturbance ε_t is conditionally heteroskedastic with respect to ε_{t-1} .

The ARCH(1) model gets us the following features

- The short-run (conditional) variance (volatility) of the series is a function of the immediate past values of the (square of the) error term.

- This means that the effect of each new shock ε_t depends, in part, on the size of the shock in the previous period: A large shock in period t , increases the effect on Y of shocks in periods $t+1, t+2$ etc.

- This means that large shocks cluster together and the series goes through periods of large volatility and periods of low volatility.

2. GARCH Models

The simplest GARCH model is the GARCH(1,1) model i.e.

$$\sigma_t^2 = \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + \gamma_1 \sigma_{t-1}^2 \quad (36)$$

Successive substitution into the RHS of Eq.(36) leads to

$$\begin{aligned} \sigma_t^2 &= \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + \gamma_1 \sigma_{t-1}^2 \\ &= \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + \gamma_1 (\alpha_0 + \alpha_1 \varepsilon_{t-2}^2 + \gamma_1 \sigma_{t-2}^2) \\ &= \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + \gamma_1 \alpha_0 + \gamma_1 \alpha_1 \varepsilon_{t-2}^2 + \gamma_1^2 \sigma_{t-2}^2 \\ &\vdots \\ &= \frac{\alpha_0}{1 - \gamma_1} + \alpha_1 (\varepsilon_{t-1}^2 + \gamma_1 \varepsilon_{t-2}^2 + \gamma_1^2 \varepsilon_{t-3}^2 \dots) \end{aligned}$$

3. Extensions

There are many, many extensions to these basic models. Two are shown below:

- ARCH-in-mean (ARCH-M)

Basically, this model allows the ARCH effects to appear in the mean of Y as well as its variance.

Thus, the model would be

$$Y_t = \beta X_t + \delta \sigma_t^2 + \varepsilon_t \quad (39)$$

This sort of model might be appropriate where, say, returns to investment depend on risk as reflected in volatility.

- Exponential ARCH/GARCH (E-(G)ARCH) The ARCH/GARCH models treat errors as symmetric i.e. positive and negative shocks affect the conditional variance in the same way.

However, you might think that actors respond to news asymmetrically i.e. bad news (negative shocks) might lead to greater volatility than good news (positive shocks). The E-(G)ARCH model allows

shocks to have an asymmetric effect on the conditional variance.

There are a bunch of other models i.e. I-GARCH and FI-GARCH (Leblang & Bernhard 2006) and others.

4. Error Correction Model

ECM Equivalence with ADL(1,1) Model

It is easy to see that we can get an ECM by starting with an ADL(1,1) model.

$$Y_t = \beta_0 X_t + \beta_1 X_{t-1} + \rho Y_{t-1} + v_t \quad (73)$$

Subtract Y_{t-1} from both sides.

$$\Delta Y_t = \beta_0 X_t + \beta_1 X_{t-1} + (\rho - 1) Y_{t-1} + v_t \quad (74)$$

Let $(\rho - 1) = \gamma$ i.e.

$$\Delta Y_t = \beta_0 X_t + \beta_1 X_{t-1} + \gamma Y_{t-1} + v_t \quad (75)$$

$\Delta X_t = X_t - X_{t-1}$. Thus, $X_t = \Delta X_t + X_{t-1}$. Substitute this in for X_t gives

$$Y_t = \beta_0 X_t + \beta_0 X_{t-1} + \beta_1 X_{t-1} + \gamma Y_{t-1} + v_t = \beta_0 X_t + (\beta_0 + \beta_1) X_{t-1} + \gamma Y_{t-1} + v_t \quad (76)$$

Let $\beta_2 = \beta_0 + \beta_1$. This gives:

$$\Delta Y_t = \beta_0 \Delta X_t + \beta_2 X_{t-1} + \gamma Y_{t-1} + v_t \quad (77)$$

We want a situation in which we have a $Y_{t-1} - X_{t-1}$, so rearrange (77) so that we have:

$$\Delta Y_t = \beta_0 \Delta X_t + \gamma [Y_{t-1} + \beta_2/\gamma X_{t-1}] + v_t \quad (78)$$

Thus, the error correction model can be written as:

$$\Delta Y_t = \beta_0 \Delta X_t + \gamma [Y_{t-1} - \beta_3 X_{t-1}] + v_t \quad (79)$$

Where $\beta_3 = -\beta_2/\gamma = -(\beta_0 + \beta_1)/\gamma$

And $\gamma = \rho - 1$. In other words, the following ADL(1,1) model

$$Y_t = \beta_0 X_t + \beta_1 X_{t-1} + \frac{1}{2} Y_{t-1} + v_t \quad (80)$$

Can be rewritten as the following error correction model

$$\begin{aligned} \Delta Y_t &= \beta_0 \Delta X_t + (\rho - 1) \left[Y_{t-1} - \left(\frac{-(\beta_0 + \beta_1)}{\rho - 1} \right) X_{t-1} \right] + v_t \\ &= \beta_0 \Delta X_t + (\rho - 1) \left[Y_{t-1} + \left(\frac{\beta_0 + \beta_1}{\rho - 1} \right) X_{t-1} \right] + v_t \end{aligned}$$

5. ECM in Lag Operator Form

We can write the error correction model in lag operator form as well. Start with (79).

$$\Delta Y_t = \beta_0 \Delta X_t + \gamma [Y_{t-1} - \beta_3 X_{t-1}] + v_t$$

$$Y_t - Y_{t-1} = \beta_0 X_t - \beta_0 X_{t-1} + \gamma Y_{t-1} - \gamma \beta_3 X_{t-1} + v_t$$

$$Y_t - Y_{t-1} - \gamma Y_{t-1} = \beta_0 X_t - \beta_0 X_{t-1} + \gamma \beta_3 X_{t-1} + v_t$$

$$Y_t (1 - (1 + \gamma)L) = (\beta_0 - (\beta_0 + \gamma \beta_3)L) X_t + v_t$$

Since $\gamma = \rho - 1$, $\beta_3 = \frac{-\beta_2}{\gamma}$ and $\beta_2 = \beta_0 + \beta_1$, this can be rewritten as: (82)

$$Y_t (1 - (1 + \rho - 1)L) = \left(\beta_0 - \left(\beta_0 + \gamma \left(\frac{-\beta_0 - \beta_1}{\gamma} \right) \right) L \right) X_t + v_t$$

$$Y_t (1 - \rho L) = (\beta_0 + \beta_1 L) X_t + v_t$$

$$Y_t = \left(\frac{\beta_0 + \beta_1 L}{1 - \rho L} \right) X_t + \frac{v_t}{(1 - \rho L)}$$

Note that this is exactly the same as the ADL model written in lag operator form shown in Eq.(68).

This is as one would expect given that we have just seen that the ADL model and error correction model are exactly equivalent.

6. Estimating an ECM Model

· There are two ways to estimate an ECM model. 1. Engle-Granger Two Step Procedure Estimate the following regression: $Y_t = \alpha + \gamma X_t + \varepsilon_t$ In STATA, type regress Y X

· From these estimates, generate the residuals i.e. $e_t = Y_t - \alpha - \gamma X_t$. This is how much the system is out of equilibrium. In STATA, type predict e, resid

· Now include the lag of the residuals from the initial regression, so that we have $\Delta Y_t = \beta_0 + \beta_1 \Delta X_{t-1} + e_{t-1}$. In STATA, type regress d.Y L.d.X L.e

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CHAPTER 12 Intervention analysis with time series data

教学目的与基本要求：

Intervention analysis is the application of modeling procedures for incorporating the effects of exogenous forces or interventions in time series analysis. These interventions, like policy changes, strikes, floods, and price changes, cause unusual changes in time series, resulting in unexpected, extraordinary observations known as outliers. Specifically, four types of outliers resulting from interventions, additive outliers (AO), innovational outliers (IO), temporary changes (TC), and level shifts (LS), have generated a lot of interest in literature. They pose nonstationarity challenges, which cannot be represented by the usual Box and Jenkins (1976) autoregressive integrated moving average (ARIMA) models alone.

The most popular modeling procedures are those where "intervention" detection and estimation is paramount. Box and Tiao (1975) pioneered this type of analysis in their quest to solve the Los Angeles pollution problem.

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1. Intervention Models and Interrupted Time Series

One special kind of ARIMA model with input series is called an intervention model or interrupted time series model. In an intervention model, the input series is an indicator variable that contains discrete values that flag the occurrence of an event affecting the response series. This event is an intervention in or an interruption of the normal evolution of the response time series, which, in the absence of the intervention, is usually assumed to be a pure ARIMA process.

Intervention models can be used both to model and forecast the response series and also to analyze the impact of the intervention. When the focus is on estimating the effect of the intervention, the process is often called intervention analysis or interrupted time series analysis.

In order to explicitly evaluate the effect of the seat belt law, we extend the previous explanatory model as follows

$$y_t = \mu_t + \gamma_t + \lambda w_t + \beta x_t + \varepsilon_t, \quad \varepsilon_t \sim \text{NID}(0, \sigma_\varepsilon^2)$$

where w_t is a dummy level intervention variable consisting of zeroes for the 169 time points up to the introduction of the seat belt law in February 1983, and of ones for the 23 time points at and after its introduction, and is an unknown regression coefficient.

2. Impulse Interventions

The intervention can be a one-time event. For example, you might want to study the effect of a short-term advertising campaign on the sales of a product. In this case, the input variable has the value of 1 for the period during which the advertising campaign took place and the value 0 for all other periods. Intervention variables of this kind are sometimes called impulse functions or pulse functions.

Suppose that SALES is a monthly series, and a special advertising effort was made during the month of March 1992. The following statements estimate the effect of this intervention by assuming an ARMA(1,1) model for SALES. The model is specified just like the regression model, but the intervention variable AD is constructed in the DATA step as a zero-one indicator for the month of the advertising effort.

```
data a;
set a;
ad = (date = '1mar1992'd);
run;
proc arima data=a;
identify var=sales crosscorr=ad;
estimate p=1 q=1 input=ad;
run;
```

3. Continuing Interventions

Other interventions can be continuing, in which case the input variable flags periods before and after the intervention. For example, you might want to study the effect of a change in tax rates on some economic measure. Another example is a study of the effect of a change in speed rates on some economic measure. Another example is a study of the effect of a change in speed limits on the rate of traffic fatalities. In this case, the input variable has the value 1 after the new speed limit went into effect and the value 0 before. Intervention variables of this kind are called step functions.

Another example is the effect of news on product demand. Suppose it was reported in July 1996 that consumption of the product prevents heart disease (or causes cancer), and SALES is consistently higher (or lower) thereafter. The following statements model the effect of this news intervention:

```
data a;
set a;
news = (date >= '1jul1996'd);
run;
proc arima data=a;
identify var=sales crosscorr=news;
estimate p=1 q=1 input=news;
run;
```

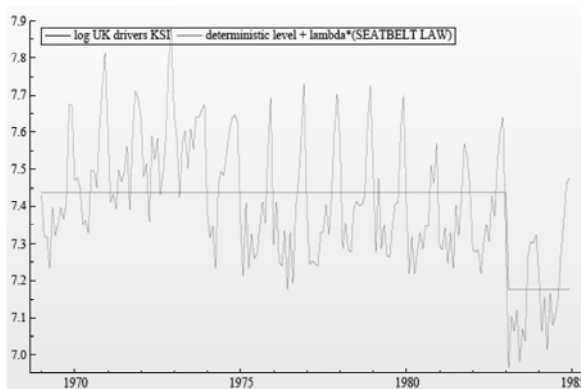
4. Interaction Effects

You can include any number of intervention variables in the model. Intervention variables can have any pattern—impulse and continuing interventions are just two possible cases. You can mix discrete

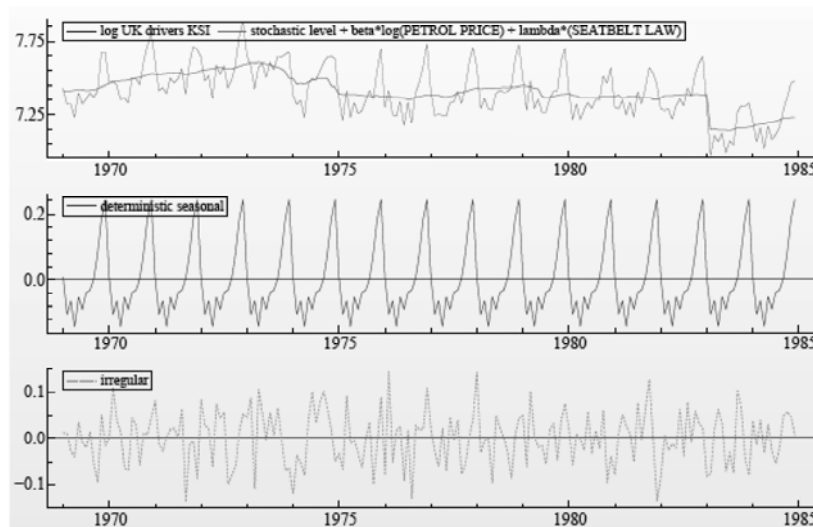
valued intervention variables and continuous regressor variables in the same model.

You can also form interaction effects by multiplying input variables and including the product variable as another input. Indeed, as long as the dependent measure is continuous and forms a regular time series, you can use PROC ARIMA to fit any general linear model in conjunction with an ARMA model for the error process by using input variables that correspond to the columns of the design matrix of the linear model.

5. Illustration of level intervention



Results of intervention analysis



Second approach: using a reference group

- To emulate a randomized controlled trial more closely, we can also use a control or reference group, if available (see also Hauer, 1997)

- This reference group should preferably be as similar as possible to the treatment group, except that it is not subject to the measure to be evaluated

- For the UK, monthly time series are available both for the numbers of front seat car passengers KSI, and for the numbers of rear seat car passengers KSI

- The seat belt law of February 1983 applied to drivers and front seat car passengers only, not to rear seat car passengers

- We therefore handle the front seat car passengers KSI as treatment series, and the rear seat car passengers KSI as reference or control series

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SYLLABUS OF FINANCIAL MARKETS AND INSTITUTION

WENZHAO TIAN 编写

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SYLLABUS OF FINANCIAL MARKETS AND INSTITUTION

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FINANCIAL ASSETS

An asset is any possession that has value in an exchange. It can be tangible or intangible, the latter being a financial asset. Specifically, a financial asset is a claim to a future benefit. For example, in the case of an automobile loan the borrower issues a note to the lender, who now holds a claim to future cash flows.

Debt versus Equity Instruments

A debt instrument is a contractual claim, paying fixed dollar amounts. An equity instrument (or residual claim) obligates the issuer to pay the holder an amount based on earnings after holders of debt instruments are paid. Some securities combine both debt and equity features, such as preferred stock or convertible debt.

Price of a Financial Asset and Risk

The price (or value) of any financial asset is equal to the present value of expected cash flows. The return on an asset is the amount paid to the investor relative to the price paid by him. Related to return is the degree of risk, namely the certainty of expected cash flows. The degree of risk ranges from very low -- as in the case of payments on U.S. Treasury securities -- to very high in the cases of some equities and low-rated bonds. Uncertainty or risk takes several forms: (1) purchasing power risk (or inflation risk); (2) credit or default risk; (3) foreign exchange risk.

Financial Assets versus Tangible Assets

Both types of assets are expected to generate cash flows to their owners. They are also linked in the sense that tangible assets are financed by the issuance of some type of financial claim, e.g. mortgages finance commercial buildings. The use of the offices generates income that helps pay off the loan.

Role of Financial Assets

The principal economic functions of financial assets are: (1) to transfer funds from persons who have surplus funds to those who need funds to invest in tangible assets (e. g. mortgage funds lending to homebuyers); (2) transfer funds in such a way as to redistribute the unavoidable risk associated with the cash flow generated by tangible assets among those seeking and those providing the funds (seekers of funds ask others to share the risks in their undertakings).

FINANCIAL MARKETS

Financial markets where financial assets are exchanged. Delivery of the actual asset may occur immediately (spot or cash market) or in the future (future or forward market).

Role of Financial Markets

Financial markets provide the following functions.

1. Price discovery process. Price is determined by supply and demand, the interaction of buyers and sellers. The returns provide signals for funds allocations among investments;

2. Liquidity. Well-developed markets provide an opportunity to convert a financial asset into cash at close to real value of the asset;

3. Reduced transactions costs. In the price discovery process, searching for counter parties and information costs (assessing merits of an investment or the likelihood of expected cash flows) are costly. An informationally efficient market exists when prices reflect all information known by market participants.

Classification of Financial Markets

There are various ways to classify financial markets.

Maturity of claim. Money market for financial instruments a year or less to maturity. Capital market for securities longer than a year.

Seasoning of claim. Primary market is for new or first issue market. Secondary market involves sales of previously marketed claims.

Time of delivery. While prices are set immediately, the actual delivery of the financial asset may be now (spot or cash market) or later (futures or forward market).

Organizational structure. Auction market involving brokers acting for clients in organized exchanges, over-the-counter markets (OTC) wherein trades are made through dealers who buy for and sell from their own inventory. In intermediated markets, financial

institutions sell their own securities issues to customers and invest the proceeds.

Market Participants

Participants run the full range, from households, non-financial business firms, financial institutions, and public regulators.

GLOBALIZATION OF FINANCIAL MARKETS

The existence of foreign financial markets permits raising and investing funds outside of the domestic market. There is a trend toward integration of financial markets throughout much of the world. The factors that have led to integration are:

1. Deregulation or liberalization of markets to encourage competition;
2. Technological advances permit more information flows and rapid execution of orders;
3. Increased participation of financial institutions in global markets relative to individuals. Such firms are more willing and able to transfer funds to diversify their portfolios and to take advantage of possible mis-pricing in markets.

Classification of Global Financial Markets

Financial markets can be classified as either internal or external.

Internal: securities issued in the domestic or foreign markets. Foreigners can issue securities in other country markets, subject to national regulations, e.g., Japanese firms can issue dollar-denominated securities in the United States, but they must follow U.S. regulations, which apply to nationals and foreigners alike.

External: securities issued outside jurisdiction of any country, e.g., offshore or Eurodollar offerings can be dollar-denominated. They thereby fall outside of foreign rules, which are designed to deal with domestic financial concerns. The external market is sometimes called the offshore market or Euromarket.

Motivation for Foreign and Eurodollar Markets

Some funds needs cannot be met in small country markets, e.g. giant firm Philips cannot raise all the funds it needs if it is restricted to the Dutch capital market. Also, many underdeveloped nations simply do not have a sizeable capital market to meet their funds needs.

Lower funding costs when imperfections exist among capital markets, e.g. Eurodollar loans are often less expensive since institutions holding such funds are not hampered by regulations as would be the case in the U.S. market.

DERIVATIVE MARKETS

A derivative instrument is a financial asset whose value derives from the value of some other asset, index, or interest rate. A futures transaction is a contract that exchanges an asset or commodity at a fixed price in the future. In an option, owner has right but not the obligation to buy (call option) or sell (put option) an asset at a specified price. In a swap, parties exchange one form of cashflow for another, typically a fixed cashflow for a variable one.

Role of Derivative Instruments

Derivatives have several uses: (1) hedging interest rate risk and foreign exchange risk; (2) lower transactions costs than on cash market; (3) faster transactions than on the cash market; (4) greater liquidity than on the cash market.

ROLE OF THE GOVERNMENT IN FINANCIAL MARKETS

Justification for Regulation

The government plays a significant role in the financial markets. It regulates the financial markets. One justification for regulation is market failure, when the market's pricing mechanism is incapable of maintaining all the requirements of a competitive, efficient market. Regulation has several purposes: (1) to prevent issuers of securities from defrauding investors; (2) to promote competition and fairness in trading; (3) to promote the stability of financial institutions; (4) to restrict the activities of foreign concerns in domestic markets and institutions; (5) to control the level of economic activity.

Disclosure regulation is the form of regulation that requires issuers of securities to make public a large amount of financial information to investors. This addresses the problem of asymmetric information and the problem of agency.

Financial activity regulation consists of rules on trading financial assets.

Regulation of financial institutions is that form of governmental monitoring that restricts these institutions' activities in the vital areas of lending, borrowing and funding.

Regulation of foreign participants is that form of governmental activity that limits the roles foreign forms can have in domestic markets and their ownership or control of

financial institutions. Authorities use banking and monetary regulation to try to control changes in a country' s money supply.

Regulation in the United States

Regulation in the United States is largely due to the stock market crash of 1929 and the Great Depression of the 1930s.

CHAPTER 2 FINANCIAL INSTITUTIONS, FINANCIAL INTERMEDIARIES, AND ASSET MANAGEMENT FIRMS

FINANCIAL INSTITUTIONS

Financial institutions perform several important services:

1. Transforming financial assets acquired through the market and constituting them into a different, and more widely preferable, type of asset, which becomes their liability. This is the function performed by financial intermediaries.
2. Exchange financial assets for their customers, typically a function of brokers and dealers.
3. Exchange financial assets for their own account.
4. Create financial assets for their customers and sell them to other market participants—the underwriter this role.
5. Give investment advice to others and manage portfolios of customers.
6. Managing the portfolio of other market participants.

Financial intermediaries including depository institutions, which acquire the bulk of their funds by offering their liabilities to the public mostly in the form of deposits, insurance companies, pension funds, and finance companies.

ROLE OF FINANCIAL INTERMEDIARIES

Intermediaries obtain funds from customers and invest these funds. Such a role is called direct investment. Customers who give their funds to the intermediaries and who thereby hold claims on these institutions are making indirect investments. A commercial bank accepts deposits and uses the proceeds to lend funds. Financial intermediaries, such as investment companies, play a basic role of transforming financial assets which are less desirable for a large part of the public into other financial assets which are broadly preferred by the public. By doing so they provide at least one of the following four economic functions: (1) providing maturity intermediation, (2) reducing risk via diversification, (3) reducing costs of contracting and information process, (4) providing a payment mechanism.

Maturity Intermediation

The customer (depositor) often wants only a short-term claim, which the intermediary can turn into a claim on long-term assets. In other words, the intermediary is willing and able to handle the liquidity risk more readily than the customer. This is called maturity intermediation.

Risk Reduction Via Diversification

By pooling funds from many customers the financial intermediary can better achieve diversification of its portfolio than its customers.

Reduced Costs of Contracting and Information Processing

Financial institutions provide expert analysis, better data access, and loan enforcement. Costs of writing loan contracts are referred to as contracting costs. Also there are information processing costs. They also benefit from economies of scale.

Providing a Payments Mechanism

Financial depositories provide a payment mechanism, e.g. checking accounts, credit cards, certainty debt cards, and electronic transfers of funds.

OVERVIEW OF ASSET/LIABILITY MANAGEMENT FOR FINANCIAL INSTITUTIONS

All intermediaries face asset/liability management problems. The nature of the liabilities dictates the investment strategy a financial institution will pursue.

Nature of Liabilities

The liabilities of a financial institution mean the amount and time of the cash outlays that must be made to satisfy the contractual terms of the obligations issued. These liabilities can be categorized into four types.

Type I Liabilities: Both amounts of cash outflows and timing are known, e.g., fixed-rate certificates of deposit and guaranteed investment contracts. The former are among liabilities of financial depositories. Life insurance companies offer the latter.

Type II Liabilities: Cash outflows are known, but timing is not, e.g. life insurance policies.

Type III Liabilities: Cash outflows are not known, but timing is known, e.g. floating-rate certificates of deposit.

Type IV Liabilities: Neither cash outflows nor timing are known, e.g., auto or home insurance policies.

Liquidity Concerns

Due to different degrees of certainty about timing and outlay, some institutions must have deposits more cash on hand or accessible in order to satisfy their obligations, e.g. the offering of demand means customers can obtain whatever amount of their funds whenever they wishplays . The greater the concern over liquidity, the fewer less-liquid investments an intermediary can hold.

CONCERNS OF REGULATORS

The risks of a financial institution are: credit, settlement, market, liquidity, operational, and legal.

Credit risk is the risk that the obligor of a financial instrument held by a financial institution will fail to fulfill its obligation. Settlement risk is the risk that when there is a settlement of a trade or obligation, the transfer fails to take place. Counterparty risk is the risk that a counterparty fails to satisfy its obligation.

Liquidity risk in the context of settlement risk means that the counterparty can eventually meet its obligations, but not at the due date. Liquidity risk has two forms. Market liquidity risk is the risk that a financial institution is unable to transact in a financial instrument at a price near its market value. Funding liquidity risk is the risk that the financial institution will be unable to obtain funding to obtain cash flow necessary to satisfy its obligations.

Market risk is the risk of a financial institution' s economic well being that results from an adverse movement in the market price of the asset it owns or the level or the volatility of market prices. There are measures that can be used to gauge this risk. One such measure endorsed by bank regulators is value-at-risk.

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events. The definition of operational risk includes legal risk. This is the risk of loss resulting from failure to comply with laws as well as prudent ethical standards and contractual obligations. Sources of operation risk include: employees, business process, relationships, technology, and external factors.

ASSET MANAGEMENT FIRMS

Asset management firms manage the funds of individuals, businesses, endowments and foundations, and state and local governments. Types of funds managed by asset management firms include regulated investment companies, insurance company funds, pension funds, and hedge funds. Asset management firms are ranked based on assets under management. These firms receive compensation primarily from management fees charged based on the market value of the assets managed for clients. Also, they are increasingly adopting performance-based management fees for other types of accounts.

Hedge Funds

There is not a single definition of hedge fund. There are several characteristics.

1. The word “hedge” is misleading. Many funds do not hedge risk at all, but engage in highly risk, leveraged transactions.

2. Hedge funds use a wide range of trading strategies and techniques to earn a superior return. These strategies include: leverage, short selling, arbitrage, and risk control.

3. Hedge funds operate in all of the financial markets: cash markets for stocks, bonds, and currencies and the derivatives markets.

4. The management fee structure for hedge funds is a combination of a fixed fee based on the market value of assets managed plus a share of the positive return.

5. Investors are interested in the absolute return generated by the asset manager, not the relative return. Absolute return is simply the return realized. Relative return is the difference between the absolute return and the return on some benchmark or index.

Types of hedge funds: There are various ways to categorize the different types of hedge funds.

1. A market directional hedge fund is one in which the asset manager retains some exposure to systemic risk.

2. A corporate restructuring hedge fund is one in which the asset manager positions the portfolio to capitalize on the anticipated impact of a significant corporate event. These funds include: (1) hedge funds that invest in the securities of a corporation that is either in bankruptcy or is highly likely in the opinion of the asset manager to be forced into bankruptcy; (2) hedge funds that focus on merger arbitrage, (3) hedge funds that seek to capitalize on other types of broader sets of events impacting a corporation.

3. A convergence trading hedge fund uses a strategy to take advantage of misalignment of prices or yields, an arbitrage strategy. Technically, arbitrage means riskless profit. Some strategies used by hedge funds do not really involve no risk, but instead low risk strategies of price misalignments.

4. An opportunistic hedge fund is one that has a broad mandate to invest in any area that it sees opportunities for abnormal returns. These include fund of funds, and global macro hedge funds that invest opportunistically on macroeconomic considerations in any world market.

Concerns with hedge funds in financial markets: There is concern that the risk of a severe financial crisis due to the activities and investment strategies of hedge funds, most notably the use of excess leverage. The best known example is the collapse of Long-Term Capital Management in September 1998. Most recently, in June 2007, there was the collapse of two hedge funds sponsored by Bear Stearns. Obviously, subsequent market develops in 2008 relate to the concern with hedge fund activities in financial markets.

CHAPTER 3 DEPOSITORY INSTITUTIONS: ACTIVITIES AND CHARACTERISTICS

ASSET/LIABILITY PROBLEM OF DEPOSITORY INSTITUTIONS

These institutions seek to earn spread income, which is a positive spread or margin between the returns on their assets and the costs of their liabilities. In generating spread income, a depository institution faces several risks. These include credit risk, regulatory risk, and interest rate risk.

Interest Rate Risk

Interest rate risk or funding risk is the mismatching of assets and liabilities in terms of their maturities. For example, this can arise because the deposits are short-term and assets long term. An increase in expected interest rates will reduce the spread between the return on assets and the deposit costs. Floating rate long-term assets can reduce this problem since they make long-term assets behave like short-term funds that match deposit terms to maturity.

Liquidity Concerns

Liquidity concern is the possibility of withdrawal of funds by depositors or insufficient funds available to meet lending needs. It can be handled by: (1) attracting more deposits; (2) borrowing from federal agency or other institution (Federal Funds Market); (3) raising short-term funds in the money market; (4) selling or liquidating securities and other assets. Securities held for the purpose of satisfying net withdrawals and customer loan demands are sometimes referred to as secondary reserves.

COMMERCIAL BANKS

Today, banks are regulated and supervised by several federal and state government entities. At the federal level, supervision is undertaken by the Federal Reserve Board, the Office of the Comptroller of the Currency, and the Federal Deposit Insurance Corporation. The assets of a bank are insured by the Federal Deposit Insurance Corporation.

As of 2d quarter 2007, 7350 commercial banks were operating in the United States. Only about 25% were national banks, but these held the majority of the bank assets (65%).

Bank Services

Banks provide numerous services and are broadly defined as follows: (1) individual banking; (2) institutional banking; (3) global banking.

Individual banking includes consumer lending, mortgage lending (mortgage banking), credit card financing, brokerage services, student loans, and individual-oriented financial investment services. Institutional banking Institutional banking includes commercial real estate financing, leasing activities, and factoring. Global banking includes corporate financing, capital market and foreign exchange products and services. At one time, some of these activities were restricted by the Glass-Steagall Act. But this statute was repealed by the Gramm-Leach-Bliley Act in November 1999.

Bank Funding

Funds are obtained mainly from three sources: (1) deposits, (2) nondeposit, (3) common stock and retained earnings.

Deposits: There are several types of deposit accounts. Demand deposits (checking) pay no interest and can be withdrawn upon demand. Savings deposits pay interest, typically below market rates, and can be withdrawn upon demand. Time deposits, also called certificates of deposit, have a fixed maturity date and pay either a fixed or floating interest rate. The market for short-term debt obligations is called money market. A money market demand account is designed to compete with money market mutual funds.

Reserve requirements and borrowing in the federal funds market: The reserve ratio is the specified percentage of deposits in non-interest bearing account at one of the 12 Federal Reserve Banks that a bank must maintain. The dollar amount based on the reserve ratio is the required reserve. To determine the reserve, the Federal Reserve has established a two-week period called the deposit computation period. If actual reserves exceed required reserves, the difference is referred to as excess reserves. Banks temporarily short of their required reserves can borrow reserves from banks that have excess reserves. The market where banks can borrow or lend reserves is called the federal funds market. The interest rate charged to borrow funds is called the federal funds rate.

Borrowing at the Fed discount window: The Federal Reserve is the bank of last resort. Banks temporarily short of funds can borrow from the Fed at its discount window. Collateral is needed to borrow, and the Fed sets the criteria for collateral quality. The interest rate that the Fed charges to borrow funds at the discount window is called the discount rate.

Other nondeposit borrowing: Other nondeposit borrowing can be short term in the form of issuing obligations in the money market, or intermediate to long term in the form of issuing securities in the bond market. Banks that raise most of their funds from the domestic and international money markets, relying less on depositors for funds, are called money center banks. A regional bank is one that relies primarily on deposits for funding.

Capital Requirements for Banks

Commercial banks are typically highly leveraged, i.e., equity constitutes a small fraction (about 8%) of the bank's assets. The organization that plays the primary role in establishing risk and management guidelines for banks throughout the world is the Basel Committee on Banking Supervision. The capital requirements that resulted from other guidelines published by the Basel Committee are called the risk-based capital requirements. In July 1988, the Basel Committee released its first guidelines, the Capital Accord of 1988, commonly called Basel I Framework. In June 2004, comprehensive amendments, Basel II Framework, were published to improve on the rules as set forth in the Basel I Framework by bringing risk-based capital requirements more in line with the underlying risks to which banks are exposed.

Credit risk and risk-based capital requirements: The risk-based capital guidelines attempt to recognize credit risk by segmenting and weighting requirements. First, capital is categorized as Tier 1 and Tier 2 capital. Tier 1 is the core capital. Tier 2 is the supplementary capital. Second, the guidelines establish a credit risk weight for all assets.

SAVINGS AND LOAN ASSOCIATIONS

S&Ls originated to gather savings and pool depositor funds to finance home mortgages. They are either mutually owned (by the depositor themselves) or stockholder-owned (thereby making the depositors creditors of the firm). They are state or federally chartered, and they are regulated by the Office of Thrift Supervision (OTS). As in the case of banks, their deposits are insured, but by the Savings Association Insurance Fund (run by the FDIC). Traditionally, most S&L assets have been in home mortgages, the long-term nature of which insulated the S&Ls from interest rate risk for many years. Since the early 1980s, however, they have made several other types of loans and investments to some degree they compete with banks. Their funding has traditionally come from several forms of savings accounts, such as NOW, MMDA, and time deposits. Deregulation in the 1980s forced higher funding costs upon them.

Assets

Traditionally, the only assets in which S&Ls were allowed to invest have been mortgages, mortgage-backed securities, and US government securities. S&Ls became one of the major buyers of junk bonds. Under FIRREA, S&Ls are no longer permitted to invest new money in junk bonds.

Funding

Deregulation expanded the types of accounts that may be offered by S&Ls: negotiable order of withdrawal (NOW) accounts, and money deposit accounts (MMDA). S&Ls can raise funds

from the money market. They can borrow in the federal funds market and have access to the Fed' s discount window. They also can borrow from the Federal Home Loan Banks. These borrowings are called advances, which can be short term or longterm in maturity.

Regulation

Federal S&Ls are chartered under the provisions of the Home Owners Loan Act of 1933. Federally chartered S&Ls are supervised by the Office of Thrift Supervisor. The Depository Institutions Deregulation and Monetary Control Act of 1980 deregulated interest rates on deposit accounts. It also expanded the Fed' s control over the money supply by imposing deposit reserve requirements on S&Ls. Subsequent legislation not only granted thrifts the right to offer money market demand accounts, but also broadened the types of assets in which S&Ls could invest. Permission to raise funds in the money market and the bond market was granted by the Federal Home Loan Board in 1975.

There are two sets of capital adequacy standards for S&Ls as for banks. The risk-based capital guidelines are similar to those for banks. Instead of two tiers of capital, there are three: Tier 1 (tangible capital), Tier 2 (core capital), and Tier 3 (supplementary capital). As with commercial banks, there are risk-based requirements based on interest rate risk.

The S&L Crisis

During the 1980' s, many savings and loans failed or became technically insolvent. Deposit insurance funds ran dry and federal help was needed to clean up the mess and help the depositors. Several factors contributed to the crisis, but the following causes were most apparent:

1. Disintermediation: as short-term interest rates rose in the money market depositors withdrew their low-yield funds for higher-yield market investments such as MMDAs. Because of interest rate restrictions the S&Ls could not compete for such funds.

2. Deregulation in the early 1980s lifted interest also rate restrictions, allowing S&Ls to compete in the marketplace for short-term funds. But their long-term asset structure its predominantly fixed-rate returns limited the cost increases for liabilities that S&Ls could afford. Moreover, after years of being in a safe market niche of home mortgages S&Ls suddenly found they had to compete directly with banks for funds and asset allocations. Many such savings institutions were simply not up to the task.

3. Faced with rising liability costs, many S&Ls went after high return, high risk assets, such as commercial real estate and junk bonds. Such high default risk projects were undertaken prior to an economic downturn. The result was depressed regions of the Southwest, compounded by the fact that for a number of years, regulators did little to

ameliorate the problem. A major and costly bailout occurred in the early 1990s. The Resolution Trust Corporation (RTC) was established in the FIRREA Act of 1989 and assigned the task to sell off the assets of the failed institutions.

SAVINGS BANKS

These financial institutions are similar to S&Ls in some respects. They are either mutually- or stockholder-owned and are either federally- or state-chartered. But their asset portfolio is more diversified given that their origin was primarily as a place for small deposits at a time when banks showed little interest in taking small customer accounts. Yet, residential mortgages now constitute a large part of their portfolio. These institutions have not necessarily been immune from the factors that caused the S&L crisis. But as a group they came out better because they were predominantly on the East Coast and had more diversified asset portfolios.

CREDIT UNIONS

Credit unions are the smallest and newest of the financial depositories. They are either state- or federally-chartered. But they are mutual in organization. They exist for their members' savings and borrowing needs. The shares (deposits) are insured. Deposits from members are by far their major source of funds, but they can borrow for short-term liquidity needs. Their assets consist primarily of small consumer loans made to their members. Time has been hard on them lately, since their borrowing and lending activities are effectively restricted to their membership bases. But their shorter-term and less risky loan portfolios have helped them to avoid the S&L crisis.

Since 1970, the shares of all federally chartered credit unions have been insured by the National Credit Union Share Insurance Fund (NCUSIF) for up to \$100,000 and \$250,000 for retirement accounts, the same as for commercial banks. The principal federal regulatory agency is the National Credit Union Administration (NCUA). Playing a role similar to the Fed, the lender of last resort is the Central Liquidity Facility (CLF). Credit unions can make investments in corporate credit unions. Federal and state chartered credit unions are called natural person credit unions because they provide financial services to qualifying members of the general public. Corporate credit unions provide a variety of services only to natural person credit unions.

CHAPTER 4 THE U.S. FEDERAL RESERVE AND THE CREATION OF MONEY

CENTRAL BANKS AND THEIR PURPOSE

The primary role of a central bank is to maintain the stability of the currency and money supply for a country or a group of countries. The role of central banks can be categorized as: (1) risk assessment, (2) risk reduction, (3) oversight of payment systems, (4) crisis management.

One of the major ways a central bank accomplishes its goals is through monetary policy. For this reason, central banks are sometimes called monetary authority. In implementing monetary policy, central banks, acting as a reserve bank, require private banks to maintain and deposit the required reserves with the central bank. In times of financial crisis, central banks perform the role of lender of last resort for the banking system. Countries throughout the world may have central banks. Additionally, the European Central Bank is responsible for implementing monetary policy for the member countries of the European Union.

There is widespread agreement that central banks should be independent of the government so that decisions of the central bank will not be influenced for short-term political purposes such as pursuing a monetary policy to expand the economy but at the expense of inflation.

In implementing monetary and economic policies, the United States is a member of an informal network of nations. This group started in 1976 as the Group of 6, or G6: US, France, Germany, UK, Italy, and Japan. Thereafter, Canada joined to form the G7. In 1998, Russia joined to form the G8.

THE CENTRAL BANK OF THE UNITED STATES: THE FEDERAL RESERVE SYSTEM

The Federal Reserve System consists of 12 banking districts covering the entire country. Created in 1913, the Federal Reserve is the government agency responsible for the management of the US monetary and banking systems. It is independent of the political branches of government. The Fed is managed by a seven-member Board of Governors, who are appointed by the President and approved by Congress.

The Fed's tools for monetary management have been made more difficult by financial innovations. The public's increasing acceptance of money market mutual funds has funneled a large amount of money into what are essentially interest-bearing checking accounts.

Securitization permits commercial banks to change what once were illiquid consumer loans of several varieties into securities. Selling these securities gives the banks a source of funding that is outside the Fed' s influence.

INSTRUMENT OF MONETARY POLICY: HOW THE FED INFLUENCES THE SUPPLY OF MONEY

The Fed has three instruments at its disposal to affect the level of reserves.

Reserve Requirements

Under our fractional reserve banking system have to maintain specified fractional amounts of reserves against their deposits. The Fed can raise or lower these required reserve ratios, thereby permitting banks to decrease or increase their lending and investment portfolios. A bank's total reserves equal its required reserves plus any excess reserves.

Open Market Operations

The Fed's most powerful instrument is its authority to conduct open market operation. It buys and sells in open debt markets government securities for its own accounts. The Fed prefers to use Treasury bills because it can make its substantial transactions without seriously disrupting the prices or yields of bills.

The Federal Open Market Committee, or FOMC, is the unit that decides on the general issues of changing the rate of growth in the money supply, by open market sales or purchases of securities. The implementation of policy through open market operations is the responsibility of the trading desk of the Federal Reserve Bank of New York.

Open Market Repurchase Agreements

The Fed often employs variants of simple open market purchases and sales, these are called the repurchase agreement (or repo) and the reverse repo. In a repo, the Fed buys a particular amount of securities from a seller that agrees to repurchase the same number of securities for a higher price at some future time. In a reverse repo, the Fed sells securities and makes a commitment to buy them back at a higher price later.

Discount Rate

A bank borrowing from the Fed is said to use the discount window. The discount rate is the rate charged to banks borrowing directly from the Fed. Raising the rate is designed to discourage such borrowing, while lowering should have the opposite effect.

DIFFERENT KINDS OF MONEY

Money is that item which serves as a numeraire. In a basic sense money can be defined as anything that serves as a unit of account and medium of exchange. We measure prices in dollars and exchange dollars for goods. Hence coins, currency, and any items readily

exchanged into dollars (checking deposits or NOW accounts) constitute our money supply.

MONEY AND MONETARY AGGREGATES

Monetary aggregates measure the amount of money available to the economy at any time. The monetary base is defined as currency in circulation (coins and federal reserve notes) and reserves in the banking system. The instruments that serve as a medium of exchange can be narrowly defined as M_1 , which is currency and demand deposits. M_2 is M_1 plus time and savings accounts, and money market mutual funds. Finally, M_3 is M_2 plus short-term Treasury liabilities. While all three aggregates are watched and monitored, M_1 is the most common form of the money supply, with its trait as being the most liquid. The ratio of the money supply to the economy's income is known as the velocity of money.

THE MONEY MULTIPLIER: THE EXPANSION OF THE MONEY SUPPLY

The money multiplier effect arises from the fact that a small change in reserves can produce a large change in the money supply. Through our fractional reserve system, a small increase will allow an individual bank, to lend out the greater part of these additional funds. These loans subsequently become deposits in other banks allowing them to expand proportionately. So, while one bank can expand its loans (or deposits) by an amount 1% of reserves required, all banks in the system can do likewise. Thus, in a simple format total change in deposits can be stated as change in reserves divided by the reserve requirement, which is also the formula for perpetuity. For example, if the change in the level of reserves is \$100 and the reserve requirement is 20%, the change in total deposits will be \$500 for a multiplier of 5. Of course, major assumptions are that banks will fully loan out their excess reserves and that depositors will not withdraw any of these extra reserves.

THE IMPACT OF INTEREST RATES ON THE MONEY SUPPLY

High rates of interest may make keeping excess reserves costly, since unused funds represent loans not made and interest not earned. High rates of interest will also affect the public's demand for holding cash. If deposits pay competitive interest rates, customers will be more willing to hold such bank liabilities and less cash. Therefore, a higher rate of interest can actually spur growth of the money supply. More likely, however, it will deter borrowing and slow monetary growth.

THE MONEY SUPPLY PROCESS IN AN OPEN ECONOMY

In the modern era, almost every country has an open economy. Foreign commercial and central banks hold dollar accounts in the United States. Their purchases and sales of these deposits can affect exchange rates of the dollar against their own currency. The Fed has responsibility for maintaining stability in exchange rates. A purchase of foreign exchange

with dollars depreciates the dollar's value, but it also adds dollars to the accounts of foreign banks in this country, thus adding to the U.S. monetary base. Most central banks of large economies own or stand ready to own a large amount of each of the world's major currencies, which are considered international reserves. Sales of foreign exchange transactions have monetary base implication and hence consequences for the domestic money supply, emphasis is given to coordinating monetary policies among developed nations.

CHAPTER 5 MONETARY POLICY

MONETARY POLICY IN THE UNITED STATES

Goals of Monetary Policy

Through changes in reserves in the banking system, the Fed can prod financial institutions, borrowers, and depositors toward some goals. The objectives are many, however, and often demand trade-offs. The major goals are the following.

Price stability: Price instability, like inflation, can retard economic growth, foster volatile interest rates, and deter savings. Classical inflation is the result of excess demand due to monetary or fiscal policy. It is easy to handle—just put on the money brakes. Lately, however, inflation has been caused by an economic shock in the supply of some crucial material, e.g. the oil shock in the 1970s caused prices to rise, although there was already high unemployment, hence the concept stagflation. Monetary restraints then only make the unemployment problem worse. As a consequence policy makers prefer to accommodate the inflation problem and increase the money supply. The result is price acceleration.

High employment: Full employment is the goal, but most understand that unemployment cannot be reduced to zero because of frictional unemployment (temporary unemployment due to transitions). An increase in the money supply can help economic expansion and thereby create more jobs. Too much of an expansion, however, leads to inflation and increases in interest rates.

Economic growth: The aim here is real growth in the output of goods and services. Employment can be related to this goal, but stimulating growth may hurt some industrial sectors while benefiting others. Volatile interest rates can be harmful to financial institution soundness and economic growth. Some interest rate fluctuation should be expected in a free market economy, but the Fed can help by moderating the cycles.

Stability in foreign exchange rates: Foreign exchange volatility hurts foreign trade. A strong dollar can decrease our exports, while a weak one fosters inflation. The Fed's goal of stability often amounts to keeping the value of the dollar within some politically acceptable range that will help our exports without raising undue concerns from our trading partners.

Trade-Offs and Conflicts among Policies

Some of these problems are readily apparent: (1) an easy monetary policy expands the

economy, but it can also foster inflation; (2) price stability is laudable, but it can create havoc when financial institutions have been banking on continued instability, e. g. the end of the real estate boom added to the woes of many savings and loans in recent years. It is clear that one of another goal must have priority.

Goals and Types of Targets

The Fed has no direct control over these goals. It can only control bank reserves. It cannot force banks to lend or to restrict their lending and investing activities. Thus the Fed has to rely upon operating and intermediate targets that may be linked to affect the economy in a desired way consistent with its goals. In choosing an operating target the Fed must select either a short-term interest rates, but the precise impact is a function of the public's demand to hold money. If the public fails to respond to an increase in reserves it is possible that interest rates may rise. If, on the other hand, the Fed concentrates on targeting interest rates it must let reserve level growth vary.

Choosing the Operating Target

In choosing its operating target, the Fed makes the decision to let the variables other than the public's demand for money fluctuate in response to the latter's change. When an interest rate is the target, the Fed must let the growth in reserves vary as it strives to keep that interest rate at a certain level or to smooth its transition to a new level.

Choosing the Intermediate Target

The best-known intermediate target continues to be the money supply, measured by one of several aggregates. Others, especially short-term interest rates, have also been selected.

A REVIEW OF RECENT FEDERAL RESERVE POLICY

Target Fed funds Rate, 1970-1979

Reducing the rate by increasing reserves should lower bank costs of loans to customers. Declining short-term rates should spur investors to buy higher yield long-term securities. Prices of these securities will rise, yields will fall and real output expansion will be encouraged. In a near-full employment economy, however, such an action will only lead to further price increases. Generally, this version of monetary policy is associated with Keynesian economic theory, and it gives the Fed a great deal of discretion in the conduct of monetary policy.

Monetarist Experiment, 1979-1982

Since the Fed had to keep interest rates down the result was a substantial increase in reserves and in the money supply eventually leading to double-digit inflation. In response the Fed announced in 1979 that it would begin to target the system's unborrowed reserves, defined as total revenues less discount window borrowing. The goal was to control the rate of growth of the money supply. Monetarist thought was that Fed discretion would not work due to long and variable lags from reserve changes to the monetary aggregates. Rather better to follow rules of steady monetary growth, which would lead to real expansion.

Fed Funds Again, 1983-1991

By 1982, the tight monetary policy eliminated the worst effects of inflation. Then the problem became unemployment. The Fed lowered short-term rates to stimulate the economy. In 1983, the Fed adopted a new policy. This time, the Fed identified its operating target as the level of borrowed reserves, which are funds that the banks borrow from the Fed through its discount window.

Two Developments in the Mid-1980

Two developments occurred. First, the Fed publicly acknowledged that the level and stability of the US dollar value was a concern. In 1985, it implemented an expansionary monetary policy, which drove down the dollar's value. Second, the equity market crashed on October 19, 1987.

The Same Policy, But With a Twist, 1991 to 1995

In February 1994, the Fed raised fed funds rate upward from 3% to 3.25%. It explained that it was concerned that robust economic growth might spark price inflation. Eventually, the Fed raised interest rates up to 6%. These actions had the desired effects: interest rates on debt rose and the rate of growth in the economy slowed to sustainability.

THE LAST HALF OF THE 1990S—EXPLORING THE “NEW PARADIGM”

As of 1995, the conventional wisdom was that the maximum sustainable real GDP growth was approximately 2.25%, consisting of 1% due to increase in the labor force and 1.25% due to productivity increase. During 1997-1998, with strong economic growth and unemployment decreasing to 4%, the fed policy-makers were faced with the dilemma. They had to decide whether to tighten monetary policy to slow economic growth even though there were no inflationary forces, or to let the economy continue to grow at a rate, which was unsustainable by previous standards.

Fed permitted the economy to grow beyond what the “old paradigm” would have deemed feasible. In fact, the Fed eased three times during later 1998 due to several concerns. Fed emphasized the traditional reasons for low inflation, including globalization; the strong U.S. dollar; the U.S. trade deficit. While the Fed was extremely tolerant of strong economic growth it did enact six Fed funds rate increases (from 4.75% to 6.50%) from March 1999 through May 2000.

From 1995 to 1999, the stock market experienced a bubble, which burst in March 2000. During this period, the Fed policy remained non-doctrinaire and eclectic. The Fed funds rate was the main policy tool used. The money supply and reserve requirements were not used as policy tools.

The Beginning of the Twenty-First Century

After the stock market bubble bursting starting in March 2000, the Fed funds rate was gradually reduced from 6.5% to 1% to avert a recession. The 1% rate, however, was seen as too stimulative. From June 2004, the Fed gradually increased the interest rate to 5.25% by June 2006.

In August 2007, early signs of the subprime mortgage crisis became apparent. The Fed increased interest rates from September 2007 to January 2008. These actions were deemed too little, too late. In March 2008, the investment bank Bear Stearns failed and precipitated a rescue by the Fed and JP Morgan Chase. As a result, the Fed introduced a new lending facility called Primary Dealer Credit Facility for investment banks.

Two questions arise from the crisis: (1) whether the Fed should assess the risk across the financial markets regardless of the corporate form, (2) whether the Fed should become the regulator of last resort.

CHAPTER 6 INSURANCE COMPANIES

TYPE OF INSURANCE COMPANIES

Insurance companies sell insurance policies for a premium. They have two sources of income: underwriting income, and investment income.

Life Insurance

The life insurance company pays the beneficiary of the life insurance policy in the event of the death of the insured.

Health Insurance

The health insurance company pays the insured all or a portion of the medical treatment of the insured. Until the last decade, the major type of health insurance available was indemnity insurance. Due to the lack of constraints and incentives for cost savings, the medical service insured by indemnity insurance became very expensive. In response, various forms of managed health care have been developed. In general, these forms of managed health care put constraints on the choice of the provider by the insured and on the types of service provided by the provider.

Property and Casualty Insurance

Property and casualty (P&C) insurance companies insure the risk of damage to various types of property.

Liability Insurance

The risk insured against is litigation, or the risk of lawsuits against the insured due to actions by the insured or others. This is typically a third-party claim.

Disability Insurance

Disability insurance insures against the inability of employed persons to earn an income. Typically, “own occ” disability insurance is written for professionals in white-collar occupations, and “any occ” for blue-collar workers. There are two types of policies regarding the sustainability of the policy. First, guaranteed renewable is a term where the issuer has to sustain the policy for a specified period of time, but can change the premium rates for the entire class. The other type is noncancellable and

guaranteed renewable whereby the issuer has no right to make any changes in any policy during the specified period.

Long-Term Care Insurance

Long-term care insurance provides coverage for custodial care for the aged who are no longer able to care for themselves.

Structured Settlements

Structured settlements are fixed, guaranteed periodic payments over a long period of time, typically resulting from a settlement on a disability policy or other type of policy.

Investment Oriented Products

A guaranteed investment contract or guaranteed income contract (or simply GIC), is a pure investment product. In a GIC, a life insurance company agrees, for a single premium, to pay the principal amount and a predetermined annual crediting rate over the life of the investment, all of which is paid at the maturity date. A life insurance company agrees in return for a premium to pay the principal amount and a predetermined annual crediting rate over the life of the investment. Effectively, a GIC is a zero coupon bond issued by a life insurance company and as such exposes the investor to the same credit risk. Some GICs require a single premium payment (bullet), others provide windows wherein deposits are accepted over time at the same interest rate. GICs are popular contracts for pension funds, since interest rate risk assumed by insurance company. But investors still have to worry about the credit risk of the insurance company.

Annuity

An annuity is often described as a mutual fund in an insurance wrapper. The income and realized gains are not taxable if not withdrawn from the annuity product. Thus, the “inside buildup” of returns receives a favorable tax treatment. Annuities can be either fixed, or variable. For a single payment or premium the insurance company will provide fixed payments for the life of the policyholder. It can also provide a “lump sum” payment to the retiree after a number of years of accumulating and investing premium payments.

Monoline Insurance Companies

Monoline insurers guarantee the timely repayment of the bond principal and interest when a bond insurer defaults on these payments. The insured securities have traditionally been municipal bonds, but they now include structured finance bonds, CDOs, CLOs, and asset-backed bonds. Monoline insurers have been rated AAA and must have this high rating to be effective since they transfer their rating to the bond issue being insured.

INSURANCE COMPANIES VERSUS TYPES OF PRODUCTS

Traditionally, life and health products were coupled by an insurance company because of some of the similarities of the products. Property and casualty products were also provided by P&C companies. Companies that provide both types of insurances (life, health, property, casualty) are called multiline insurance companies. Investment products tend to be sold by life insurance companies.

Recently, health insurance companies have separated from life insurance. This change has been due to mainly federal regulation of the health industry. Life insurance companies have focused on investment products. Also, disability insurance is now sold primarily by pure disability companies.

FUNDAMENTALS OF INSURANCE INDUSTRY

A fundamental aspect of the insurance industry results from the relationship between the revenues and costs. A company collects its premium income initially and invests these receipts in its portfolio. The payments on the insurance policy occur later and, depending on the type of insurance, in a perhaps very unpredictable manner. The payments are contingent on potential future events.

An insurance policy is a binding contract for which the policyholder pays premium in exchange for the insurance company's promise to pay specified amounts contingent on future events. The accepted policy is an asset for the owner and a liability for the insurance company.

Life insurance and property and casualty insurance companies are financial intermediaries that, for a price, will make a payment if a certain event occurs. They function as risk bearers. The principal event that the life insurance company insures against is death: a life insurance company agrees to make either a lump sum payment to the beneficiary of the policy or make a series of payments. However, life insurance protection is not the only financial product sold by these companies. A major portion of the business of life insurance companies is now in the area of providing retirement benefits. The key distinction between life insurance and property and casualty insurance (P&C) companies is the difficulty of projecting whether a policyholder will be paid off and how much the payment will be.

REGULATIONS OF INSURANCE INDUSTRY

Regulation is primarily at the state level as a result of 1945 federal statute (McCarran-Ferguson Act). Model laws and regulations are developed by National Association of Insurance Commissioners (NAIC). Insurance companies are also rated by the rating

agencies.

To assure financial stability, insurance companies must maintain reserves or surplus, which are the excess of assets over liabilities. State statutory surplus requirements are called statutory surplus, which is distinguished from generally accepted accounting principles (GAAP) surplus.

STRUCTURE OF INSURANCE COMPANIES

Insurance companies are really a composite of three companies. First there is the “home office” or actual insurance company. Second, there is the investment component, which invests the premium collected in the investment portfolio. This is the investment company. The third is the distribution component of the sales force. There are different typed of distribution forces. Finally there are also brokers who sell insurance products of many companies.

Insurance companies are attracted by commercial bank customer contacts. As a result, commercial bank distribution of insurance company products has grown. This relationship is called bankassurance.

FORMS OF INSURANCE COMPANIES

There are two forms of insurance companies: stock and mutual. A stock insurance company is similar in structure to any corporation or public company. Shares (of ownership) are owned by independent shareholders and are traded publicly. The shareholders care only about the performance of their shares that is the stock appreciation and the dividends. The insurance policies are simply the products or business of the company. In contrast, mutual insurance companies have no stock and no external owners. Their policyholders are also their owners. The owners, that is the policyholders, care primarily or even solely about the performance on their insurance policies, notably the company’ s ability to pay on the policy. Since theses payments may occur considerably into the future, the policyholders view may be long term.

Finally a new form of insurance company, which is a hybrid between a pure mutual and a pure stock company has been approved by some states and implemented by some insurance companies in these states since their introduction in 1996. This form is called a mutual holding company (MHC).

INDIVIDUAL VERSUS GROUP INSURANCE

Insurance products can be sold on individual and group bases. Also, in the P&C business, insurers can sell personal lines and commercial lines of insurance products.

TYPES OF LIFE INSURANCE

There are two fundamentally different types of life insurance: term (life) insurance and cash value life insurance.

Term Insurance

Term policies pay off only on death. There are no investment benefits and so the premiums are substantially lower than those on whole life policies. Most group policies are term policies. "Term" implies that coverage is available only during the premium-paying term of the contract.

Cash Value or Permanent Life Insurance

There is a broad classification of life insurance, which is cash value, or permanent or investment type life insurance. A common type of cash value life insurance is whole life insurance. This cash value can be withdrawn and can also be borrowed against by the owner of the policy. If the owner wishes to let the policy lapse, he or she can withdraw the cash value. A major advantage of this type of policy is that the inside buildup is not subject to tax, i. e., is taxed as either income or capital gains. Neither is the beneficiary subject to income tax.

Guaranteed cash value life insurance: This insurance provides a cash value based on a minimum dividend paid on the policy. Additionally, the policy can be either participating or nonparticipating. For a nonparticipating policy, the minimum dividend and the minimum cash value on the policy are the guaranteed amounts. For the participating policy, the dividend paid on the policy is based on the realized actuarial experience of the company and its investment portfolio.

Variable life insurance: Contrary to the guaranteed or fixed cash value policies based on the general account portfolio of the insurance company, variable life insurance policies allow the policy owner to, within limits, allocate their premium payments to and among separate investment accounts maintained by the insurance company. Variable life insurance, which typically has common stock investment options, has grown quickly with the stock market rally of the 1990' s.

Flexible premium policies—universal life insurance: The key element of universal life is the flexibility of the premium. The policy cash value is set up as the cash value fund to which the investment income is credited and from which the cost of term insurance for the insured is debited. This separation of the cash value from the pure insurance is called the unbundling of the traditional life insurance policy.

Variable universal life insurance: Variable universal life insurance combines the features of variable life and universal life policies, i. e., the choice of separate account investment products and flexible premiums.

Survivorship (Second to Die) Insurance

An added dimension of the whole life policies is that two people are jointly insured and the policy pays the death benefit not when the first person dies, but when the second person dies. This is called survivorship insurance or second-to-die insurance.

GENERAL ACCOUNT AND SEPARATE ACCOUNT PRODUCTS

The general account of an insurance company refers to the investment portfolio of the

overall company. Insurance companies must support the guaranteed performance of their general account products to the extent of their solvency. These are called general account products.

Other types of insurance products receive no guarantee from the insurance company's general account, and their performance is not based on the performance of the insurer's general account but solely on the performance of an account separate from the general account of the insurer. These products are called separate account products.

PARTICIPATING POLICIES

The performance of some general account products is not affected by the performance of the general account portfolio. The policy performance may not participate in the investment performance of the insurer's general account investment portfolio. Such a policy is nonparticipating policy. Other general insurance products participate in the performance of the company's general account performance. Such a policy is called a participating policy. Both stock and mutual insurance companies write both general and separate account products, but most participating general account products are written in mutual companies.

INSURANCE COMPANIES INVESTMENT STRATEGIES

In general the characteristics of insurance company investment portfolio should reflect their liabilities - the insurance products they underwrite. There are many differences among the various types of insurance policies. Among them are:

- The expected time at which the average payment will be made by the insurance company (Technically, the "duration" of the payments)
- The statistical or actuarial accuracy of estimates
- Other factors

The key distinction between life insurance, property and casualty insurance companies lies in the difficulty of projecting whether or not a policyholder will be paid off and how much the payment will be. There are also differences in investment strategy between public (or stock) and mutual insurance companies of the same type. The major difference is that stock companies tend to have less common stock than mutual companies.

Most insurance company assets consist of debt, both public and private. In fact, life insurers as a group are the largest holders of bonds. Since life insurers are effectively taxed at very low rates, there are no advantages to holding municipals. The reason for

bond holdings are (1) to match maturities, since liabilities are often long-term and at a fixed rate, and (2) regulations require that bonds be booked at cost, while stocks must be written at market value.

CHANGES IN THE INSURANCE INDUSTRY

There have been three major types of changes in the insurance industry in the last two decades: (1) deregulation of the financial system; (2) internationalization of the insurance industry; (3) demutualization.

Deregulation of the Financial System

In 1933, Congress passed the Glass-Steagall Act, which separated commercial banking, investment banking, and insurance. This act resulted in the breakup of the House of Morgan into separate investment banking and commercial banking entities. . On November 12, 1999 the Gramm-Leach-Bliley Act (GLB), called the Financial Modernization Act of 1999, was signed into law. This act removed the 50 year old “anti-affiliation restrictions” among commercial banks, investments banks and insurance companies. The passage of this act has eliminated the barriers between insurance companies, commercial banks, and investment banks and various combinations of these types of companies will continue to evolve. Since then, however, Citigroup sold its insurance business (Travelers) to MetLife, and no other major combinations between banking and insurance have taken place.

Internationalization of the Insurance Industry

Globalization has occurred in many industries, including insurance industry. With respect to the U.S. globalization operates in two directions. First, U.S. insurance companies have both acquired and entered into agreements with international insurance companies and begun operations in other countries. Second, international insurance companies, mainly European, have become even more active in acquiring U.S. insurance and investment companies. The reasons are: (1) more rapid growth of the US financial business, (2) attractive demographics and income potential of the US market, and (3) less regulations.

Demutualization

Since the mid-1990s, several insurance companies have changed from mutual to stock companies. Many industry observers believe that the recent demutualized insurance companies will either acquire other financial companies or will be acquired by other financial companies.

EVOLUTION OF INSURANCE INVESTMENT AND RETIREMENT PRODUCTS

Even prior to the Financial Modernization Act of 1999, there was an increasing overlap of insurance, investment and pension products and the distribution of those products. The passage of this Act has accelerated this convergence.

Three decades ago there were three distinct types of products for individuals: insurance, savings/investment, and retirement. Retirement products include individual retirement accounts. During the last two decades, many products have been developed that fit into two or even three of these categories. Products that are hybrid of retirement and investment products are 401k and Roth 401k.

401(k) Plans and Roth 401(k) Plans

401(k) plans are plans provided by an employer whereby an employee may elect to contribute pretax dollars to a qualified tax-deferred retirement plan.

IRAs and Roth IRAs

While a 401(k) is an employer-sponsored retirement program, the most common types of IRAs are personal tax-deferred retirement plans. Individually sponsored IRAs include traditional IRA, Roth IRA, and rollover IRA. Employer-sponsored IRA included Simplified Employee Pension (SEP) plans, and Savings Incentives Matching Plan for Employees (SIMPLE).

CHAPTER 7 INVESTMENT COMPANIES AND EXCHANGE-TRADED FUNDS

TYPE OF INVESTMENT COMPANIES

Open-End Funds (Mutual Funds)

More popularly known as mutual funds. As open-end funds they stand ready to buy and redeem shares at a price based on net asset value, which is total asset value less liabilities. Prices are quoted on a bid/offer basis. For a no-load fund the bid/offer prices will be the same. The net asset value (NAV) per share equals the market value of the portfolio minus the liabilities of the mutual fund divided by the number of shares owned by the mutual fund investors.

There are several important characteristics of open-end or mutual fund. First, investors in mutual funds own a pro rata share of the overall portfolio. Second, the investment manager actively manages the portfolio. Third, the share price is the NAV. Fourth, the NAV is determined only once each day, at the close of the day.

In the case of a load fund the offer price will exceed the bid price by the amount of a sales commission charged upon purchases of shares. Some funds have back-end loads, wherein commissions are charged upon redemption of funds within a few years. Others, known as Section 12b-1 funds, charge a small percentage of assets annually to cover sales costs. In any case, all funds earn small percentage annual fees to cover administrative costs. These funds comprise the third largest group of financial institutions, behind banks and insurance companies.

Closed-End Funds

These funds issue a limited number of shares and are very similar to shares of common stock. They are then sold on the open market like other securities. Investors pay a broker's commission. The NAV of closed-ended funds is determined by supply and demand. The market price of these shares may thus differ from net asset value, often at a discount from it. The discount results from large tax liabilities on capital gains that swell the net asset value, while investors are pricing future after-tax distributions. Premiums can result because such funds often have inexpensive access to overseas stocks.

Under the Investment Company Act of 1940, closed-end funds are capitalized only once. They make an IPO, and then their shares are traded on the secondary market, just like any

corporate stock.

The relatively new exchange traded funds (ETFs) pose a threat to both mutual funds and closed-end funds. ETFs are essentially hybrid closed-end vehicles, which trade on exchanges but typically trade very close to NAV.

Unit Trusts

A unit trust is similar to a closed-end fund in that the number of unit certificates is fixed. They are different from closed-end funds in the following. First, they typically invest in bonds. Second, they do not trade. Third, a fixed amount of securities is assembled with a defined termination date. The major benefit of such funds is lower operating costs due to the absence of trading.

FUND SALES CHARGES AND ANNUAL OPERATING EXPENSES

There are two types of costs borne by investors in mutual funds. The first is shareholders fee, usually called the sales charge. This type of charge is related to the way the fund is sold and distributed. The second cost is the annual fund operating expense usually called the expense ratio, which covers the fund's expenses. The largest of which is for investing managements. Other expenses include primarily the cost of, 1) custody 2) the transfer agent cost, 3) independence public accountant fee, and 4) directors' fee. The sum of annual management fee, the annual distribution fee and other expenses is called the expense ratio.

Sales Charge

Sales charges on mutual funds are related to their method of distribution. The two types of distribution were sales force and direct. Sales force occurs via an intermediary agent. Direct distribution takes place without an intermediary. Funds with no sales charges are called no-load mutual funds. Some have speculated that load funds would eventually disappear, but the trend has gone the other way. Among the recent adaptations of the sales load are back-end loads.

Annual Operating Expenses (Expense Ratio)

The operating expense, also called the expense ratio, is debited annually from the investor's fund balance by the fund sponsor. Operating expenses are deducted from NAV and therefore reduce the reported return. The management fee, also called the investment advisory fee, is the fee charged by the investment advisor for managing a fund's portfolio. In 1980, the SEC approved the imposition of a fixed annual fee, called the 12b-1 fee, which intended to cover distribution costs. Such 12b-1 fees are now imposed by many mutual funds.

Multiple Share Classes

Share classes were first offered in 1989 following the SEC' s approval of multiple share class. Initially share classes were used primarily by sales-force funds to offer alternatives to front-end load as a means of compensating brokers. Later, some of the funds used additional share classes as a means of offering the same fund or portfolio through alternative distribution channels in which some fund expenses varied by channel.

ECONOMIC MOTIVATIONS FOR FUNDS

An investment company is a financial intermediary because it pools the funds of market participants and uses those funds to buy a portfolio of securities. They provide at least one of the following six economic functions: (1) risk reduction via diversification, (2) lower costs of contracting and processing information, (3) professional portfolio management, (4) liquidity, (5) variety, (6) payments mechanism.

TYPES OF FUNDS BY INVESTMENT OBJECTIVE

Investment funds tend to have a variety of investment objectives. In general, there are stock funds, bond funds, money market funds and others. They seek to accommodate a wide range of desires and needs, among them income, capital gains, growth, and income. Some funds specialize by securities, examples of which are indexed funds, government bond funds, municipal bond funds, corporate bond funds, money market mutual funds, and balanced funds--combination of bonds and stocks.

CONCEPT OF FAMILY OF FUNDS

Now many management companies offer investors a choice of numerous funds. Some firms provide a choice of funds and objectives. Changing from one to the other to reflect changing needs can then be accomplished at low or no cost to the investor. The funds in a family usually include choices ranging from money market funds to global funds, and funds devoted to particular industries such as medical technology or gold mining companies. Concentration in the mutual funds industry continues to increase.

INVESTMENT VEHICLES FOR MUTUAL FUNDS

Mutual funds may be included in different investment vehicles. An investment vehicle can be a non-qualified vehicle because it does not qualify for tax advantages. The same fund can also be included in a retirement plan such as 401(k), Roth 401(k), IRA or Roth IRA. These retirement plans are called qualified plans.

MUTUAL FUND COSTS

From 1980 to 2006, the measure of mutual fund costs declined from 2.32% to 1.07% for stock funds and from 2.05% to 0.84% for bond funds. There were three reasons for this decline. First, loads in general declined. Second, no-load mutual funds grew. Third, mutual fund expenses have also declined due to economies of scale and intense competition.

TAXATION OF MUTUAL FUNDS

Mutual funds must distribute at least 90% of their net investments income earned,

exclusive of realized capital gains or losses to shareholders to be considered a regulated investment company (RIC) and, thus not be required to pay taxes at the fund level prior to distribution to shareholders. Consequently, funds make these distributions. Capital gains distributions must occur annually, and typically occur late during the calendar year. New investors in the fund may assume a tax liability even though they have no gains. The investors must also pay ordinary income taxes on distribution of income.

REGULATION OF FUNDS

All investment companies are regulated under the Investment Company Act of 1940. They must register with the SEC and file periodic reports. No taxes are levied on funds, which distribute 90% of their income. There are minimum diversification and liquidity requirements as well as maximum fees that can be applied. Currently under consideration is a proposal allowing less redemption over a quarter, thus permitting funds to hold smaller proportions of liquid assets.

Among the recent SEC priorities, which directly affect mutual funds, are:

1. Reporting after taxes.
2. More complete reporting fee.
3. More accurate and consistent reporting of investment performance.
4. Requiring fund investment practices to be more consistent with the name of a fund to more accurately reflect their investment objectives.
5. Disclosing portfolio practices such as "window dressing".
6. Various rules to increase the effectiveness of independent fund boards.

STRUCTURE OF A FUND

A mutual fund organization is structured as follows: (1) board of directors, (2) mutual fund, (3) investment advisor, (4) distributor, (5) other service providers. The role of the board of directors is to represent the fund shareholders. External advisers are called subadvisers, and they are used because (1) to develop a fund in an area in which the fund family has no expertise, (2) to improve performance, (3) to increase assets under management, (4) to obtain an attractive manager at a reasonable cost.

RECENT CHANGES IN THE MUTUAL FUND INDUSTRY

Distribution Channels

Traditionally, funds were sold direct or through a sales force. However, funds have moved increasingly to nontraditional sources of sales.

Supermarkets: The organizer of a supermarket, like Charles Schwab, offers funds from

a number of different mutual fund families.

Wrap programs: Wrap accounts are managed accounts, typically mutual funds or ETFs, wrapped in a service package. The service provided is often asset allocation counsel, i. e., advice on the mix of managed funds or ETFs.

Fee-based financial advisors: Fee-based financial advisors are independent financial planners who charge a fee rather than a transaction charge for investment services. These fees are typically a percentage of assets under management or alternatively an hourly fee or a fixed retainer.

Variable annuities: Variable annuities represent another distribution channel.

Changes in the Costs of Purchasing Mutual Funds

The purchase cost of mutual funds has declined significantly. In general, load funds responded to the competition of no-load funds by lowering distribution cost.

Mix and Match

The investors' demands for choice and convenience, and also the distributors' need to appear objective, have motivated essentially all institutional users of funds and distribution organizations to offer funds from other fund families in addition to their own.

Domestic Acquisitions in the US Funds Market

There merger and acquisition business in the US asset management business has been active. The US asset management business continues to grow and consolidate across the various types of asset management firms.

Internationalization of the US Funds Business

The combination of a US fund company and international asset manager could occur in either two directions, i. e., with either being the acquirer. But the dominant direction has been the acquisition of US funds by international institutions.

EXCHANGE TRADED FUNDS

While mutual funds have become very popular with investors, they are often criticized for two reasons. First, mutual funds shares are priced at, and can be transacted only at the end of day (closing) price. The second relates' to taxes and the investors' control over taxes. Withdrawals by some shareholders may cause taxable realized capital gain for

shareholders who maintain their positions.

Closed-end funds trade all during the day on stock exchange, but there is often a difference between the NAV and the price of the closed-end funds. Both mutual funds and closed-end funds are similar in that they are instruments based on the portfolio of their securities, but closed-end funds are transacted continuously throughout the day.

An investment that embodies a combination of the desirable aspects of mutual funds (open-end funds) and closed-end funds is the exchange-traded fund (ETF). These are mostly index funds. They are traded on an exchange, and they are like open-end funds in that the number of shares can change.

ETC Creation/Redemption Process

For ETCs, individuals do not deal directly with the provider of the ETF. That privilege is reserved for a few very large investors called authorized participants (AP) who are arbitragers. Authorized participants are mainly large institutional traders who have contractual agreements with ETF funds. They are the only investors who may create or redeem shares of an ETF with the ETF sponsor and then only in large specified quantities called creation/redemption units. These unit sizes range from approximately 50,000 to 100,000 ETF shares.

ETF Sponsors

Like mutual funds, ETFs require a company to sponsor them. The ETF sponsor must (1) develop the index, (2) retain the authorized participants, (3) provide seed capital to initiate the ETF, (4) advertise and market the ETF, (5) engage in other activities.

Mutual Funds versus ETFs: Their Relative Advantages

The following are ETF advantages. Mutual funds are priced only once a day. But ETFs are traded on an exchange and so there is continuous pricing. Both passive mutual funds and ETFs have low fees, but ETF fees tend to be somewhat lower. All ETFs trade on an exchange and incur commission. As to taxes, mutual funds may lead to capital gains taxes for investors who do not even liquidate their fund. Because of the unique structure of ETFs, ETFs can fund redemptions by in-kind transfers without selling their holdings, which have no tax consequences.

Mutual funds have the following advantages. While ETFs have been exclusively passive or indexes, mutual fund families offer many types of active funds as well as passive funds. Additionally, no-load mutual funds, both active and passive, permit transactions with no loads or commissions.

Separately Managed Accounts

Many high net worth people object to mutual funds because (1) lack of control over taxes, (2) lack of any input into investment decision, (3) absence of services. The use of separately managed accounts responds to all these limitations of mutual funds.

CHAPTER 8 PENSION FUNDS

INTRODUCTION TO PENSION FUNDS

A pension plan is a fund that is established for the payment of retirement benefits. Pension plans are set up by plan sponsors to pay retirement benefits. Monies are placed in the funds by the employer/employees and earnings compound tax-free until withdrawn at retirement. The key factor explaining pension fund growth is that the employer's contributions and specified amount of the employee's contributions, as well as the earnings of the fund assets, are tax exempt. In essence, a pension is a form of employee remuneration for which the employee is not taxed until funds are withdrawn.

TYPE OF PENSION PLANS

Defined Benefit Plan

In a defined benefit plan, payments are specified upon retirement by the sponsor. The amount available upon retirement becomes a function of the amount placed in the fund and years of service. The pension obligations are effectively the obligation of the plan sponsor, who assumes the risk of insufficient funding to meet contractual payments. Plan sponsors often buy annuities from insurance companies, thereby shifting the risk to these companies. Such plans are called insured benefit plans, though the phrase is a misnomer in that the benefits are guaranteed only so far as the insurance company can provide the funds.

The Pension Benefit Guaranty Corporation (PBGC), established under ERISA provides only for vested benefits payments in event of discontinuation by the plan sponsor. Defined benefit plans are expensive and hard to implement when few employees work for only one company over many years.

Benefits become vested when employees reach a certain age and complete enough years of service to meet minimum requirement for receiving benefits. In recent years, firms have not adopted defined benefit plans. Major firms that have them have been freezing their plans. This is because they are costly and firms have found that the plans hinder their competitiveness.

Defined Contribution Plans

In a defined contribution plan, the plan sponsor provide only for specified contributions to the fund. No guarantees are given as to the amount of benefits that will

be available upon retirement. Thus the risk of poor performance is borne by the employee. Such plans are usually provided under Section 401 K of the Revenue Code, and the employee can usually direct what group will manage these funds. The fastest-growing sector of DCP is the 401k, 403(b) and 457. By end of 1999, over one trillion dollars had been placed in 401k. The largest public sponsor of a defined contribution plan is the Federal Retirement Thrift (\$233 billion).

Hybrid Pension Plans

In an effort to offset the flaws of the defined contribution and benefit plans, a number of companies have started to select hybrid pension plans, wherein an employer contributes a certain amount each year. A pre-set minimal benefit level is specified, but if the plan does not meet this goal, the employee must make up the deficit.

A cash balance plan is basically a defined benefit that has some of the features of a defined contribution plan. A cash balance plan defines future pension benefits. Each participant in a cash balance plan has an account that is credited with a dollar amount that resembles an employer contribution and is generally determined as a percentage of pay. The plan usually provides benefits in the form of a lump-sum distribution as annuity. Interest is credited to the employee's account at a rate specified in the plan and is unrelated to the investment earnings of the employer's pension trust.

INVESTMENTS

Defined benefit plans allocate more than 65% of their funds to equities and fixed-income securities. Defined contribution plans favor insurance company GICs. Since some qualified pension funds are exempt from federal taxes they have little use for municipal bonds in their portfolio. There are no federal restrictions on foreign securities investments, although sponsors may deny management this privilege.

REGULATION

Because pension plans are crucial for U.S. workers, pension plans are regulated under the Employee Retirement Income Security Act of 1974 (ERISA). Its major provisions include:

1. Minimum funding standards: a plan sponsor must make to he pension plan; cannot “pay as you go” ;
2. Fiduciary responsibility: must follow “prudent man” rule in investment practices;
3. Minimum vesting standards; for example that after five years of employment, a participant is entitled to 25% of accrued pension benefits.

4. Created PBGC for vested benefits funded by premiums under direct benefit plans.

MANAGERS OF PENSION FUNDS

A plan sponsor chooses one of the following to manage assets: (1) in-house staff, (2) outside money management firms, (3) combination of both. In addition to money managers, advisers called consultants provide other advisory services provided to pension plan sponsors. These include:

1. Developing an investment policy and asset allocation;
2. Providing actuarial advice;
3. Designing benchmark performance measures;
4. Monitoring performance;

-
5. Providing specialized research.

DEFINED BENEFIT CRISIS

Today, there is a crisis facing defined benefit pension plans. At the end of 2003, corporate pension underfunding or deficit was close to \$250 billion. Some estimates double this number. In essence, corporate and public plan sponsors have systematically underestimated pension liabilities. Pension funding is a cost that affects earnings. The returns on pension assets can be an earning if the projected return exceeds liabilities. This creates a perverse incentive to overstate projected returns and understate liabilities. The bottom line is that the failure to properly value pension liabilities because of the use of an inappropriate discount rate and the impact it had on the allocation decision among major asset classes to justify a high forecast return on assets were the two major contributing factors to this financial crisis.

PENSION PROTECTION ACT OF 2006

The Pension Protection Act of 2006 (PPA) contains two major parts. The first part modifies ERISA in the following way:

1. It required underfunded plans to pay additional premiums to the Pension Benefit Guaranty Corporation.

2. It extended the requirement that companies that terminate their pension plans provide extra funding to the pension system.

3. It closed loopholes that allowed underfunded plans to skip pension payments.

4. It raised the caps on the amount that companies can contribute to their pension plans so they can contribute more during prosperous times.

5. It required that companies measure their pension plan obligations more accurately.

6. It prevented companies with underfunded pension plans from providing extra benefits to their workers without paying for these benefits up front.

The second part of the PPA relates primarily to individuals' use of defined contribution plans. According to the PPA, employers can automatically enroll their employees in a defined contribution plan. It also permits employers to choose default options on behalf of the plan participants who do not make an election on how to invest their funds, and enables employers to obtain more investment advice for their employees by removing the fiduciary liability based on the perceived conflict of interest of self-interested investment advice provided by the employer.

CHAPTER 9 PROPERTIES AND PRICING OF FINANCIAL ASSETS

PROPERTIES OF FINANCIAL ASSETS

Here we discuss eleven properties of financial assets.

Moneyiness

Moneyiness is the degree to which an asset can be used as a medium of exchange, e.g. cash and demand deposits. Near-moneyiness would include savings and time deposits and Treasury bills, which can be transformed into money at little cost.

Divisibility and Denomination

Divisibility relates to the minimum size in which a financial asset can be liquidated and exchanged for money, e.g. the owner of a demand deposit can write a check for any amount in the account, but bonds only have par values of \$1000. Divisibility is important for investors who have small sums to invest or wish to make partial redemptions.

Reversibility

Reversibility refers to the cost of investing in a financial asset and then getting back to cash. It is sometimes referred to as turnaround or round-trip cost. Demand deposits generally traded without charge, but trading in other items often involves costs, such as commissions or bid-ask spreads of market makers. Spreads vary due to (1) risk-variability of price, and (2) thickness of market, which is the frequency of orders or length of time a security is held in inventory. A thin market is one that has few trades on a regular basis.

Cash Flow

The return that an investor will realize by holding a financial asset depends on all the cash distributions that the financial asset will pay its owners. In a world of inflation, it is important to distinguish between nominal expected return and real expected return.

Term to Maturity

Term to maturity is the length of time until liquidation. Some assets have immediate

maturities, e.g. demand deposits. Others are long-term, and some are perpetual (pay only interest, not principal). Call provisions allow for pre-maturity termination by the issuer. If investor has right to early pre-payment he has a put option.

Convertibility

Some assets are convertible to other assets, e.g. convertible debentures or preferred stocks can be converted into common stocks.

Currency

Currency is the foreign exchange value or foreign currency denomination of an asset. Some issuers, wish to reduce currency risk by issuing dual currency securities e.g. Eurobonds.

Liquidity

Liquidity can be seen in terms of the cost of selling an asset immediately against the cost of a timely search for an acceptable price. Some assets are highly liquid, e.g. demand deposits. Others have a very little liquidity, e.g. the sale of a house—a low price practically guarantees an immediate sale, but the capital loss to the owner may be substantial. Quantity can also be important. It may be hard to sell large quantities of securities in thin markets without a substantial reduction in price.

Return Predictability

Return predictability is a basic property of financial assets, in that it is a major determinant of their value. The volatility of returns denotes risk, which can be reflected either in expected future cash flows or in risk-adjusted discount rates.

Complexity

Some assets are complex in that they are actually combinations of two or more assets, e.g., a callable bond can be valued as a straight bond plus the value of the put option to the issuer. Even a convertible bond is a puttable bond in the sense that the investor has a bond with an option to sell it back to the at a pre-determined price.

Tax Status

An important feature of any asset is its tax status. Tax rates differ from time to time and country to country. Incomes from bonds are normally taxed, but municipals are free from federal income taxes. Since pension plans are not taxed they do not invest in such bonds.

PRINCIPLES OF PRICING OF FINANCIAL ASSETS

The fundamental principle of finance is that the true or correct price of an asset equals the present value of all cash flows that the owner of the asset expects to receive during its life.

$$PV = CF_1 / (1+r)^1 + . . . + CF_N / (1+r)^N$$

where PV = present value of the asset

CF = cash flow

r = discount rate

N = maturity of the financial asset

Appropriate Discount Rate

The appropriate discount rate, r , is the return that the market or the consensus of investors requires on the asset. The discount rate can be expressed as:

$$r = RR + IP + DP + MP + LP + EP$$

where RR = real rate of interest

IP = inflation premium

DP = default risk premium

MP = maturity premium

LP = liquidity premium

EP = exchange-rate risk premium

PRICE VOLATILITY OF FINANCIAL ASSETS

A fundamental principle is that a financial asset's price changes in the opposite direction of the change in the required rate of return, or the required yield. It is convenient to measure a change in yield in terms of what market participants refer to as a basis point rather than in terms of a percentage change.

Effect of Maturity

A change in price is a function of maturity. The longer the period to maturity, the greater is the change in price for a given change in discount rate.

Effect of Coupon Rate

The lower the coupon, the greater is the percentage of price sensitivity due to the

reinvestment factor. While an increase in interest rates causes a drop in price, it allows interest incomes to be reinvested at higher returns, therefore moderating a price drop. The greatest price sensitivity is associated with zero-coupon bonds, which afford no reinvestment of earnings at higher rates.

Measuring Price Sensitivity: Duration

The duration formula for price sensitivity is as follows:

$$\frac{\text{Price if yield is decreased} - \text{price if yield is increased}}{\text{Initial price} \times (\text{higher yield} - \text{lower yield})} \times 100$$

The percentage price change for an increase and decrease in interest rates is not the same. Therefore, the average percentage price change per basis point change in yield is calculated as:

$$\frac{P - P_t}{2 P_o (\Delta y)} \times 100$$

The measure of price sensitivity is called duration.

The concept of duration can be interpreted as the number of years for the returns (as reinvested) to equal the initial payout. The higher the number of years, the greater is the duration or price sensitivity. An easy way to apply duration is to see its effect on price changes using the formula:

$$-D (\text{change in yield}) \times 100$$

We know that if the yield goes up, the price will go down, but by how much? Assume an obtained duration of 9.09 and a -1% increase in yields. Then the approximate percentage price change will be:

$$-9.09 \times .01 \times 100 = -9.09\%$$

Macaulay duration is a weighted average term-to-maturity of the components of a bond's cash flows, in which the time of receipt of each payment is weighted by the present value of that component. What makes Macaulay duration a valuable measure is that it is related to the price volatility of a bond to changes in yield. The larger the Macaulay duration, the greater is the price sensitivity of a bond to a change in yield.

CHAPTER 10 THE LEVEL AND STRUCTURE OF INTEREST RATES

THEORY OF INTEREST RATES

Interest is simply the price paid by a borrower to a lender for the use of funds during some interval. But there are two primary competing theories that determine the basic interest rate level: Fisher's theory, which underlies the loanable funds theory, and Keynes' liquidity preference theory.

Fisher Classical Approach

Classical theory sees the interest rate as the interaction of supply and demand for savings. Supply is a function of time preference (whether to consume income now or a larger amount later), income (the higher the income the more funds saved), and the reward for saving in the form of higher interest rates. Demand for savings arises from the production function. As long as the marginal rate of return on an investment exceeds the cost of funds there will be a demand for more investment i. e. borrowing. The equilibrium rate of interest is then where supply equals demand. Under classical theory this rate did not change much in the short term, only in the long term on the basis of changes in the propensity to save and technological developments. The nominal (published) rate of interest equals the real rate plus an adjustment for inflation, which is justified to compensate the lender for loss of purchasing power.

Decisions on saving and borrowing: Saving is the choice between current and future consumption of goods and services. There are several influences on savings: (1) marginal rate of time preference, (2) income, (3) reward for saving. An important influence on the borrowing decision is the gain from investment. The gain from additional projects, as investments increase, is the marginal productivity of capital, which is negatively related to the amount of investment.

Equilibrium in the market: The equilibrium rate of interest is determined by interaction of the supply and demand function. As a cost of borrowing and a reward for lending, the rate must reach the point where total supply of savings equals total demand for borrowing and investment.

Real rate and nominal rate: There is a distinction between the nominal rate of interest and the real rate of interest. The relationship between inflation and interest rate is set forth in Fisher's Law: $(1 + i) = (1 + r) \times (1 + P)$ where i = nominal rate, r = real

rate, and P = expected percentage change in the price level of goods and services. This equation is approximated as: $i = r + P$.

Loanable Funds Theory

Fisher's theory does not consider the possibility that individuals and firms might invest in cash balances. Expanding Fisher's theory to encompass these situations produces the loanable funds theory of interest rates. This theory proposes that the general level of interest rate is determined by the complex interactions of two forces: (1) the total demand for funds by firms, governments and households; (2) the total supply of funds by firms, governments, banks, and households. The intersection of the supply and demand functions sets the interest rate level and the level of loans.

Liquidity Preference Theory

Keynes saw the equilibrium rate of interest as being where the demand for holding money equaled the supply of money. The later was controlled by the Fed, whereas the former was a function of income and interest rates themselves. Increases in income will create a greater demand for holding money. Likewise, at a low rate of interest, savers prefer to hold cash rather than invest in bonds, since they expect prices to decline in the near future.

Demand, supply and equilibrium: The public holds money for several reasons: ease of transaction, precaution against unexpected events, and speculation about possible rises in the interest rate. Although money pays no interest, the demand for money is a negative function of the interest rate. For Keynes, the supply of money is fully under the control of the central bank. Moreover, the money supply is not affected by the level of the interest rate.

Shifts in the rate of interest: The equilibrium rate of interest can change if there is a change in any variable affecting the demand or supply curves. On the demand side, Keynes recognized the importance of two variables: (1) level of income, (2) level of prices for goods and services.

Changes in the Money Supply and Interest Rates

A change in the money supply has three different effects upon the level of the interest rate: (1) the liquidity effect, (2) the income effect, and (3) the price expectations effect.

Liquidity effect: When money supplied is more than that demanded, individuals will buy bonds, thereby pushing up prices and lowering yields;

Income effect: The increased investment generates more income, and thereby a desire to hold more money, thus creating an upward pressure on yields;

Price expectations effect: If more money is supplied than demanded, and the economy is near full-employment, then inflationary price expectations will play a role driving up yields. There is no general guide to the relative size of the price expectations effect: it may be great enough to overwhelm the liquidity effect, or it may cancel only part of it. The magnitude of the income effect depends upon how much of the economy's productive capacity it is utilizing when the money supply rises. In the U.S. economy, the price expectations effect was dominant in 1970's. However, during 1990's, this effect is insignificant.

DETERMINANTS OF THE STRUCTURE OF INTEREST RATES

Features of a Bond

The term to maturity of a bond is the number of years during which the issuer has promised to meet the obligations. The maturity of a bond refers to the day the debt will cease to exist. The principal value of a bond is the amount that the issuer agreed to repay at maturity. This amount is also called the par value, maturity value, redemption value, or face value. The coupon rate is the interest rate that the issuer agrees to pay each year.

Yield on a Bond

Bond yield is meant the interest and changes in price over a stated period (usually annually) divided by purchase price. Yield to maturity (YTM) refers to annual income should the bond be held to maturity. This yield is consistent with the internal rate of return. The formula to calculate the yield to maturity is:

$$P = C / (1 + y)^1 + C / (1 + y)^2 + \dots + (C + M) / (1 + y)^N$$

where P = market price of the bond

C = coupon payment

M = principal

N = time to maturity

If at purchase the market price equals par, the YTM is the coupon rate. If market price is less than par, the YTM is greater than the coupon rate, and if market price is greater than par, the YTM is less than the coupon.

Some bonds pay annual coupon. Bonds in the US, however, pay semiannual coupon. To annualize the semiannual yield, the convention adopted in the bond market is to double the semiannual yield. The resulting yield is the bond-equivalent yield basis. The difference between the yields on any two bond issues is called a yield spread.

Base Interest Rate

Treasury securities are backed by the full faith and credit of the US government. Thus, they are considered risk free. There are two categories of the US Treasury securities: (1) discount securities, and (2) coupon securities. Discount securities pay only a contractually fixed amount at maturity.

The most recently auctioned Treasury issues for each maturity are called on-the-run or current coupon issues. Issues auctioned before the current coupon issues are called

off-the-run issues. The minimum interest rate or base interest rate demanded by investors for non-Treasury securities is the yield offered on a comparable maturity on-the-run Treasury. The base interest rate is also called the benchmark interest rate.

Risk Premium

The interest offered on a non-US treasury security is the base rate plus a spread (risk premium).

Interest Rate on Non-Treasury = Base Rate + Risk Premium

Base Rate = Real Rate of Interest + Expected Rate of Inflation

The base rate consists of the real rate expected inflation-rate with the introduction of TIPS, the yield on TIPS can be used as an estimate of the real rate of interest. In regard to the spread, these spreads must be interpreted relative to the benchmark interest rate used. This risk premium over and above the base rate depends upon several factors:

Type of issuers: The bond market is classified by the type of issuer, and groups of securities of various kinds of issuers are referred to as market sectors. The spread between the interest rates offered in two sectors of the bond market is referred to as intermarket sector spread. The spread between two issuers within a market sector is called the intramarket sector spread.

Perceived creditworthiness of issuer: Default risk refers to the risk that the issuer of a bond may be unable to meet its credit obligations. Bonds are typically rated by rating agencies. High grade means low risk. There is also medium grade, and high yield bonds. Bonds are classified into two categories: investment grade and noninvestment grade.

Term to maturity: The spread between any two maturity sectors of the market is called the maturity spread, or yield curve spread. The relationship between the yields on comparable securities but different maturities is called the term structure of interest rates.

Inclusion of options: Bonds may have embedded options. Bonds can have call or put provisions, and may be convertible.

Typically, the coupon on bonds is taxable income. Municipal bonds, however, are tax exempt. The yield that must be offered on a taxable bond issue to give the same after-tax yield as a tax-exempt issue is called the equivalent taxable yield. Typically, the coupon on bonds is taxable income. Municipal bonds, however, are tax exempt. The yield that must be offered on a taxable bond issue to give the same after-tax yield as a tax-exempt issue is called the equivalent taxable yield.

Expected liquidity of an issue: Bonds trade with different degrees of liquidity. The greater the expected liquidity, the lower is the yield. An important factor that affects the liquidity of an issue is the size of the issue.

Swap Rate Yield Curve

An interest rate swap is where a party swaps a floating rate for a fixed rate interest payment. The fixed interest rate is called the swap rate. The relationship between the swap rate and maturity of a swap is the swap rate yield curve, also called the swap curve or LIBOR curve.

There are several advantages of using a swap curve over a country's government securities yield curve. First, there may be technical reasons why within a government bond market some of the interest rates may not be representative of the true interest rate, but is instead biased by some technical or regulatory factors unique to that market. Second, a large number of maturities must be available to create a yield curve, and some government issues may have this feature. Lastly, the ability to compare government yields across countries is difficult because there are differences in the credit risk for every country.

CHAPTER 11

THE TERM STRUCTURE OF INTEREST RATES

THE YIELD CURVE AND THE TERM STRUCTURE

The graphical depiction of the relationship between the yield on bonds of the same credit quality but of different maturities is called the yield curve. These curves are typically constructed from U.S. Treasury bonds, since such securities have effectively no default or liquidity risks.

Using the Yield Curve to Price a Bond

At first glance bond pricing using a yield curve should be a relatively simple matter—just take the Treasury yield for the comparable maturity and add a risk premium. But securities with the same maturity can have different yields, depending upon the coupon rate and cash flow pattern. Because of the different cash flow patterns, the same interest rate cannot be used to discount all cash flows.

Constructing the Theoretical Spot Rate Curve

A better way to think about these bonds is as packages of zero-coupon bonds, wherein the interest paid for each period is the price at maturity. Determining the value of each zero-coupon bond can be derived from a theoretical spot rate curve of Treasury bonds (the

curve is theoretical because there are very few zero-coupon Treasuries). This process is called bootstrapping and employs the basic principle that the value of the Treasury coupon security should be equal to the value of the package of zero-coupon securities.

Using Spot Rates to Value a Bond

The theory suggests that theoretical price of a bond is equal to the present value of the cash flows. What economic force will assure that actual price will not depart significantly from its theoretical price? Since any coupon bond can be viewed as a package of zero-coupon instrument, the rate on a zero coupon bond is called the spot rate. This is shown by a process referred to as stripping a security. Each security created has a maturity value and maturity date equal to the date when the coupon payment of maturity value is due. In this manner, each security is treated as a zero coupon bond. It is the process of coupon stripping and synthetically creating a Treasury bond by buying the zero coupon bonds that will drive the price of T-bond to its value as determined by the spot rates.

FORWARD RATES

A forward rate is the rate on a loan at some future period, e.g. the yield on one-year bonds a year from now. The implicit forward rate can be calculated from the knowledge of current spot rates and finding an indifference rate. For example, assume the spot rate of one-year bond is 8% and for two-year bonds it is 10%. Suppose now that an investor would consider buying either a two-year bond (long-term) or two one-year bonds (short-term). The yield for the period must be the same. To reach that indifference point the investor must obtain 12% next year on his one-year bond to match the two-year offering. Hence the implicit forward rate becomes 12%. Of course, due to compounding and semi-annual payment periods, the actual situation is more complex. The general formula is:

$$f = (1 + z_2)^2 / (1 + z_1) - 1$$

where f = the forward rate for the second one period bond

z_1 = the bond equivalent yield of the theoretical spot rate for one period

z_2 = the bond equivalent yield of the theoretical spot rate for a second period

A future interest rate calculated from either the spot rates or the yield curve is called a forward rate or an implied forward rate.

Relationship between Spot Rates and Short-Term Forward Rates

In general, the relationship between a T-period spot rate, and implied forward rates is as follows:

$$Z_t = [(1+z_1) (1+f_1) (1+f_2) (1+f_3) \dots (1+f_{t-1})]^{1/t} - 1$$

Historical Shapes Observed for the Treasury Yield Curve

When the yield curve is upward sloped, it is called positively sloped yield curve. The convention in the market is to refer to a positively sloped yield curve whose maturity spread as measure by the 6-month and 30-year yields as a normal yield curve when the spread is 300 basis points or less. When the spread is more than 300 bp, the yield curve is said to be a steep yield curve. The markets can also see an inverted yield curve, and a flat yield curve.

DETERMINANTS OF THE SHAPE OF THE TERM STRUCTURE

Two major theories evolved to account for these observed shapes of the yield curve: the expectation theory and the market segmentation theory. Several forms of the expectation theory include the pure expectation theory, the liquidity theory, and the preferred habitat theory. The pure expectation theory posits that no systematic factors other than the expected future short-term rate affects forward rates. The other two theories assert that other factors are involved. The last two forms of the expectation theory are referred to as bias expectations theory.

The Pure Expectations Theory

According to the pure expectation theory, the forward rates represent expected future rates. The entire term structure at any point in time reflects the market's current expectations of the family of future short-term rates. In other words, the long-term rates represent the average of future and present short-term rates. A rising term structure indicates that the market expects short-term rates to rise. If interest rates are expected to increase, investors will lend long-term only if they are coaxed to do so by higher yields. Hence the curve will tilt upward.

Risks associated with bond investment: The theory neglects the risks inherent in investing in bonds. Two risks cause uncertainty about the return over some investment horizon: (1) the uncertainty about the price of the bond at the end of the investment horizon, called the price risk, and (2) the uncertainty about the rate at which the proceeds from a bond that matures prior to the maturity date can be reinvested until the maturity date, called the reinvestment risk.

Interpretations of the pure expectation theory: The broadest interpretation of this theory relies upon the assumption that holding period return must be identical for any investing strategy that spans the investor's chosen holding period. In other words, all combinations of bonds that comprise a five-year term should have the same total yield. A modification of this idea is considered to be more accurate. The local expectations

hypothesis says that long-term bonds will have the same returns when investors have short investment horizons. The final interpretation, called the return-to-maturity expectations theory, holds that investors will equate the yield on a package of bonds with a zero-coupon bond which has the same maturity. Only the second version is thought to hold much promise in describing actual market rates.

The Liquidity Theory

This theory suggests that investors do not like uncertainty, which tends to increase linearly over time. They prefer to hold liquid assets and must be coaxed out of such holdings and into long-term assets by higher rates. This is an outgrowth of Keynesian theory and implies that the curve must have an upward slope. At the very least it assumes that investors demand a liquidity premium over the average of expected future rates. According to the liquidity theory of the term structure, the implicit forward rates will not be an unbiased estimate of the market's expectations of the future interest rates because they embody a liquidity premium.

The Preferred Habitat Theory

The preferred habitat theory accepts the view that the term structure reflects the expectations of the future path of interest rates as well as a liquidity risk premium. But it rejects the view that the risk premium must rise uniformly with maturity. Investors or borrowers are assumed to prefer certain maturity sectors and they are reluctant to shift out of those sectors unless induced by a premium to do so. The classic examples of investors with strong maturity preferences are banks (which by the nature of their liabilities structures prefer short-term investments) and insurance companies (which for the same reason prefer to stay with long-term securities).

Market Segmentation Theory

The market segmentation theory represents a stronger version of the preferred habitat theory, wherein shifts are not made out of maturity sectors. Hence the curve can be humped, negative or positive in slope, depending upon activities in various financial market sectors. Increased government borrowing in the form of T-notes, would raise rates among medium-term securities. The actual behavior of the term structure seems to follow characteristics of pure expectations in that arbitrage between rates of various maturities occurs according to the mathematical underpinnings that the expectations hypothesis provides. Segmentation represents a valid alternative, but it lacks the ability to explain many observed shapes and movements of the yield curve over time. Some combination of the two theories, as represented by either a liquidity premium or preferred habitat approach, is probably the most correct view of interest rate movements over time.

CHAPTER 12 RISK/RETURN AND ASSET PRICING MODELS

PORTFOLIO THEORY

Portfolio theory proceeds from the axiom that investors seek to maximize returns given some risk level they are willing to accept. Portfolios that maximize the expected return from an investment subject to a given level of risk are said to be efficient. From among efficient portfolios, the one which risk-averse investors prefer, is said to be an optimal portfolio. To construct an efficient portfolio, it is necessary to understand what is meant by expected return and risk.

Investment Return

The return on an investment portfolio during a given interval of time is equal to the change in value of the portfolio plus any distributions received from the assets in the portfolio. These returns are expressed as a fraction of the initial portfolio value.

$$R = (V_1 - V_0 + D) / V_0$$

where V_1 = portfolio value at the end of interval

V_0 = portfolio value at the beginning of interval

D = cash distribution during interval

For purposes of comparison, returns are expressed per unit of time, usually a year. If several years of units are included in the time horizon, then the return can be computed by averaging the return over the several unit intervals. There are three averaging methods in use: (1) the arithmetic average return (simple average of total return divided by number of time units), (2) time-weighted rate of return (also referred to as the geometric average), (3) dollar weighted return. One measure of risk is the extent to which future portfolio values are likely to diverge from the expected value.

Portfolio Risk

Portfolio risk can be measured in terms of the dispersion of returns about the expected value or mean return. The variance of return is a weighted sum of the squared deviations from the expected return. The standard deviation is the square root of the variance.

Expected Portfolio Return

A particularly useful way to quantify the uncertainty about the portfolio return is to specify the probability associated with each of the possible future returns and

calculate the expected value of the portfolio return. The expected value is the weighted average of the possible outcomes, where the weights are the relative chances of occurrence. The expected return on the portfolio is expressed as:

$$E(R) = P_1 R_1 + P_2 R_2 + \dots + P_N R_N$$

Probability distributions can take various shapes. For a symmetrical distribution, the dispersion of returns on one side of the expected return is the same as the dispersion on the other side of the expected return. The risk of a portfolio is measured by the variance and standard deviation of returns.

Diversification

Diversification results from combining securities whose returns are less than perfectly correlated in order to reduce portfolio risk. It smoothes out the variation of returns and reduces the variability. Much of the total risk is diversifiable. But not all risks can be eliminated via diversification. Unsystematic risk (that which relates uniquely to the security or issuing firm) can be substantially reduced with a large, well-diversified portfolio. Still some risks remain which affect all firms to some degree (e.g. business cycles and interest rate changes). This is the market or systematic risk.

Mathematically, a security's return is composed of: $R = \beta r_m + e$ where, beta is a market sensitivity index, indicating how sensitive the security return is to changes in the market level. The unsystematic return is independent of the market return and is represented by the epsilon e . The systematic risk of a security is equal to β times the standard deviation of the market return. The unsystematic risk equals the standard deviation of the residual return factor. Portfolio systematic risk is equal to the portfolio beta factor times the risk of the market index. The portfolio beta factor is simply the average of the individual security betas, weighted by the proportion of each security in the portfolio.

The Risk of Individual Securities

The systematic risk of an individual security is that portion of its total risk that cannot be eliminated by combining it with other securities in a well diversified portfolio. Thus, we have:

$$\text{Security Return} = \text{Systematic Return} + \text{Unsystematic Return}$$

The security return may be expressed as:

$$R = \beta R_M + \epsilon \quad \text{where } \epsilon \text{ is unsystematic return}$$

The security return model is usually written in such a way that the average value of the unsystematic return is zero. This is accomplished by adding a factor alpha α to the model to represent the average value of the unsystematic returns over time.

$$R = \alpha + \beta R_M + \varepsilon \quad \text{where } \varepsilon \text{ is unsystematic return}$$

This model for security returns is referred to as the market model.

Estimating Beta

Beta can be estimated by regressing returns of a security on the returns of a market portfolio. Since historical data are employed the beta computed will vary with the time period used, number of observations, and market index employed. Thus a question may be raised about the stability of beta over time.

THE CAPITAL ASSET PRICING MODEL

The capital asset pricing model (CAPM) asserts that the expected return on a portfolio should exceed the risk-less rate of return by an amount that is proportional to the portfolio beta. The relationship between expected return and risk should be linear.

Underlying Assumptions

The model contains several critical assumptions: (1) investors are risk-averse; (2) investors have common time horizon; (3) investors have homogeneous expectations; (4) perfect markets exist, with no transactions costs and borrowing rates are equal to lending rates.

Tests of the CAPM

One major difficulty in testing the CAPM is that the model is stated in terms of investor expectations and not in terms of required returns. Yet a number of tests have been tried, the results suggesting that there is indeed a linear risk/return relationship. More noted is Roll's critique which states while the CAPM is testable in principle, no correct test of the theory has yet been presented. There is only one potentially testable hypothesis, namely that the true market portfolio is mean-variance efficient. Because the true market portfolio must contain all worldwide assets, the value of most of which cannot be observed, the hypothesis is in all probability untestable.

THE MULTIFACTOR CAPM

The CAPM assumes the only risk is uncertainty about future market prices. But Robert Merton suggests that there exist extra-market sources of risk of concern to investors as well, such as future income, inflation, future investment opportunities. These risks affect ability to consume goods and to invest in securities in the future. Thus Merton has developed a "multifactor CAPM" to incorporate these extra-market risks in the model. In essence a security's return has a Beta sensitivity to several factors. What these precise factors are and how many, however, has not been established. Thus this model is even harder to test than the straight CAPM.

ARBITRAGE PRICING THEORY MODEL

Developed by Stephen Ross, the arbitrage pricing model (APT) assumes that there are several factors that determine the rate of return on a security, not just one as in the case of the CAPM. Rather, a security's return is linearly related to "H" factors, but what they are is not specified. It is like the multifactor CAPM but distinguished from it in that it does not require a market index or standard deviation of returns.

Empirical Evidence

Empirical work suggests the following four plausible factors:

1. unanticipated changes in industrial production;
2. unanticipated changes in the spread between the yield on low grade and high grade bonds;
3. unanticipated changes in interest rates and the shape of the yield curve;
4. unanticipated changes in inflation.

ATTACKS ON THE THEORY

Portfolio theory is a normative theory. It describes how investors should behave. However, a number of positive theories have challenged portfolio theory by showing disparities between how investors should behave and how they actually behave.

Asset Return Distribution and Risk Measures

There is empirical evidence to suggest that the probability distribution of returns is not normal, but is skewed. This means that between periods when the market exhibits relatively modest changes in returns, there will be periods when there are changes that are much higher (i.e., crashes and bubbles) than the normal distribution predicts.

Assault by the Behavioral Finance Theory Camp

Behavioral finance looks at how psychology affects investor decisions and the implications not only for portfolio theory but also asset pricing theory and market efficiency. There are three themes in the behavioral finance literature: (1) investors err in making investment decisions because they rely on rules of thumb, (2) investors are influenced by form as well as substance in making investment decisions, (3) prices in the financial market are affected by errors and decision frames.

The first theme involves heuristics, a term meaning a rule of thumb strategy to follow in order to shorten the time it takes to make a decision. There are circumstances where heuristics can work fairly well. But it can also lead to cognitive biases, or heuristic-driven biases.

The second theme involves the concept of framing, meaning the way in which a situation or choice is presented to an investor can drive results. For example, investors often fail to treat the value of their stock portfolio at market value. Instead, they have a “mental account” where they continue to market the value of each stock in their portfolio at the purchase price despite the change in the market value.

The third them of behavioral finance involves how errors caused by heuristics and framing dependence affect the pricing of assets.

CHAPTER 13 PRIMARY MARKETS AND THE UNDERWRITING OF SECURITIES

TRADITIONAL PROCESS FOR ISSUING NEW SECURITIES

Financial market for new issues is called the primary market. The participants in the marketplace that work with issuers to distribute newly issued securities are called investment bankers. Investment banking is performed by securities firms and commercial banks.

Underwriting is the issuing process involving investment bankers who (1) may advise the issuer on terms and timing of a securities issue, (2) buy the securities themselves (thereby underwriting or taking on the risk of a successful bond sale themselves) and is referred to as firm commitment and (3) sell the issues to investors. Investment bankers profit by the price spread at which they buy the bond and resell it. A best efforts arrangement does not involve the investment bank buying the entire issue. Spreads vary with circumstances and types of issues. An initial public offering (IPO) and a small issue will command a large spread due respectively to greater risks and transactions costs. A secondary common stock offering is an offering of common stock that had been issued in the past by the corporation.

The fee earned from underwriting a security is the difference between the price paid to the issuer and the price at which the investment bank re-offers the security to the public. This difference is called the gross spread, or the underwriter discount.

Given the price for inherent in many bond and stock floatation's, investment bankers often form syndicates, or selling group, wherein several such bankers here in the underwriting risks and the distribution process. Such syndicates also often make a market for their securities by buying and selling them for and from their own portfolios. Such activity is designed to bolster market prices and their pertinent securities.

REGULATION OF THE PRIMARY MARKET

Underwriting activities are regulated by the Securities and Exchange Commission (SEC) under the SEC Act of 1933. With some exemptions, issuers and underwriters must file with the SEC a registration statement. This is divided into two parts: a prospectus, and supplemental information. They are responsible for maintaining due diligence on providing information. They can be fined and underwriters sued in the case of misleading information.

The SEC approves an issue only on the basis of accuracy of information, not investment merit. A “red herring” prospectus is often issued by the underwriter during the waiting period (it sets out required information “pending approval by SEC.”

As of 1982 issuers can use shelf-registration, pre-approved issues not yet distributed. Doing so eliminates timing problems when companies later want to issue securities on the open market. Rule 415: Shelf Registration: Rule 415, the shelf registration rule, permits certain issuers to file a single registration document indicating that it intends to sell a certain amount of a certain class of securities at one or more times within the next two years.

VARIATIONS IN THE UNDERWRITING PROCESS

Bought Deal

In a bought deal, the underlying firm that buys the deal will have presold most of the issue to institutional clients. Under Rule 415 (Shelf Registration) underwriters may have to respond quickly to issuer needs. Bids must be accepted quickly and thus require substantial capital commitments. Risks can sometimes be mitigated, however, by pre-selling to clients.

Auction Process

Competitive bidding underwriting, sometimes mandated as in the case of public utilities. The issuer then takes the bid with the lowest yield (highest price). Thanks to computer technology there now exists a service that directly links issuers with institutional investors, thereby avoiding the investment banking middlemen. Presumably the price should be higher for the issue, but investment bankers respond by saying that they have a larger client base and that they provide the liquidity of a market maker. Therefore their costs should be lower. No empirical results on this issue yet. For auction of muni-bonds, Internet auction has started in recent years.

Pre-emptive Rights Offering

A corporation can issue new stocks to existing shareholders. This is called a pre-emptive rights offering. But not all shares of an issue may be sold by that means. To ensure the success of an offering, issuers often enter into standby underwriting agreements with underwriters, who will buy the unsubscribed shares. Of course, a commitment standby fee must be paid. Pre-emptive rights offerings are not common in the United States. The text-book (pages 280–281) demonstrates a numerical example how rights offering work.

PRIVATE PLACEMENT OF SECURITIES

A private placement is different from the public offering of securities. Thus some offerings are exempt from SEC registration. They include: (1) Intrastate offerings; (2) Small size offerings; (3) Non-public sales to accredited investors. Life insurance companies are major investors in private placement, holding more than \$354 billion of private placed securities.

Some offerings are exempt from SEC registration. They include:

1. Intrastate offerings;

2. Small size offerings;

3. Non-public sales to accredited investors; such investors tend to be institutions and wealthy individuals in a position to evaluate the securities and bear the risks. Some firms prefer less public disclosure and the flexibility of making agreements with single investors. Investment bankers, for a fee, can advise issuers and even help line up investors. Interest rates tend to be higher due to a relative lack of liquidity, but lower transaction fees can reduce overall costs.

Rule 144A

Until a few years ago buyers of privately placed securities were not free to resell them until two years after acquisition. This meant a lack of liquidity compared with publicly sold issues. As of 1990, however, Rule 144A allows certain large institutions to trade privately placed securities among themselves. As a consequence, liquidity has been enhanced, more institutions have been willing to hold such securities, and more foreign issuers have entered the U.S. market. Previous concerns about disclosure on public issues had made foreign companies somewhat hesitant to use American capital markets. Now they can have greater liquidity, while enjoying less disclosure and no SEC registration.

CHAPTER 14 SECONDARY MARKETS

FUNCTIONS OF SECONDARY MARKETS

Periodic trading of a security reveals the consensus price which an asset commands on the market. Thus a prospective issuer of new securities knows his costs or at what price level he must set his new bonds or stocks. In turn the prospective investor must determine whether that price meets his needs for value or returns. Liquidity provides the investor with an opportunity to reverse his trade. Without the ability to sell financial assets investors would be reluctant to purchase them in the first place. So liquidity actually enhances placement of securities for the issuer. By providing a place for buyers and sellers to trade secondary markets through brokers and dealers, reduce search costs. With large trading quantities and continuous trading, transactions costs are kept low.

TRADING LOCATIONS

In the United States there are both national (e. g. New York Stock Exchange) and regional (e. g. Midwest, Pacific) stock exchanges. Much trading (most of outstanding bonds) is on the over-the-counter market (OTC), wherein dealers buy for and sell from their own inventories. Members are linked by telecommunication, so no one physical setting is needed. The dominant OTC market in the U. S. is NASDAQ. In contrast, the organized exchanges provide for trades in designated locations through brokers.

MARKET STRUCTURES

Many organized exchange markets are continuous in that trading goes on in the same security all day. Thus no one price is fixed for a day, it constantly changes. In a call market the orders are batched and an auction fixes the day's clearing price. Many European markets operate in this manner, and the London gold price is set in this way. The New York Stock Exchange (NYSE) opens daily with calls--opening prices fixed by the specialists trading in their designated securities. From there on, however, the market functions in a continuous manner, and closing prices may bear little resemblance to opening ones.

PERFECT MARKETS

Perfect markets exist when there are large numbers of buyers and sellers so that all participants are price takers, not price setters. There should be investors who buy long and sell short. The latter activity helps reduce an upward bias in prices. There should also be no transactions costs or market friction, any impediments to interactions of supply and demand for the commodity exchanged. Friction can include: (1) commissions, (2) bid-ask spreads, (3) handling and clearance charges, (4) taxes, (5) costs of acquiring information, (6) trading restrictions, (7) restrictions on market makers, (8) regulatory halts to trading.

ROLE OF BROKERS AND DEALERS IN REAL MARKETS

In the real world all the stipulations for a perfect market do not exist. Not all traders can be present in a marketplace, nor are they all skilled in negotiation or equally well-informed about securities and securities prices. Hence the need for brokers and dealers who bring transactions costs into the picture.

Brokers

Brokers act on behalf of buyers and sellers. They receive, transmit, and execute trading orders. For these services they receive commissions in terms of a percent of the dollar value of the trade. They also provide other services such as research, recordkeeping, and advising. Brokers who only execute orders are called discount brokers and charge lower commissions.

Dealers as Market Makers

Markets may be imperfect in that a temporary imbalance may exist between prospective buyers and sellers of particular securities. Dealers, by keeping an inventory of securities supply continuity, for they are always willing to buy and sell. Investors, however, pay a price of immediacy, which is the broker's compensation for providing instant liquidity. Thus they play a role in price stabilization. By taking the opposite side of a trade when there are no other orders, the dealer prevents the price from materially diverging from the price at which a recent trade was consummated.

Some dealers, like exchange "specialists," have privileged information in terms of the limit orders they carry from other dealers and brokers. Such orders indicate the amount of investor interest above and below current market prices. Trends help specialists determine when to trade to and from their own account in order to fulfill their obligation to exchanges to maintain "fair and orderly" markets. Also, the dealer acts as an auctioneer in some market structures, thereby providing order and fairness in the

operations of the market.

Dealers have to be compensated for bearing risk. A dealer's position may involve carrying inventory of security or seller security that is not in inventory. There are three types of risks associated with maintaining a long or short position: (1) uncertainty about the future price of the security, (2) expected time to unwind a position and its uncertainty, (3) risk of information asymmetry.

In setting opening prices and in taking positions when required by market conditions, specialists carry out their duties in organized exchanges. Since they are not brokers, dealers do not charge commissions. Their compensation comes from the bid-ask spread on the securities they buy and sell. Normally, the ask price exceeds the bid price. The amount of the spread will vary with each security and is determined by the cost of order processing and compensation for risk.

MARKET EFFICIENCY

Operating Efficiency

Operational efficiency exists when trading occurs at the lowest available transactions costs. Until the mid-70s the commission was fixed on brokerage costs, regardless of size of order. Now commissions are negotiated, with major institutions obtaining low rates. The arrival of the discount broker has also helped bring rates down.

Pricing Efficiency

In an active strategy, investors seek to capitalize on what they perceive to be the mispricing of a security. In an efficient market, however, prices should reflect all public and private information. New information enters randomly, hence the application of the "random walk" to stock prices. Thus, on average, excess returns cannot be made on the market. Empirical studies have shown that securities markets in this country are reasonably efficient, though some anomalies exist. Hence, there is a rising interest in the passive strategy of indexing (buying and holding stocks in major market indicators).

ELECTRONIC TRADING

Electronic Bond Trading

Traditionally, bond trading has been based on broker/dealer trading desks. In recent years, however, there has been an evolution away from traditional bond towards electronic trading. There are several reasons for this transition. Because the bond business has been

principal rather than an agency business, the capital of the market makers is critical. The increase in the volatility of bond markets has increased the capital required from bond broker/dealer. Finally, the profitability of bond market making has declined.

The combination of the increased risk and the decreased profitability of bond market making has induced the major market makers to de-emphasize this business in the allocation of capital. This retreat by traditional market making firms opened the door for electronic trading. Electronic trading in bonds has helped fill this developing vacuum and providing liquidity to the bond market. Table 15-1 summarizes the major issues in EBT.

CHAPTER 15 TREASURY AND AGENCY SECURITIES MARKETS

MARKET FOR TREASURY SECURITIES

Treasury securities are backed by the “full faith and credit” of the U.S. Government. In essence, they have no credit risk. Such securities are prominent in financial markets due to (1) volume (the U.S. Government is the largest single issuer of debt in the world), and (2) liquidity (the volume and lack of credit risk make these securities very liquid).

Types of Treasury Securities

There are two categories of Treasury securities: discount and coupon securities. Coupon pays semiannual interest. Discount pays only a fixed sum at maturity. Treasury bills (T-bills) are short-term securities (one year or less to maturity). Since they are sold at discounts to par values, they pay no interest. Treasury notes are securities with 2–10 years to maturity. Treasury bonds are securities with maturity longer than 10 years.

Treasury Inflation Protection Security (TIPS) is a security that protects the investor’s return against inflation. It pays a fixed coupon, but the principal is subject to inflation adjustment based on the U.S. city Average All Items Consumer Price Index for All Urban Consumers (CPI-U).

The Primary Market

Treasury securities are issued on an auction basis, bills usually weekly, notes monthly, and bonds large quarterly. The Fed, acting as agent for the U.S. Treasury announces the auctions. It will accept both competitive and non-competitive price bids. Ultimately, the yield on the non-competitive bids equals the average of the competitive ones. The most recent issue is called on the run issue. In the typical auction the fed first deducts the dollar amounts of the noncompetitive bids and the purchases it will make. Occasionally, an outstanding issue is reopened at an auction instead of a new issue auctioned.

Historically, the remaining bids were then awarded to the highest price (lowest yield) bidders. The highest yield is called the stop yield and bidders at that price are awarded a percentage of their total tender offer. Bidders at higher yields are shut out. Now since 1998, all bidders are awarded securities at the highest yield (lowest price) of accepted bids—called a “Dutch auction” or single price. The bid-to-cover ratio is the ratio of the total par amount of competitive and noncompetitive bids by the public divided by the total par amount of the securities awarded to the public.

Any firm can deal in government securities, but in implementing its open market operations, the Federal Reserve will deal directly only with dealers that it designates as primary dealers. The auction process run by the Treasury is computerized and it can be electronically accessed by qualified broker-dealers.

Secondary Market

Secondary market for Treasury securities is OTC, on a continuous bid-asked basis. The most recent issue is called on the run. Dealers profit from: (1) bid-ask spreads, (2) inventory profits from price appreciation, and (3) earning more income from Treasury securities than cost of funding them (cost of carry). Dealers will trade with each other via brokers or with clients should the dealers make markets in the requested securities. Spreads are lower among dealers (inside prices) than to other customers (retail).

Treasury securities are traded before the time they are issued by the Treasury. This part of the secondary market is called when-issued market or wi market.

Any firm can deal in government securities, but the Fed will deal only with designated dealers in carrying out its open market operations. Primary dealers include commercial banks and investment houses, including few foreign security dealers. When government dealers trade with each other, it is through intermediaries known as government brokers.

T-bill values are quoted on a bank discount basis, not on a price basis. The yield on a bank discount basis is:

$$Y_d = D/F \times 360/t$$

where Y_d = annualized yield on a bank discount basis

D = dollar discount from face value

F = face value

t = number of days remaining to maturity

The price is then: $Price = F - D$

Regulation of the Secondary Market

In the Treasury securities market there is no display of bid-asked prices at which the public can transact. Neither is spread disclosure required. Prospective Treasury security investors must rely mainly upon primary market pricing and Fed disclosure.

Dealer Use of Repurchase Agreement Market

The repurchase market involves the selling and repurchase of securities, with the

repurchase price specified at the time of sale. In other words, a dealer sells securities at a low price and repurchases them at a higher price in lieu of interest payments. When the term of the loan is one day, it is called an overnight repo; a loan for more than one day is called a term repo. The effective yields are below bank and fed funds rates since dealers are actually borrowing using the securities as collateral. Dealers sometimes use repos to finance their securities inventories.

From the customer's perspective, the repo market offers higher yield on a short-term secured transaction that is highly liquid. There is no one-repo rate, rates from transaction to transaction depend on factors such as the term of the repo and availability of collateral. The federal funds rate determines the general level of repo rates. The repo rate will be slightly below the federal funds rate because a repo involves collateralized borrowing, while a federal funds transaction is unsecured borrowing.

When the Fed buys collateral for its own account, this is called a system repo. The Fed also buys collateral on behalf of foreign central banks in repo transactions that are referred to as customer repo. It is primarily through system repos that the Fed attempts to influence short-term rates. By selling securities for its own account, the Fed drains money from the financial markets, thereby exerting upward pressure on short-term interest rates. This transaction is called a matched sale.

Stripped Treasury Securities

The U.S. Treasury does not issue zero-coupon bonds, but dealers do. They purchase the bonds and "strip" them by selling receipts for individual coupon interest and principal payments. Since reinvestment risks are essentially eliminated, the receipts collectively sell at lower yields (higher prices), permitting dealers to enjoy arbitrage profits for their efforts. These securities are referred to as trademark zero-coupon Treasury securities. Primary dealers also issue generic receipts, called Treasury receipts, that are not directly associated with any of the participating dealers.

Not to be out daunted, the Treasury now strips its bonds itself under its Separate Trading of Registered Interest and Principal of Securities (STRIPS) program. Strips created from coupon payment are called coupon strips, and these created from the principal are called principal strips.

The process of separating each coupon payment, as well as the principal (called the *corpus*), and selling securities against them is referred to as *coupon stripping*. Although the receipts created from the coupon-stripping process are not issued by the U.S. Treasury, the underlying bond deposited in the bank custody account is a debt obligation of the U.S. Treasury, so the cash flow from the underlying bond deposited in the bank custody account is a debt obligation of the U.S. Treasury, so the cash flow from the underlying security is certain.

Coupon Stripping and Theoretical Value Treasury Securities

The theoretical value of a Treasury security should be equal to the present value of the cash flows discounted at the appropriate theoretical spot rate. The economic forces will assure that the actual price of a Treasury security will not significantly depart from its theoretical value.

MARKET FOR FEDERAL AGENCY SECURITIES

The market for the debt instruments issued by government-chartered entities is called the federal agency securities market. Federal agency securities can be classified by the type of issuer, those issued by government owned corporations, e.g., Tennessee Valley Authority and the U.S. Postal Service, and those issued by government-sponsored enterprises (GSE). GSEs come in two types: (1) publicly owned shareholder corporations, e.g., Fannie Mae and Freddie Mac (before the mortgage meltdown of 2008), and the Federal Agricultural Mortgage Corporation; (2) funding entity of a federally chartered bank lending system, e.g., Federal Home Loan Banks and the Federal Farm Credit Banks.

GOVERNMENT BOND MARKETS

The U.S. government bond market is the largest in the world. The largest non-U.S. government bond markets are Japan, Germany, France, UK, Italy, Spain, Belgium, Holland, Sweden, and Denmark. Most central governments issue fixed-rate coupon bonds. Some central governments offer bonds indexed to the country's inflation.

Methods of Distribution of New Government Securities

There are four methods of distribution that have been used by the central governments in issuing bonds. In a regular auction calendar/Dutch-style system, there is a regular calendar auction and winning bidders are allocated securities at the yield they bid. In the regular calendar auction/minimum-price offering, there is a regular calendar of offering, and all winning bidders are awarded securities at the highest yield accepted by the government (i.e., the stop-out yield). In the ad hoc auction system, governments announce auctions when prevailing market condition appears favorable. In the tap system, additional bonds of a previously outstanding bond issue are auctioned.

Inflation-Indexed Bonds

Outside of the United States, government bond coupon rates are linked to the rate of inflation referred to as linkers.

Sovereign Bond Ratings

There are two sovereign debt ratings assigned by rating agencies: a local currency debt rating and a foreign currency debt rating.

CHAPTER 16 MUNICIPAL SECURITIES MARKETS

TYPES AND FEATURES OF MUNICIPAL SECURITIES

Tax-Backed Debt

Tax-backed debt obligations are instruments issued by states, counties, special districts, cities, towns and school districts and secured by some form of tax revenue.

General obligation debt: The broadest type of tax-backed debt is general obligation debt. These bonds are usually serviced by the taxing power of the issuing state or local authority. In some cases the revenues from tax sources are specifically limited, as occurs when maximum property-tax millage amounts are stated.

Appropriation-backed obligations: Debt obligations with nonbinding pledge of tax revenue are called moral obligation bonds. Some municipal issues contain provisions for legislative approval of repayment. General tax revenue can be used to meet the obligations in the event of trouble with the original source of repayment.

Debt obligations supported by public credit enhancement programs: Municipal securities are often issued with a legal guarantee of a state or federal agency. States retain the power to withhold funding from municipalities and other issuers which have chosen to default on their obligations. This type of credit enhancement is legally binding, unlike that used with moral obligation bonds.

Revenue Bonds

These bonds are repaid from the income of the project for which they are issued. For example, turnpike bonds are paid off from the tolls collected from highway users. As a consequence, these bonds tend to be riskier than general obligation bonds, since their source of cash flows to service the debt is not as predictable.

Hybrid and Special Bond Structures

Insured bonds: Some municipal securities are backed by insurance policies written by commercial insurance companies. The insurance company commits itself to pay any interest and principal payments if they are not made in a timely fashion by the issuer. Of course, the cost for greater return protection is a lower yield.

Bank-backed municipal bonds: Municipal obligations that are supported by various types of credit facilities provided by commercial banks are called bank-backed municipal bonds.

The support is in addition to the issuer's cash flow revenues: letter of credit, irrevocable line of credit, and revolving line of credit.

Prerefunded bonds: Prefunded (or refunded) bonds are secured by an escrow fund of U.S. government obligations in sufficient amounts to repay the municipal issue. As a consequence, they are the safest of all municipal obligations if the escrow is properly structured and managed. Although prerefunded bonds are usually retired at their first or subsequent call date, some are structured to match the debt obligation to the maturity date. Such bonds are known as escrowed-to-maturity bonds.

Municipal Notes

These securities are short-term in nature, and they are usually issued for periods up to 12 months. These are commonly known as TANS (tax anticipation notes), BANs (bond anticipation notes), and RANs (revenue anticipation notes). Tax-exempt commercial paper is used by municipalities to raise funds on a short-term basis ranging from 1 to 270 days. Variable-rate demand obligations (VRDOs) are floating-rate obligations that have a nominal longterm maturity but have a coupon rate that is reset either daily or every 7 days. Commercial paper/VRDO hybrid is customized to meet the cash flow needs of an institutional investor.

Redemption Features

Muni bonds have either a serial maturity structure or a term maturity structure. In a serial maturity structure, parts of a bond issue mature over a period of several years. A term maturity structure provides for the debt obligation to be repaid at the end of the bond's planned life. Usually, term bond maturities range from 20 to 40 years. In a serial structure, parts of a bond issue mature over a series of different years, e.g. in a new issue, 1/10 of the bonds may mature in 2004, 1/10 in 2005, etc. The practice goes back to the days when sinking funds for munies were mismanaged and funds were used for politically expedient purposes rather than for bond retirement. To ensure repayment, the practice of early retirement was instituted. Since those days, however, local and state affairs have been better managed and a term maturity has again become commonplace. Sinking funds may be imposed, but so may call features.

MUNICIPAL BOND RATINGS

The causes of municipal securities defaults are: (1) economic conditions, (2) nonessential services, (3) feasibility of projects and industries, (4) fraud, (5) mismanagement, (6) unwillingness to pay, (7) natural disasters. Munies are generally second to U.S. Treasury securities in terms of risk and safety of the principal. Yet there remain some credit risks: (1) bankruptcy: the possibility of default due to insolvency, e.g. New York City and Cleveland were in default a few years ago; (2) limited bondholder

rights: in the celebrated Washington Public Power System (WPPS) fiasco, the courts limited bondholder rights to certain revenues during the periods of default.

Thus it is important to rely upon credit ratings by such reporting firms as Standard and Poors and Moodys. The credit rating reporting system is similar to the one used for corporate bonds. In establishing ratings credit analysts consider: (1) debt structure and burden; (2) budgeting policy and use of balanced budgets; (3) taxes and other revenues available to service the debt; (4) overall economic environment of the state or local community.

TAX RISKS ASSOCIATED WITH INVESTING IN MUNICIPAL SECURITIES

Municipal bonds are exposed to risks from changing tax policy. The first type of risk comes from the chance that federal rates would be lowered across the board, which would lead to a price decline for municipal securities. The second type of risk is that the IRS may decide to tax certain types of municipal bond interest in the future.

The demand for munies depends much upon the benefits of the federal income tax exemption. The value of this exemption will vary with taxpayer brackets. Hence, it becomes helpful to compare municipal bond yields with returns on other financial assets on a before-tax or bond equivalent yield basis. The formula for the bond equivalent yield is: $Y_b = Y_m / (1 - t)$ where Y_b = bond equivalent yield, Y_m = yield on a municipal bond, and t = tax rate. Thus, the higher the tax rate, the greater the bond-equivalent yield. An example of tax risk is a lowering of federal tax rates would lead to a price decline for munies.

A second tax risk is the fact that the tax exemption is merely considered a subsidy to state and local governments. It enables them to issue bonds at lower yields while depriving the federal coffers of revenues. There is no constitutional right to this exemption and periodic attempts are made in Congress to abolish this privilege in the name of revenue enhancement. So far lobbyists have succeeded in holding off these attacks, but given enough federal fiscal pressures, the situation may change.

THE PRIMARY MARKET

Municipal securities are sold publicly or privately through investment and commercial banks. Most states require competitive bidding for general obligation bonds, but this is not often the case for revenue bonds. The competitive sales are usually announced in *The Bond Buyer*, a trade publication of the municipal bond industry. However the debt is marketed, the municipal unit prepares an official statement describing its financial situation and the terms of the issue.

THE SECONDARY MARKET

Municipal securities are traded over-the-counter and through regional brokerage offices. Markets for the debts of smaller issuers, referred to as local credits, are maintained by regional brokerage firms, local banks, and by some of the larger Wall Street firms. Markets for the bonds of larger issuers, referred to as general names, are supported by the larger brokerage firms and banks. Dealers advertise spreads in The Blue List. Electronic bond trading started in 2000, over the Internet by large and small broker-dealers to institutional and individual investors.

YIELDS ON MUNICIPAL BONDS

The ratio of municipal yields to Treasury yields varies over time and yield spreads within the municipal bond market are attributable to differences in credit ratings (quality spreads) and differences in maturities (term spreads). The yield ratio is the percentage of the yield on a municipal security relative to a comparable Treasury security.

THE TAXABLE MUNICIPAL BOND MARKET

There are several reasons why municipalities may issue taxable bonds. First, before 1986, there were many more activities that municipalities could finance by issuing tax-exempt municipal bonds. Second, the U.S. income tax code imposes restrictions on arbitrage opportunities that a municipality can realize from its financial activities. The most common types of activities for taxable municipal bonds are (1) local sports facilities, (2) investor-led housing projects, (3) advanced refunding of issues that are not permitted to be refunded because the tax law prohibits such activity, and (4) underfunded pension plan obligations of the municipality.

REGULATION OF THE MUNICIPAL SECURITIES MARKET

The Securities Act of 1933 specifically exempted municipal securities from SEC registration and reporting requirements. The reasons for this exemption were grounded in: (1) a desire to foster state-federal cooperation; (2) the absence of recurrent abuses in municipal securities; (3) the level of investor sophistication (basically institutional investors); (4) occurrence of few defaults. The Securities Act Amendment of 1975, however, brought municipal bond underwriters under SEC regulations. The statute required the SEC to establish a 15-member Municipal Securities Rulemaking Board as an independent, self-regulatory agency. In 1989, the SEC approved a rule requiring disclosure for municipal securities offerings of \$ 1 million or more.

CHAPTER 17 MARKETS FOR COMMON STOCK: THE BASIS CHARACTERISTICS

COMMON STOCK CHARACTERISTICS

The stock markets have also changed since the early 1960s, due to (1) institutionalization (small investors now play only a minor role); (2) changes in government regulations, e.g. disclosure, types of trades, margin requirements; (3) innovations, e.g. computer technology permits program trading.

Equity securities constitute an ownership interest in a corporation. Two types of equity securities are preferred stock and common stock. Preferred stock is typically entitled to a fixed dividend, and common stock represents the residual interest. The total value of a corporation's common stock is the number of stock multiplied by the stock price, called the market capitalization or market cap. For common stock, the investment return is realized by (1) dividends, (2) capital appreciation. Dividends are typically cash distributions at the discretion of the board of directors. The tax law was changed so that dividends are taxed as either ordinary income or as qualified dividends. Qualified dividends are taxed at either 5% or 15%, depending on one's tax bracket.

TRADING MECHANICS

Types of Orders

A market order is a simple order to buy or sell at the current (best) price. Investors can also enter a limit order, in which they designate a price threshold for execution. A buy limit order indicates that the stock may be purchased only at the designed price or lower. A sell limit order indicates that the stock may be sold only at the designated price or higher. Unfortunately, limit orders which are far from current transaction prices may never be executed, and these orders are recorded in a limit order book.

The limit order is a conditional order. Another type of order is the stop order. This request is only executed if the market price reaches a certain level. A sell stop order is triggered only if the market price falls to a predetermined level; a buy stop order is triggered only if the price has risen to some level. Stop orders are dangerous because stocks are quite volatile and the stop price might not represent a new trading level when it is reached. In addition, once the stop price is reached the stop order becomes a market order and it will be executed at the current prevailing market price. A stop-limit order is a hybrid of both a stop order and a limit order. A market-if-touched order is a market order if a

designated price is reached. An opening order indicates a trade to be executed only in the opening range for the day, and a closing order indicates a trade to be executed only within the closing range of the day. A fill-or-kill order must be executed as soon as it reaches the trading floor or it is immediately canceled. An open order, or good until canceled order, is good until the investor specifically terminates the order.

One round lot, in the domestic markets, is 100 shares of the listed firm. An odd lot is a quantity less than a round lot. A block trade is another order designation; block trades are trades for 10,000 shares or those having a market value of \$200,000 or greater. Each exchange has a system for transmitting share orders between participants. On the NYSE, this system is known as the SuperDOT, or Super Designated Order Turnaround system.

Short Selling

Short selling involves the sale of securities not owned. They are borrowed from the broker and the proceeds of the sale are kept with the broker. The customer eventually covers the short by buying the stock in the open market (presumably at a lower price) giving the shares to the broker in return for the sale proceeds the broker had kept on hand. Customer must pay commissions, a lending fee on the stock and any dividends due during the period that the short sale is not covered. An "uptick" rule specifies that a short sale may not take place unless the prior trade was an uptick in the price. This rule is designed to foster price stabilization. Too many consecutive short sales could force a custodial substantial price decline.

Margin Transactions

Investors can purchase securities by borrowing the money from a broker and using the stocks themselves as collateral. The amount borrowed is known as *margin* and there are limitations on the maximum margin that brokers can provide to their clients. The borrowed fund is the debit balance. The call money rate or broker loan rate is the interest rate that banks charge brokers for funds for this purpose. These limits are set by the Federal Reserve under the Securities Exchange Act of 1934. Currently, the margin requirement is 40 percent (it was 50% as of March 2008). If the stock value changes, the investor may need to contribute more cash. The minimum level of margin is known as the maintenance margin, and this level is different for short-sellers and margin buyers.

Fed also requires a maintenance margin requirement. This is the minimum proportion of (1) the equity in investors margin account to (2) the total market value. If the investor's margin account falls below the minimum margin account, the investor is required to put in additional cash. Similarly, there are also margin practices for short selling. High margin requirements discourage speculation in the market. If the value of the equity goes down the stockholders will get margin calls requesting that the amount of decline be made up with additional cash. Failure to provide such cash will result in sale of the

stocks by the broker.

TRANSACTION COSTS

In terms of trading costs, explicit trading costs are the direct costs of trading, such as broker commissions, fees, and taxes. Implicit trading costs represent such indirect costs as the price impact of the trade and the opportunity costs of failing to execute in a timely manner or at all.

Explicit Costs

The most important explicit trading cost is commission. This is fully negotiable, and it may depend upon both the price and the size of the transaction. Brokers also charge custodial fees and transactions fees. Soft dollars are paid by brokers to clients in the form of free services and information in exchange for guarantees of order flow from those clients. Clients benefit from lower costs for information, but they are unable to shop around for better prices once they are locked into the order flow commitment. The SEC defines soft dollar practices as “arrangements under which products or services other than execution of securities transactions are obtained by an adviser from or through a broker-dealer in exchange for the direction by the adviser of client brokerage transaction to the broker-dealer.” The SEC imposes formal and informal limitations on the type and amount of soft dollar business money managers can conduct.

Implicit Costs

These are divided into impact costs, timing costs and opportunity costs. Impact costs result from large trades. These trades tend to increase prices for buy orders and decrease prices for sell orders. Crossing networks were developed to deal with impact costs. Investors also face timing costs when their orders are not executed immediately. Opportunity costs result from trades that are not executed, or when a delay occurs in the trade. The text also classifies costs on the basis of those which are identifiable and those which are not (opportunity costs from lost trades). In general, researchers consider implicit trading costs to be significant relative to explicit costs, and evidence suggests that costs vary across the different structures of markets.

TRADING ARRANGEMENTS FOR RETAIL AND INSTITUTIONAL INVESTORS

Trading characteristics are different for individual (retail) investors and institutional (wholesale) investors due to (1) the larger size of the trade, (2) lower commission structure and level, and (3) method of order execution.

Retail Stock Trading

The proportion of individual stock ownership has declined over time, but a larger percentage of institutional ownership represents the shares of intermediaries, which are ultimately held by individuals. Discount brokerages have thrived since commission deregulation in May 1975, and traditional “full service” brokers have had to offer more and more services and lower prices to compete.

Institutional Trading

Special arrangements for execution of institutional trades are: (1) orders requiring the execution of a trade of a large number of shares of a given stock (block trades); (2) orders requiring the execution of trades in a large number of different stocks as simultaneous as possible (program trades). This situation requires that arrangements be made to handle larger and well-timed transactions. These transactions take place in what is termed the upstairs market. Two types of trades are of interest to institutional investors:

Block trades are defined as 10,000 shares of a stock with a market value of \$200,000 or more. By 2007, the number of block trades ranged from about 4000 to 5000 per day. A block trade is defined by its size, not the method of execution. A number of methods can be used to execute the trading. Secondary distributions are an offering by a member firm of a block of listed stock off the floor at a price not exceeding the last sale price at the time of the sale.

Program trades involve large amounts of different stocks traded simultaneously, i.e. a large basket of a variety of stocks. This is sometimes referred to as “basket trades” because effectively a “basket” of stock is being traded. The NYSE defines a program trade as any trade involving the purchase or sale of a basket of at least 15 stocks with a total value of \$1 million or more. The two major applications of program trades are asset allocation and index arbitrage. This is sometimes confused with index arbitrage, which uses program trading to exploit price differences between the futures and the stock markets. Brokers can execute program trades either upstairs or use the automatic routing system. A fear of front running exists in that if a brokerage house is aware of a program trade order they may use the news generated for their own trading accounts and give their trades priority over their customer. Such front running is illegal, but hard to detect.

From a dealer’s perspective, program trades can be conducted in an agency or principal basis. The agency basis involves the selection by the investor of a brokerage firm solely on the basis of commission bids submitted by various brokerage firms. An agency incentive arrangement establishes a benchmark portfolio value for the group of stocks in the program trade. In a principal basis, the dealer commits its own capital to buy or sell the portfolio.

BASIC FUNCTIONING OF STOCK MARKETS

Price Reporting

Price reporting in the U.S. stock markets is conducted by the Consolidated Tape Association (CTA). The CTA is an independent industry-wide organization. It manages two systems to govern the collection, process and dissemination of trade and quote data. The two systems are (1) Consolidated Tape System, (2) Consolidated Quotation System.

Regulation

The basis for the federal government regulation of the stock market resides with the SEC. The SEC's authority is primarily based on two important pieces of federal legislation: (1) Securities Act of 1933, (2) Securities Exchange Act of 1934.

In addition to the SEC regulation, the exchanges also play a role in their own regulation through self-regulating organizations (SROs). The SRO of the NYSE has been responsible for the member regulation, enforcement, and arbitration functions of the NYSE. In addition the NASD has had the SEC authority to set standards for its member firms and standards of conduct for issuing securities and selling securities to the public. These two SROs merged and in July 2007 were replaced by the single organization the Financial Industry Regulatory Authority (FINRA).

Clearance and Settlement

There are several execution mechanisms for stocks. But there is only a single clearance and settlement mechanism for securities: the Depository Trust and Clearing Corporation (DTTC). In stock options, similarly, there is only one clearing mechanism, the Options Clearing Corporation (OCC).

Tick Size

The minimum price variation for a security is referred to as its tick size. The tick size used to be 1/8th. Currently, the tick size is \$0.01. This reduction in tick size narrowed the bid-offer spread considerably, which reduced the costs to customers and the profits of the market makers.

Block Trades

A block trade is defined as 10,000 shares of a stock with a market value of \$200,000 or more. These trades are conducted "upstairs" and "shown to" the market for potential price improvement.

Commissions

Commissions are negotiable. Once investors could negotiate commissions, discount brokers became a popular method for executing orders in the market.

As a result of the 1987 stock market crash, regulators and participants began to worry about investor behaviors which would tend to destabilize an otherwise sound market. In particular, there was recognition of the fact that price declines would lead to larger price declines. There was also some concern that investor fear would stimulate selling in a down market.

Price Limits and Collars

As a result of the 1987 stock market crash, regulators and participants began to worry about investor behaviors which would tend to destabilize an otherwise sound market. In particular, there was recognition of the fact that price declines would lead to larger price declines. There was also some concern that investor fear would stimulate selling in a down market.

Circuit Breaker Rule: Rule 80B of the NYSE instituted “circuit breakers,” which become applicable when the price level of the Dow Jones Industrial Average drops a designated amount during a trading day. The trigger levels vary:

Level One: A 1250 point drop in the DJIA halts trading for 1 hour if the decline occurs before 2pm, for 30 minutes if before 2:30pm, and has no effect between 2:30pm and 4pm.

Level Two: A 2450 point drop halts trading for 2 hours if the decline occurs before 1pm, for 1 hour if before 2pm, and for the rest of the day if after 2pm.

Level Three: A 3700 point drop halts trading for the remainder of the day regardless of when the decline occurs.

Trading Collar Rule: The trading collar rule restricts index arbitrage trading. Under the revised NYSE Rule 80A, if the DJIA moves up or down 2% from the previous closing value, program trading orders to buy or sell the S&P 500 stocks as part of the index arbitrage strategies must be entered with directions to have the order executions effected in a manner that stabilizes share prices.

STOCK MARKET INDICATORS

Several stock market indicators (indexes or average) have been developed to measure stock market performance. The oldest and still most widely used is the Dow-Jones Industrial Average (DJIA), an average of 30 blue chip heavily traded industrial stocks. Additional performance indicators are: the Standard & Poor's 500 (weighted prices based upon a previously-set index base of 100), the NYSE Index (calculated from the market value index of all stocks traded on the NYSE). There is also a NASDAQ Composite Index for issues traded over-the-counter. Larger indexes such as the Wilshire 5000 and the Russell 3000 incorporate the equities of many more companies.

Stock market indicators can be classified into three groups: (1) those produced by stock exchanges based on all stocks traded on the exchange; (2) those produced by organizations that subjectively select the stocks to be included in indexes; (3) those where stock selection is based on an objective measure, such as the market capitalization of the company.

PRICING EFFICIENCY OF THE STOCK MARKET

Forms of Efficiency

There are three forms of pricing efficiency (as expressed by researcher Eugene Fama, in papers published in 1970 and 1991). (1) *Weak form*: prices incorporate all historical information regarding price. If a market is weak-form efficient, technical analysts will not be able to earn returns higher than what they should earn based upon the risk they bear and transactions costs; (2) *Semi-strong*: prices reflect all public information, past and present. If a market is semi-strong form price efficient, fundamental analysts will not be able to find abnormal returns. (3) *Strong form*: prices are determined by all information, public or private. If the market is strong form efficient, professional money managers and corporate insiders will be unable to outperform a passive investment strategy.

The preponderance of empirical evidence supports the claims that the common stock market is efficient in the weak form. A positive abnormal return is return above what one would expect from market movements and the risk class of the security. Inefficient pricing in the market is called anomalies in the market. Technical analysts or chartists are investors who follow a strategy of selecting stocks based solely on price pattern or trading volume.

Implications for Investing in Common Stock

Common stock investment strategies can be classified into two general categories. An active strategy attempts to outperform the market by one or more of the following ways: timing the selection of transactions, identifying undervalued or overvalued stocks, and selecting stocks based on some market anomaly (e.g. small capitalization, low price-earnings, neglected firm). Active strategies are pursued if the market is believed to be inefficient or have pockets of inefficiency. Fundamental security analysts invest based on considerations related to the company, e.g., financial statements, quality of management, and economic environment for the company. It is generally accepted that individuals can often exploit temporary price inefficiencies, but that there are no large-scale opportunities to profit over time.

Fundamental Indexing

A passive investment strategy is pursued by those who view the market to be efficient. Indexing is the most popular form of passive investment followed by institutional investors. By indexing, an investor can capture the efficiency of the market by buying and holding a diversified market portfolio of stocks. In theory, the market portfolio consists of all financial assets, not just common stock.

CHAPTER 18 MARKETS FOR COMMON STOCK: STRUCTURE AND ORGANIZATION

EXCHANGE MARKET STRUCTURES

An exchange is often defined as a market where intermediaries meet to deliver and execute customer orders. There are two overall market models for trading stocks: (1) order-driven (or an auction market), in which buy and sell orders of public participants who are holders of the securities establish the prices at which other public participants can trade; (2) quote-driven, in which intermediaries (market makers or dealers) quote the prices at which the public participants trade. The market makers provide a bid quote (to buy) and an offer quote (to sell).

Order-Driven Markets

An order-driven market is referred to as a dealer market. In a pure market, the natural buyers are the source of liquidity for the natural sellers.

An order-driven market can be structured in two ways: (1) continuous market, where a trade can be made at any moment in continuous time; (2) call auction, where orders are batched together for a simultaneous execution in multilateral trade at a specific point in time.

Quote-Driven Markets

Quote-driven markets permit intermediaries, such as specialists in the NYSE, to provide liquidity. Intermediaries may be brokers or dealers.

For a stock in the US market, the highest bid and lowest offer across all markets is called the national best bid and offer (NBBO).

Order-Driven versus Quote-Driven Markets

Generally, order-driven markets are less costly, but some markets do not have sufficient liquidity. Thus, quote-driven markets are needed. Because of the different advantages of these two approaches, many equity markets are now hybrid markets: e. g., NYSE is primarily a continuous auction order-driven system but the specialists enhance liquidity. Also, the NASDAQ started as a dealer quote-driven market, but has subsequently incorporated order-driven features.

CHANGES IN EXCHANGE OWNERSHIP AND TRADING STRUCTURES

There has been a trend towards demutualization of market floors and exchanges. The change started in 1986 with the “Big Bang” in London. Subsequently, major futures changes have become electronic trading corporations and have merged. The NYSE became a publicly owned mainly electronically traded stock exchange.

THE U.S. STOCK MARKETS: EXCHANGES AND OTC MARKETS

The US stock exchanges have experienced the following types of changes: (1) the market structures of the exchanges; (2) the trading mechanisms of the exchanges; (3) consolidation among different types of assets, e.g., securities options and futures; (4) growth and diversity of the off-exchange markets; (5) consolidation internationally.

National Exchanges

The US stock markets are dominated by the NYSE and NASDAQ, the two largest exchanges.

New York Stock Exchange: The NYSE designates one particular market-maker to be responsible for price continuity and liquidity for each listed stock. The majority of members are designated *commission brokers*, and they execute trades on behalf of clients via the specialist structure.

The NYSE uses both continuous auction and call auction market structure. Thus it is a hybrid market. Most orders arrive from floor brokers and via SuperDot, an electronic order routing and reporting system. The largest membership category on the NYSE is that of the commission broker, an employee of one of the nearly 500 securities houses. Independent floor brokers execute orders for other exchange members who have more orders than they can handle alone or who require assistance in carrying out large orders. Registered traders are individual members who buy and sell for their own account.

A NYSE specialist is a market maker for each stock. The specialist is required to buy and sell those shares from other members and maintain an orderly market for that stock. Specialists maintain the limit order book which contains the prearranged quantities and prices which the specialist receives from brokers. These orders will be executed over time, and the specialist acts to minimize the impact of large orders on the market price of the issue. The information in this book is now open to other traders to facilitate greater price transparency.

Specialists have four major functions at the exchange. (1) As a dealer, they buy and sell for their own inventory and provide liquidity if there are no investors on the other side of a new transaction. (2) They serve, also, as agents for other exchange members,

executing orders on their behalf. (3) Given their presence in the exchange, specialists help to act as catalysts (brokers) by bringing buyers and sellers together. (4) Finally, they serve as auctioneers, quoting current bid and ask prices that are determined by market conditions.

Specialists must always give precedence to public orders over trading for their own account. When acting as an agent, they execute customer orders. When acting as a principal, they assume responsibility of maintaining a fair and orderly market. The term “fair and orderly market” means a market is characterized by price continuity and reasonable depth.

Commissions are negotiable. Once investors could negotiate commissions, discount brokers became a popular method for executing orders in the market.

American Stock Exchange: Amex is a national exchange. It is an auction-type market based on orders. Its specialist system is similar to that of the NYSE. The number of listings on and the trading volume of stocks on the Amex have continued to decline in recent years. It is now regarded as a minor market in US stocks, and it is heavily dependent on trading in stock options.

Regional Exchanges

Regional exchanges developed to trade stocks of local firms that listed their shares on the regional exchanges and also to provide alternatives to the national stock exchanges for their listed stocks. The US regional exchanges are: Chicago Stock Exchange, Philadelphia Stock Exchange, Boston Stock Exchange, National Stock Exchange, and Pacific Exchange.

Nasdaq Stock Market: The OTC Market

The Nasdaq is an electronic network which links a system of member-dealers across the country. It is essentially a telecommunications network that links thousands of geographically dispersed market-making participants. The two sections are (1) the Nasdaq National Market (NNM) and (2) the Small Cap Market. The Nasdaq is a competitive dealer, quote-based system. In October 2002, the Nasdaq started a system, called SuperMontage, which has led to a change in the Nasdaq from a quote-driven market to a market that provides both quote-driven and order-driven aspects: i.e., it became a hybrid market.

The NYSE versus Nasdaq: Fundamentally, the NYSE has been an auction-type market based on orders while Nasdaq has been a dealer-type market based on quotes. Recently, however, there has been a great deal of convergence between the two such that they are now hybrid market, though each emphasizes different aspects of their market systems.

Other OTC Markets

NASD trades represent a large portion of the market value of traded securities, but the majority of OTC trades occur outside of the NASDAQ system. One alternative is the OTC Bulletin Board, owned and operated by the NASD. The second most popular alternative is the National Quotation Bureau's "Pink Sheet" subscription service.

There are three parts to the OTC market: two under Nasdaq and a third market for truly unlisted stocks (which is composed of OTC Bulletin Board and the Pink Sheets).

Options Markets

In general, options trading is composed of two components: (1) options on individual stocks, and (2) options on indexes. Options exchanges are formed from two different origins: (1) options exchanges such as CBOE and International Securities Exchange (ISE), (2) stock exchanges such as Amex and Philadelphia Stock Exchange.

Other Stock Exchange Markets

During 2007, two options changes (ISE and CBOE) began stock exchanges, called the ISE Stock Exchange and the Chicago Board Options Stock Exchange. The ISE stock market has two components: (1) MidPoint Match is a continuous anonymous pool in which trades are executed at the midpoint of the national best bid and offer, (2) fully displayed continuous and anonymous electronic market wherein quotes are integrated in an auction market.

OFF-EXCHANGE MARKETS / ALTERNATIVE ELECTRONIC MARKETS

As of early 2008, a large volume of US stock trading is done off any of the regulated stock exchanges. The off-exchange markets (also called alternative electronic markets) have continued to grow rapidly and become much more diverse.

Electronic Communication Networks

Electronic communication networks are essentially off-exchange exchanges. ECNs are privately owned broker-dealers that operate as market participants. Instinet, the first ECN, began operating in 1969 before Nasdaq was founded in 1971. The number of ECNs increased considerably after the SEC imposed the order handling rules in 1997. As a result, ECNs significantly affected Nasdaq after 1997. ECNs such as Archipelago, Brut, Island, and Instinet captured a majority of Nasdaq volume in about two years. Instinet acquired Island in September 2002. Archipelago, which began operating in 1997, handles both institutional and retail order flow.

Alternative Trading Systems

In addition to ECNs, other alternative trading systems (ATS) developed as alternatives to exchanges. Broadly, there are two types of ATS: (1) crossing networks, which have functioned since the 1980s; (2) dark pools, which are much more recent.

Crossing networks are electronic venues that do not display quotes but anonymously match large orders. Crossing networks are systems developed to allow institutional investors to cross trades typically via computer. These networks are batched processors that aggregate orders for execution at pre-specified times. Crossing networks provide anonymity and reduced costs.

The major drawbacks of the crossing networks are that (1) their execution rates tend to be low, and (2) if they draw too much order flow away from the main market, they can to their own detriment undermine the quality of the very prices on which they are basing their trades.

Among the major crossing networks and their areas of specializations are: (1) LiquidNet, for the buy-side to buy-side only, (2) Pipeline, for buy-side to buy-side block business only, (3) ITG Posit, provides timed crossings 5 to 10 times per day for buy-side to buy-side only, (4) BIDS, is an agency broker, it does not engage in proprietary trading and thus compete with its customers.

Dark pools fulfill the need for a neutral gathering place and fulfill the traditional role of an exchange in the new paradigm. They are private crossing networks in which participants submit orders to cross trades at externally specified prices. They are electronic execution systems that do not display quotes but provide transactions at externally provided prices.

Among the advantages are: (1) non-displayed liquidity; (2) prevention of information leakage (anonymous trading); (3) volume discovery; (4) reduced market impact. Among the disadvantages are: (1) less or no visibility; (2) difficulty to interact with order flow; (3) no price discovery.

The sponsors of dark pools can be: (1) exchanges (NYSE Euronext, Nasdaq, ISE), (2) broker-dealers (Goldman Sachs, Morgan Stanley), (3) independent organizations (Instinet, Liquidnet), (4) consortia of other organizations.

EVOLVING STOCK MARKET PRACTICES

Smart Order Routers

Since 1999, it has been easier to trade NYSE listed stocks off the exchange. Such trading is called fragmentation. While the fragmentation of the NYSE has increased, the Nasdaq remains much more fragmented than the NYSE. One of the many results of this fragmentation has been the need by customers for some new systems to provide order management, handling, and routing services. These services select a market often on the basis of recent trading activity, resulting its user receiving the best execution across the markets by consolidating the information across the markets.

SEC Regulation NMS

The federal securities statute mandated a US national market system (NMS). During 2007, the SEC promulgated Regulation NMS for electronic exchanges. This regulation requires that

orders be executed at the market, which offers the best price for the customers. Regulation NMS' s impact is attributed to two rules.

The Order Protection Rule requires that trades be executed at the best display prices provided by an electronic trading system and accessible under one second. This means that markets will have to “route out” their orders to other markets if the other markets have a better price.

The Trade-Through rule provides price protection to top-of-book orders placed on exchanges that are electronically accessible. Reserve and hidden orders are not protected. All exchanges are required to have capabilities to route orders to the market with the best bid or offer if they are not able to match the price to execute an order on their own exchange.

The Access Rule requires the use of private linkages among exchanges to facilitate access to quotes and sets a limit on the access fees by the markets.

A common view is that Regulation NMS will fundamentally change US stock trading by creating a virtual centralized market in which all exchanges will be automated and interconnected.

Internalization

Internalization refers to off-exchange trades, mainly retail trades. As opposed to block trading, internalization involves keeping retail orders within the firm with broker-dealer buying from its sell orders and selling from its buy orders. This practice results in proprietary trading revenue for the broker-dealer.

Alternative Display Facility

An alternative display facility (ADF) is an entity independent of registered securities exchange that collects and disseminates securities quotes and trades. It is a display-only facility. The ADF is an alternative to exchanges for publishing quotations and for comparing and reporting trades.

Trade Reporting Facility

Traditionally, NASD has had a Trade Reporting Facility (TRF) on which off-exchange trades are printed. The SEC issued an order on June 30, 2006, approving Nasdaq to begin operating as an exchange in Nasdaq-listed securities. The order included approval of the TRF, a new limited liability company operated by Nasdaq and subject to NASD oversight. The National Exchange has set up a TRF, so currently such trades can be reported through this exchange as well.

Direct Market Access

Direct market access (DMA) refers to the use of electronic systems to access various liquidity pools and execution directly, without the intervention of a sell-side firm trading desk or broker. There are several advantages of DMA: (1) faster, (2) lower transaction costs, (3) anonymous transactions, (4) less chance of error.

Algorithmic Trading

Algorithmic trading is electronic trading systems have been developed to supplement or replace human traders. It allows smaller transactions rather than a single large block trading. Its advent is primarily due to both technology and regulation. The benefits are: (1) smaller transactions leaves no footprint, (2) allows traders to hide their intentions, (3) anonymity.

CHAPTER 19 MARKETS FOR CORPORATE SENIOR INSTRUMENTS: I

CREDIT RISK

The yield on corporate debt is made up of (1) yield on a similar maturity Treasury issue, and (2) a premium to compensate for the additional risks associated with the debt. This premium for the credit risk is the credit spread. The risk that an issuer's debt obligation will decline due to an increase in the credit spread is called the credit spread risk.

Credit analysis is the analysis of credit risk. In the U.S. much attention is given to credit analysis, especially as done by such well-known firms as Moody's and Standard and Poor's. These agencies provide credit ratings. An improvement in the credit quality of an issuer or issuer is rewarded with a better credit rating, an upgrade. A reduction in the credit rating is a downgrade. The potential decrease in price of a debt due to a downgrade is called downgrade risk.

COMMERCIAL PAPER

The issuance of commercial paper is an alternative to bank borrowing for large corporations (nonfinancial and financial) and municipalities with strong credit ratings. Commercial paper is a short-term unsecured promissory note issued in the open market that represents the obligation of the issuing entity. The maturity of commercial paper is typically less than 270 days and the most common maturity range is 30 to 50 days or less.

Issuers of Commercial Paper

Corporate issuers of commercial paper can be divided into financial companies and nonfinancial companies. There are three types of financial companies: (1) captive financial companies; (2) bank-related finance companies; (3) independent finance companies.

Corporations also use commercial paper for 'bridge' financing. Also, low-rated issuers have been able to use credit enhancements to enter the market. Smaller issuers are now benefitting from the letter of credit support of banks and by collateralizing their CP with high quality assets. CP has credit ratings provided by Standard and Poor's, Moody's and other rating services. Both domestic and foreign corporations issue commercial paper in the United States. Commercial paper issued with credit enhancement is referred to as LOC paper. Commercial paper issued by foreign entities is called Yankee commercial paper.

Directly-Placed Versus Dealer-Placed Paper

Commercial paper is classified as either: (1) directly placed paper is sold by the issuing firm directly to investors without using a securities dealer as an intermediary; (2) dealer-placed instruments are when the issuer uses the services of a security firm to sell its paper. Investment banking firms still dominate the dealer market, but commercial banks are making inroads.

Non-U.S. Commercial Paper Markets

Foreign countries have developed their own commercial paper markets, but the Eurocommercial paper exhibits some differences from American issues, such as (1) longer maturities; (2) often no bank backing; (3) always dealer placed; (4) many dealers involved in typical offerings; (5) due to longer maturities, there exist more trades in the secondary market. Samurai commercial paper is yen-denominated commercial paper issued by non-Japanese entities.

MEDIUM-TERM NOTES

A medium-term note (MTN) is a corporate debt instrument, offered continuously to investors by an agent of the issuer. Such notes are usually SEC registered, although Shelf Registration (Rule 415) allows large amounts to be registered at one time even though the issues may be spread throughout several years.

Size of Market and Issuers

In 2004, there was \$639 billion of MTNs outstanding issued by 132 firms using 440 programs. When the corporation considers an offering of either MTNs or corporate bonds, there are two factors. First is the cost of the funds raised after consideration of registration and distribution costs (the all-in-cost of funds). The second is the flexibility afforded to the issuer in structuring the offering.

The Primary Market

The traditional method of distribution of MTNs is on a best efforts basis, unlike corporate bonds which are underwritten, by either an investment banking firm or other broker/dealers acting as agents. A corporation that wants an MTN program will file a shelf-registration with the SEC for the offering of securities. The SEC registration for MTN offerings is between \$100 million and \$1 billion.

Structured MTNs

It is common that MTNs are coupled with derivative features. Some MTNs offer coupon reset formulas that vary inversely with a benchmark interest rate. This is called inverse floating-rate securities. MTNs created when the issuer simultaneously transacts in the derivatives markets are called structured notes.

BANK LOANS

Firms can also borrow funds from a variety of domestic and foreign banks. There are five potential sources: (1) domestic bank in the corporation's home country, (2) subsidiary of a foreign bank that is established in the corporation's home country, (3) foreign bank domiciled in a country where the corporation does business, (4) subsidiary of a domestic bank that has been established in a country where the corporation does business, (5) offshore or Eurobank.

Loans which are made by offshore banks are termed Eurocurrency loans, and they are available in a number of different currencies, including dollars, yen and deutschemarks. An investment grade loan is a bank loan made to corporate borrowers that have an investment grade rating. A leveraged loan is a bank loan to a corporation that has a below investment grade rating.

Secondary Market for Syndicated Bank Loans

Loans can be traded in the secondary market or securitized to create collateralized loan obligations using securitization technology. The trade association that has been the main advocate of commercial loans as an asset class is The Loan Syndications and Trading Association.

Syndicated Bank Loans

In the case of large funding needs, these loans are made by a syndicate of banks. A syndicated bank loan is formed when one bank either does not have sufficient funds to lend and/or desires to share the default risk with other banks. These are called senior bank loans because they are senior to bonds the borrower may already have outstanding. They are usually issued at rates that float and principal is typically amortized over time. Members of the syndicate can assign their shares to others (giving the assignee priority of contract with the borrower) or sell their participations (the buyer then does not participate in the original contract, the relationship remains with the seller of the participation). Bank loans are often securitized, thereby making them more marketable, providing cash and exposing the original lending banks to fewer capital restrictions. Structures in which no repayment of the principal is made until the maturity date can be arranged and are referred to as bullet loans. A participation involves a holder of a loan "participating out" a portion of the holding in that particular loan.

The holder of a loan who is interested in selling a portion can do so by passing the interest in the loan by the method of assignment. The seller transfers all rights completely to the holder of the assignment, now called the assignee. The assignee is said to have privity of contract with borrower.

Lease Financing

Leasing is a form of bank borrowing. This is often seen as leveraged lease financing, wherein a bank or other lessor will buy an asset (using borrowed funds) and lease the same to a lessee which puts the asset to work. The tax benefits of ownership are then transferred from the lessee to the lessor. In turn, the lessor may lease the item at a cost lower than the lessee could obtain through borrowing. Such leases are referred to as tax-oriented leases.

The two ways in which a lessor can finance the purchase of the equipment are, first, to provide all the financing from its own funds and therefore be at risk for 100% of the funds used to purchase the equipment. Such leasing arrangements are referred to as single-investor or direct leases. The second way, a leveraged lease, is for the lessor to use only a portion of its own funds to purchase the equipment and to borrow the balance from a bank or group of banks.

CHAPTER 20 MARKETS FOR CORPORATE SENIOR INSTRUMENTS: II

CORPORATE BONDS

Basic Features of a Corporate Bond Issue

Bonds generally pay periodic interest at a percent of par value and principal at maturity or in amortized amounts. Failure to meet these terms may lead to default. Bondholders have a prior legal claim over stockholder in case of default or bankruptcy. The promises of the issuer and the rights of the bondholders are set forth in the bond indenture. Usually a trustee (typically a bank) will hold the indenture and act in a fiduciary capacity on behalf of the investors. Major provisions of indentures include bond maturity, security of bonds, and provisions for paying off bonds.

Maturity of bonds: Most bonds are term bonds, for a term of years. These are often referred to as bullet-maturity, or bullet bonds. Obligations due less than 10 years from the date of issue are called notes. Most corporate borrowings take the form of bonds, due in 20 to 30 years. Some bonds are arranged to pay specified principal amounts at specific dates, which are called serial bonds.

Security of bonds: Bonds can be secured by collateral or asset liens. Mortgage bonds have liens on specified real assets. When a holding company issues bonds to fund operations of its subsidiaries, it may pledge collateral in the form of stock, note, bonds or whatever other financial assets it owns. The bonds are called collateral trust bonds. Equipment trust certificates involve a trustee gaining title to the asset and then issuing certificates. Lease payments pay the investors. Debentures have no specific collateral; they are unsecured obligations of the firm. Guaranteed bonds are loans guaranteed by some entity other than the issuer. A debenture bond is not secured by a specific pledge of property. A subordinated debenture bond is an issue that ranks after secured debt, after debenture bonds, and often after some general creditors in its claims on assets and earnings. A guaranteed bond is an obligation guaranteed by another entity.

Provisions for paying off bonds: The opportunity to refund (or repay) the bonds prior to maturity provides the issuer with an advantage over the investor. Refunding will normally occur when interest rates decline, forcing the investor to earn lower returns. A call provision limits price increases on bonds, since if the price goes high enough, the firm will exercise its call privilege. The call privilege is in essence an option, for which the firm typically pays a premium in terms of higher initial yields and/or a requirement to pay a premium over par at refunding time. Some issuers carry a sinking fund

provision, which specifies that the issuer must retire a predetermined amount of the issue periodically. Its purpose is to reduce credit risk. If the issuer has the choice to retire all or part of an issue prior to maturity, the buyer of the bond takes the chance that the issue will be called away at a disadvantageous time. This risk is referred to as call risk, or timing risk. If only a part of the outstanding bond is paid before retirement, the remainder is called a balloon maturity.

Bonds With Special Features

Convertible and exchangeable bonds: A conversion bond grants the bondholder the right to convert his bond into common stock at a set price per share (usually adjusted for changes in the outstanding common stock, such as splits and mergers). An exchangeable bond grants the bondholder the right to convert his bond into common stock of a firm other than the issuer. With this conversion privilege, the investor has an option for which he pays a premium in the form of a lower yield;

Issues of debt with warrants: Some bonds carry a warrant that permits the holder to purchase common stock at a set price per share from the issuer. Note that in contrast to the convertible, the bond remains in existence after stock purchase. In addition, the bondholder is required to purchase the stock using the warrant, providing more funds to the firm;

Puttable bonds: These are bonds that can be sold back to the issuer at some price, usually par value;

Zero-coupon bonds: These securities are sold at a discount from par or face value. The payment at maturity includes compounded interest. Investors benefit from a pre-determined return -- no reinvestment risk. Zero-coupon bonds are taxed as though they paid regular interest, however;

Floating-rate securities: With this type of bond, interest rates periodically reset to meet changing market conditions. This is similar to a series of short-term bonds without the actual rollover process. These have become popular in recent years as firms use them to: match cash flows; obtain short-term rates with fewer trips to the market; and obtain swap opportunities with caps and collars.

Corporate Bond Credit Ratings

The yield on corporate debt is made up of (1) yield on a similar maturity Treasury issue, and (2) a premium to compensate for the additional risks associated with the debt. This premium for the credit risk is the credit spread. The risk that an issuer's debt obligation will decline due to an increase in the credit spread is called the credit spread risk.

Credit analysis is the analysis of credit risk. In the U.S. much attention is given to credit analysis, especially as done by such well-known firms as Moody's and Standard and Poor's. These agencies provide credit ratings. An improvement in the credit quality of an issuer or issuer is rewarded with a better credit rating, an upgrade. A reduction in the credit rating is a downgrade. The potential decrease in price of a debt due to a downgrade is called downgrade risk.

Corporate debt is rated. The prime rating is triple A. Double A is high quality, and single A is upper medium grade. Bond issues assigned a rating in the top four categories are referred to as investment grade bonds. Issues that carry a rating below the top four categories are referred to as noninvestment grade bonds, or high yield or junk bonds.

Factors Considered by Rating Agencies

The rating agencies generally look at three areas: (1) the protections afforded to debt holders that are provided by covenants limiting management's discretion; (2) the collateral available for the debt holder should the issuer fail to make the required payments; (3) the ability of an issuer to make the contractual payments to debt holders.

There are three primary risks that agencies analyze. Business risk is the risk associated with operating cash flows. The risk of failure in corporate governance is corporate governance risk. Recent scandals such as Enron have brought to light this risk. Financial risks are risks based on underlying financial measures.

In addition to credit ratings, there are recovery ratings, which rate the possibility of recovery for defaulted debt instruments on an ordinal scale of 1-5.

High-Yield Sector

Prior to the introduction of the high-yield market, U.S. corporations that could not issue securities in the public debt market would borrow from commercial banks on a short-term basis. With the development of the high-yield bond sector, financing has shifted from commercial banks to participants in the market, thereby shifting the risk from commercial banks to the investing public in general. In general, those investors who decide to hold junk bonds are assumed to understand their risks, and they are expected to hedge these risks in their portfolio. There are some advantages to such a shift. Downgraded bonds fall into two groups: (1) issues downgraded because the issuer voluntarily increased its debt, or (2) issues downgraded for other reasons. The latter issues are called fallen angels.

The role of high-yield bonds in corporate finance: High yield bond market shifts the risk from commercial banks to the investing public. There are several advantages. First, when commercial banks lend to high credit risk borrowers, that risk is accepted indirectly all citizens, who may wish to accept the risk. The reason is that the commercial bank liabilities are backed by the Federal Deposit Insurance Company. Second, commercial bank loans are typically short-term, floating rate loans, which make debt financing less attractive to corporations. Third, commercial banks set interest rates based on their credit analysis. When high-yield bonds are traded in a public market, the investing public establishes the interest rate. Finally, the high-yield market opens the possibility of funding for some firms that previously had no means to it.

High-yield bond structures: There are three types of deferred coupon structures. Deferred-interest bonds are the most popular type of deferred coupon structure. Step-up bonds do pay coupon interest, but the coupon rate is low for an initial period and then increases to a higher coupon rate. Payment-in-kind (PIK) bonds give the issuer an option to pay cash at a coupon payment date or give the bondholder a similar bond.

High-yield bond versus leveraged loans: The coupon rate on high-yield bonds is typically a fixed-interest while those of leveraged loans are a floating rate. Bonds usually have a maturity of 10 years and are non-callable until 3-5 years after issuance. Leveraged loans are shorter term, usually 5-8 years, and offer no call protection. Leveraged loans are the most senior in the capital structure, and high yield bonds are subordinated to bank loans.

Secondary Market

Trade reporting and compliance engine: In June 2002, the NASD instituted a mandatory reporting of OTC secondary market transactions for corporate bonds that met specific criteria. The reporting system is the Trade Reporting and Compliance Engine (TRACE). As of February 2005, there were 29,000 publicly traded reporting issues.

Electronic bond trading: There are five types of electronic corporate bond trading systems. Auction systems allows market participants to conduct electronic auctions of securities offerings. Cross-matching systems bring dealers and institutional investors together in electronic trading networks that provide real-time or periodic cross-matching sessions. Interdealer systems allow dealers to execute transactions electronically with other dealers via the anonymous services of “brokers’ brokers.” Multidealer systems, also called client-to-dealer systems, allow customers with consolidated orders from two or more dealers that give the customers the ability to execute from among multiple quotes. Single-dealer systems permit investors to execute transactions directly with the specific dealer desired.

Eurobond Market

The Eurobond market is classified by the currency denomination of the issue. For example, there is the Eurodollar bond and the Euroyen bond. There are several features: (1) they are underwritten by an international syndicate, (2) at issuance they are offered simultaneously to investors, (3) they are issued outside the jurisdiction of any single country, (4) they are in unregistered form.

Fixed coupon bonds are Euro straights. There are floating-rate notes, whose coupon rate is stated as a margin over LIBOR. Dual-currency issues pay coupon in one currency but pay the principal in a different currency. An investor’s choice of currency is found in option currency bonds. Lastly, the bonds can be convertible or have warrants attached to them. An equity warrant permits the warrant holder to buy the common stock of the issuer at a specified price. A debt warrant entitles the warrant holder to buy additional bonds from the issuer at the same price and yields. A currency warrant permits the warrant holder to exchange one currency for another at a set price.

PREFERRED STOCK

With preferred stock dividends are not required to be paid, but cumulative provisions stipulate that back dividends must be paid before common stock dividends can be distributed. These are cumulative preferred stock. When dividends are not cumulative, they are noncumulative preferred stock. Usually, preferred shareholders enjoy no voting privileges, although some issues permit such privileges if dividends are deferred. Preferred dividends do not enjoy favorable tax treatment in the same manner as interest payments, but up to 80% of preferred dividends received by corporations are exempt from income taxes (an attempt to avoid triple taxation). Hence, most buyers are corporations who will accept a lower dividend than would be the case with full taxation. Preferred stock is similar to debt in that dividend payments must be met and shareholders have priority on assets over common stockholders. Some preferred stocks have sinking funds and convertible features, while some are perpetual preferred stock.

While some payments are fixed, based on the par value of the stock, the terms may change over time to make the securities more attractive to investors. In fact, most preferred stocks now carry some adjustable-rate feature.

Adjustable-rate preferred stock (ARPS): These preferred stocks have dividends that are fixed quarterly and reset depending upon a predetermined spread on the Treasury yield curve. This predetermined spread is called the dividend reset spread.

Auction and remarketed preferred stock: Auction referred stocks have dividend rates set by an auction process by current holders, not according to Treasury yields. Remarketed preferred stocks have reset rates that permit preferred stock to be tendered at par and resold at the original offering price.

BANKRUPTCY AND CREDITOR RIGHTS

U.S. bankruptcy law is governed by the Bankruptcy Reform Act of 1978. Chapter 7 deals with liquidation and Chapter 11 deals with reorganization. A corporation declares bankruptcy to protect itself from its creditors. As a debtor-in-possession, it has to choose between liquidation or reorganization under court supervision. Liquidation means that all the assets will be distributed to the holders of claims on the corporation and no corporate entity will survive. In reorganization, the company is reorganized into a new entity. Liquidation follows the absolute priority rule, which favors senior creditors over junior bondholders and over general creditors, as well as secured over unsecured bondholders. Voluntary bankruptcy is where the company initiates bankruptcy, and involuntary bankruptcy is where the creditors force bankruptcy.

The absolute priority rule states that senior creditors should receive more than any other stakeholder with lesser priority. In the event of liquidation, researchers have found

that courts generally respect the rights of creditors over the rights of shareholders. Studies of Chapter 11 reorganizations have found, however, that it is likely that priority will be violated when a firm is allowed to reorganize. There have been several theories put forward to explain this phenomenon. The incentive hypothesis argues that the longer the negotiation process among the parties, the greater the bankruptcy costs and the smaller the amount to be distributed to all parties. The recontracting process hypothesis argues that the violation of absolute priority reflects a recontracting process between shareholders and senior creditors that gives recognition to the ability of management to preserve value on behalf of stockholders. According to the stockholders' influence on reorganization plan hypothesis creditors are less informed about the true economic operating conditions of the firm than is management and thus creditors suffer loss from a lack of information. The strategic bargaining process hypothesis argues that increasing the complexity of firms that declare bankruptcy accentuates the negotiating process and results in an even higher incidence of violations of the absolute priority rule.

CHAPTER 21 THE MARKETS FOR BANK OBLIGATIONS

TYPES OF BANKS OPERATING IN THE U.S.

In addition to debt instruments discussed in previous chapters, banks also seek funding from: certificates of deposit, federal funds, and bankers acceptances.

Banks can be classified into the following categories: (1) money center banks, (2) regional banks, (3) Japanese banks, (4) Yankee banks.

LARGE-DENOMINATION NEGOTIABLE CDs

A certificate of deposit (CD) is a certificate issued by a bank or thrift that indicates a specified sum of money has been deposited at the issuing depository institution. A CD may be non-negotiable or negotiable.

CD Issuers

CDs can be classified into four types, based on the issuing banks: (1) domestic CDs: CDs issued by domestic banks; (2) Eurodollar (or Euro) CDs: CDs denominated in U.S. but issued outside of the U.S.; (3) Yankee CD: CDs denominated in U.S. dollars and issued by a foreign bank with a branch in the U.S.; (4) thrift CDs: CDs issued by savings and loan associations and savings banks.

Money center banks and large regional banks are the primary issuers of domestic CDs. Most CDs are issued with a maturity of less than one year; term CDs have a maturity greater than one year.

Yields on domestic CDs are quoted on an interest-bearing basis. For CDs with a maturity of one year or less, interest is paid at maturity. For term CDs issued in the U.S., interest is normally paid semiannually. The yields posted on CDs depend on the following three factors: (1) the credit rating of the issuing bank; (2) the maturity of the CD; (2) the supply and demand for CDs. CD yields are higher than yields on Treasury securities of the same maturity mainly due to the credit risk that a CD investor is exposed to and due to the fact that CDs offer less liquidity. There are fewer active CD dealers today, so liquidity is a more important concern for CD investors.

The following relationships exist between yields and type of issuer: (1) prime CDs (those issued by high-rated domestic banks) trade at a lower yield than nonprime CDs (those issued by lower-rated domestic banks); (2) Yankee CDs trade at a higher yield than domestic CDs, because of the unfamiliarity investors have with foreign banks; (3) Euro CDs offer a higher yield than domestic CDs.

Yields on CDs

Yields are a function of (1) credit of the issuing bank, (2) market supply and demand, and (3) maturity. Prime CDs (those issued by high-rated domestic banks) trade at a lower yield than nonprime CDs (those issued by lower-rated domestic banks).

Yields on Eurodollar CDs tend to run higher due to the absence of (1) U.S. reserve requirements, (2) no required FDIC premiums and (3) existence of sovereign risk (the risk that foreign governments may freeze such accounts or set controls on dollar outflows). The market for CDs in general tends to be illiquid, with relatively few dealers in it.

The rate paid on Eurodollar CDs has become an important rate because it is viewed as the global cost of borrowing. The rate or yield paid on Eurodollar CDs is the London interbank offered rate (LIBOR).

FEDERAL FUNDS

The market in which bank reserves are bought (borrowed) by banks that are short of required reserves at the Fed and sold (lend) by banks that have excess federal funds is called the federal funds market. The equilibrium interest rate which is determined by the supply and demand for federal funds is the federal funds rate. The rate most often cited for the fed funds market is the effective fed funds rate. This rate is a significant operating target of the Federal Reserve Board's monetary policy. Through its open market operations that lower or raise the level of excess reserves in the banking system, the Fed will often change the fed funds rate as part of its effort to change the rate of activity in the country's economy.

The federal funds rate and the repo rate are tied together since both allow a bank to borrow reserves. The federal funds rate is higher because the lending of federal funds is done on an unsecured basis, unlike a repo in which the lender has a security as collateral. The spread between the two rates varies depending on market conditions.

BANKERS ACCEPTANCES

A bankers acceptance (BA) is a vehicle created to facilitate commercial trade transactions. They are called bankers acceptances because a bank accepts the ultimate responsibility to repay a loan to the holder of the vehicle created in a commercial transaction.

The transactions in which bankers acceptances are created are: (1) importing of goods into the U.S.; (2) exporting of goods from the U.S. to foreign entities; (3) storing and shipping of goods between two foreign countries in which neither the importer nor the exporter is a U.S. firm; (4) the storing and shipping of goods between two entities in the U.S.

Bankers acceptances are sold on a discounted basis. The major investors in bankers acceptances are money market mutual funds and municipal entities. The text illustrates the creation of a BA.

Accepting banks (i. e., banks that create bankers acceptances) are classified as follows: (1) money center banks; (2) larger regional banks; (3) Japanese banks; (4) Yankee banks (non-Japanese branches of foreign banks).

Eligible Bankers Acceptance: An accepting bank that has decided to retain a bankers acceptance in its portfolio may be able to use it as collateral for a loan at the discount window of the Federal Reserve. To use it as collateral, it must satisfy the eligibility standards established by the Fed.

Credit Risk

The rate that a bank will charge a customer for issuing a bankers acceptance is determined by the rate that it can sell this acceptance in the open market. The bank then adds a commission to this rate when providing a quote to the customer. The spread for BAs over Treasury securities is not constant over time.

CHAPTER 22 THE RESIDENTIAL MORTGAGE MARKET

ORIGINATION OF RESIDENTIAL MORTGAGE LOANS

The original lender is called the mortgage originator. Mortgage originators tend to be thrifts, commercial banks, and mortgage bankers. The income from these loans is derived from (1) origination fees (a percent of the borrowed amount), (2) selling the mortgage for a higher price on the secondary market (secondary market profit), and (3) servicing fees, including escrow accounts, with fees amounting to 50 - 100 basis points. Only in rare cases is the mortgage now held in the originator's loan portfolio.

Mortgage banking refers to the activity of originating mortgages. Mortgage bankers do not carry deposit liabilities, but they do make mortgages (usually to large-scale developers) funded by bank loans. They do not hold these loans, but seek to sell them immediately in the secondary market.

The Mortgage Origination Process

The requirements specified by the originator to grant the loan are referred to as underwriting standards. The two primary factors in determining the creditworthiness of the applicant are: (1) the payment-to-income ratio (PTI); (2) the loan-to-value ratio (LTV). If the lender decides to lend the funds, it sends a commitment letter.

The mortgage originator will give the applicant a choice among various types of mortgages. The choice is between a fixed-rate mortgage or an adjustable-rate mortgage. In the case of fixed-rate mortgage, the lender typically gives the applicant a choice as to when the interest rate on the mortgage will be determined. The three choices may be: (1) at the time the loan application is submitted; (2) at the time a commitment letter is issued to the borrower; or (3) at the closing date.

Mortgage originators can either: (1) hold the mortgage in their portfolio; (2) sell the mortgage to an investor who wishes to hold the mortgage in his portfolio or who will place the mortgage in a pool of mortgages that will be used as collateral for the issuance of a security; or, (3) use the mortgages themselves as collateral for the issuance of a security.

When a mortgage is used as collateral for the issuance of a security, the mortgage is said to be *securitized*. When a mortgage originator intends to sell the mortgage, it will obtain a commitment from the potential investor. The intermediating entity is called the conduit. The mortgage rate that the originator will set on the loan, referred to as the note rate, will depend on the mortgage rate required by the investor who plans to purchase the mortgage.

The Risks Associated with Mortgage Origination

These risks are pipeline risks, consisting of adverse price risk (that the interest rates rise after terms have been specified), and fallout risk (the possibility that the borrower will not accept the deal if interest rates decline). The mortgagee can protect himself from price risk by obtaining a commitment from government sponsored entity or a private firm to buy the mortgage (a forward contract). However, fallout leaves the mortgagee without a contract to sell. To protect himself therein the mortgagee can obtain, for a fee, an optional delivery contract with a government sponsored entity or the private company.

Mortgage Servicers

Mortgage servicers include bank-related entities, thrift-related entities, and mortgage bankers. There are five sources of revenue: (1) servicing fee, (2) interest on escrow, (3) float earned on the monthly mortgage payment, (4) ancillary income such as late fee, commissions on cross-selling, and selling mailing lists, (5) other loans such as second mortgages, auto loans, etc.

TYPES OF RESIDENTIAL MORTGAGE LOANS

Lien Status

The lien status of a mortgage loan indicates the loan's seniority in the event of forced liquidation due to default. For a first lien, the lender would have first call on the proceeds of the liquidation of the property. A mortgage loan could also be a second lien or junior lien, whose liquidation preference is subordinate to that of the first lien.

Credit Classification

A loan that is originated where the borrower is viewed to have a high credit quality is classified as a prime loan. A lower credit quality loan is classified as a subprime loan. Between the prime and subprime sector is a somewhat nebulous category referred to as alternative-A loan (or alt-A loan). Creditworthiness is determined by among other things the borrower's FICO scores.

When the loan amount requested exceeds the original loan amount, the transaction is referred to as a cash-out refinancing. If the loan balance remains unchanged, the transaction is said to be a rate-and-term refinancing or no-cash refinancing.

Lenders use income ratios to assess creditworthiness. The front ratio is computed by dividing the total monthly payments by the applicant's pretax monthly income. The back ratio is computed in a similar manner, but it adds other debt payments such as auto loan and credit card payments.

In a fixed-rate mortgage, the interest rate is set at closing and remains unchanged. In an adjustable-rate mortgage (ARM), the rate changes over the life of the loan. The rate is based on both the movement of an underlying rate called the index or reference rate, and a spread over the index called the margin.

The basic ARM is one that resets periodically. The mortgage rate is affected by: (1) periodic caps, and (2) lifetime rate caps and floors. A popular form of an ARM is the hybrid ARM, where the rate is fixed for a specified period, but then adjusts thereafter.

Amortization Type

The amortization is the amount of the monthly loan payment that represents the repayment of the principal. Both fixed and adjustable rate mortgages are fully amortized loans. The formula for calculating the monthly mortgage payment is:

$$MP_o = MB_o \left[\frac{i(1+i)^n}{(1+i)^n - 1} \right]$$

Where MP = monthly mortgage payment

MB_o = original mortgage balance

i = note rate divided by 12

n = number of months of the mortgage loan

To calculate the remaining mortgage balance at the end of any month, the following formula is used.

$$MB_t = MB_o \left[\frac{(1+i)^n - (1+i)^t}{(1+i)^n - 1} \right]$$

Where MP_t = mortgage balance after t months

To calculate the portion of the monthly mortgage payment that is the scheduled principal payment for a month, the following formula is used.

$$SP_t = MB_o \left[\frac{i(1+i)^{t-1}}{(1+i)^n - 1} \right]$$

Where SP_t = scheduled principal repayment for month t

A schedule of loan payments is the amortization schedule. In an ARM, the process of resetting the mortgage loan payment is referred to as recasting the loan. Recently, new mortgage products have been introduced into the market. The most popular is the interest-only product, which requires only interest payment for a predetermined lockout period.

Credit Guarantees

Loans that are backed by agencies of the federal government are referred to under the generic term of government loans and are guaranteed by the full faith and credit of the U.S. government. These include FHA insured loans and VA guaranteed loans. Otherwise, where there is no government guarantee, the loans are conventional loans. A conventional loan can be insured by a private mortgage insurer.

Loan Balances

There are loan limits for government sponsored entities. These limits are called conforming limits. Loans larger than the conforming limit are referred to as jumbo loans.

Prepayments and Prepayment Penalties

The amount of payment made in excess of the monthly mortgage payment is called a prepayment. A prepayment need not be whole, but instead can be a partial prepayment or curtailment. A mortgage design that mitigates the borrower's right to prepay is the prepayment penalty mortgage.

CONFORMING LOANS

Conventional loans that conform to the guidelines of government sponsored entities are conforming loans. Conventional loans in the market are either conforming conventional loans and nonconforming conventional loans.

INVESTMENT RISKS

Investors face four main risks by investing in residential mortgage loans: (1) credit risk, (2) liquidity risk, (3) price risk, and (4) prepayment risk.

CHAPTER 23 RESIDENTIAL MORTGAGE-BACKED SECURITIES MARKET

DEVELOPMENT OF THE SECONDARY MORTGAGE MARKET

Asset securitization involves the pooling of mortgages and issuing securities backed by the cash flows of these mortgage pools. At the most simple level, these can be structured as pass-through securities, where principal and interest payments “pass-through” to security investors each month. For example, a thrift originates mortgages and then sells them to an investment banker (or agency). The banker then creates a security backed by that pool. As a consequence the thrift has shifted the credit risk to the banker or the investor (more likely an insurer or guarantor); having received cash for the mortgages, it no longer funds them. More likely, it will only continue to service these mortgages for a fee.

Foundations of the Mortgage Market

The origins of the secondary mortgage market can be traced back to the Great Depression and the legislation that followed. The Federal Housing Administration (FHA) addressed the problems with balloon mortgages and reduced credit risk for investors by offering insurance against mortgage defaults.

Securitization of mortgage loans forms the basis of the secondary mortgage market. Development could not have been accomplished without support from various agencies:

1. The FHA and VA provide mortgage insurance, which covers the amount between the loan amount and the value of the underlying property;
2. Agencies such as FNMA and FHLMC purchase conventional and agency-insured mortgages from thrifts and other originators, thereby providing them with liquidity;
3. Government National Mortgage Association (GNMA or “Ginnie Mae”) guarantees “timely payment” on “pass-through” mortgage-backed securities.

Ginnie Mae was able to spur development of the secondary market by guaranteeing securities issued by private entities that pooled mortgages together and then used these mortgages as collateral for the security sold. Freddie Mac and Fannie Mae purchased mortgages, pooled these mortgages, and then issued securities using the pool of mortgages as collateral.

SECTORS OF THE RESIDENTIAL MORTGAGE-BACKED SECURITIES MARKET

Loans that satisfy the underwriting standard of the agencies are used to create the residential mortgage-backed securities that are referred to as agency MBS. Securities backed by other loans are nonagency MBS, which is classified into private label MBS where prime loans are the collateral, and subprime MBS where subprime loans are the collateral.

AGENCY PASS-THROUGH SECURITIES

Such securities are created when holders of mortgages form a pool of mortgages and sell shares or participation certificates in that pool. Payments of principal and interest from the pool are in effect "passed through" to the ultimate investor. Risk-averse investors prefer investing in a fraction of a pool to investing in an individual mortgage. With appropriate credit enhancements and standardization a mortgage pass-through security is also more liquid than an individual mortgage. In a pass-through process, the loan is securitized. Agency pass-through securities refers to mortgage pass-through securities issued by Ginnie Mae, Fannie Mae, or Freddie Mac.

Cash Flow Characteristics

While the original borrower pays principal and interest to the mortgage originator, the ultimate bondholder gets these monies less service and guarantee fees, which are paid to the originator and guarantor, respectively.

Issuers of Mortgage Pass-Through Securities

These securities are issued by a variety of private issuers and government-sponsored agencies. These include Ginnie Mae. The security guaranteed by Ginnie Mae is actually called a mortgage-backed security. The first MBS was issued in 1968. Although Ginnie Mae provides the guarantee (for which it receives a guaranty fee), it is not the issuer.

The mission of Fannie Mae and Freddie Mac is to support the liquidity and stability of the mortgage market. They accomplish this by (1) buying and selling mortgagors, (2) creating pass-through securities and guaranteeing them, and (3) buying MBS. The pass-through securities issued by Fannie Mae are referred to as mortgage-backed securities. Freddie Mac uses the term participating certificate to describe its pass-through security.

Prepayment Risks Associated With Pass-Through Securities

An investor who owns pass-through securities does not know what the cash flow will be because the cash flow depends on prepayments. This risk is called prepayment risk. A projection of prepayments is necessary to determine the cash flows of a pass-through security. Estimating the cash flow from a pass-through requires making assumption about future prepayments. Two conventions have been used as a benchmark for prepayments rates: the conditional prepayment rate (CPR), and the Public Securities Association (PSA) prepayment benchmark.

In contrast to regular bonds, decreases in interest rates do not necessarily result in price increases for pass-throughs. When rates fall, the probability of prepayment rises, creating uncertainty in future cash flows. This is sometimes called contraction risk.

Rising interest rates make prepayments less likely, since homeowners will not refinance at costs higher than contractual rates. But then investors would prefer prepayments in order to reinvest the sums in higher-earning securities. This opportunity cost is called extension risk and can be particularly harmful to institutions faced with mismatches of asset and liability returns.

Prepayment Conventions

The only way to project cash flow is to make some assumption about the prepayment rate over the life of the underlying mortgage pool. This rate is called the prepayment speed, or speed.

Conditional prepayment rate: The conditional prepayment rate (CPR) assumes that some fraction of the remaining principal in the pool is prepaid each year for the remaining term of the mortgage. The prepayment rate assumed for a pool is based on the characteristics of the pool and the current and expected future economic environment. The CPR is an annual prepayment rate. To estimate monthly prepayments, the CPR must be converted into a monthly prepayment rate, commonly referred to as the single-monthly mortality rate (SMM).

$$SMM = 1 - (1 - CPR)^{1/12}$$

An SMM of $w\%$ means that approximately $w\%$ of the remaining mortgage balance at the beginning of the month, less the scheduled principal payment, will prepay that month.

$$PPMT_t = SMM \times (M_t - P_t)$$

PSA benchmark: The Public Securities Association (PSA) prepayment benchmark is expressed as a monthly series of annual prepayment rates. The PSA benchmark assumes that prepayment rates are low for newly originated mortgages and then speed up as the mortgages become seasoned.

Average life: The average life of a mortgage-backed security is the average time to receipt of principal payments, weighted by the amount of principal expected.

$$\text{Average Life} = \frac{\sum_{t=1}^T t \times \text{Principal Received at time } t}{12(\text{Total Principal})}$$

AGENCY COLLATERALIZED MORTGAGE OBLIGATIONS

Under a standard MBS, investors share proportionally in prepayments. A collateralized mortgage obligation (CMO) provides for several classes, or tranches, of bondholders with sequential repayments of principal.

When each class of bond would be retired sequentially, it is called a sequential-pay CMOs. In many sequential-pay CMO structures, at least one tranche does not receive current interest. Instead, the interest for that tranche would accrue and be added to the principal balance. Such a bond class is commonly referred to as an accrual tranche, or a Z bond. Another type of CMO is the planned amortization class (PAC) bonds. This type of security provides a greater certainty of cash flows due to specified retirement schedules built into the issue. In 1987, CMO issuers began issuing bonds with the characteristic that if prepayments are within a specified range (based on the PSA benchmark), the cash flows pattern is known. The greater predictability of the cash flows for these classes of bonds occurs because there is a principal payment schedule that must be satisfied. The greater the certainty of the cash flow for the PAC bonds comes at the expense of the non-PAC classes, called the support or companion bonds.

AGENCY STRIPPED MORTGAGE-BACKED SECURITIES

A stripped mortgage-backed security is created by altering the distribution of the cash flow from underlying mortgages. Instead of distributing cash flow on a pro-rata basis (as in the case of a pass-through) or a priority basis (as in the case of a CMO), there is an unequal distribution of interest and principal. By doing so, some of the securities created will have a price/yield relationship that is different from the price/yield relationship of the underlying mortgage pool.

The first generations of stripped mortgage-backed securities were “partially stripped.” In early 1987, stripped mortgage-backed securities began to be issued in which all of the interest is allocated to one class (called the interest-only or IO class) and the entire principal to the other class (called the principal-only or PO class). The IO class receives no principal payments. These IO and PO securities are referred to as mortgage strips. Both POs and IOs exhibit substantial price volatility when mortgage rates change. An IO’s price moves in the same direction as the change in interest rates.

NONAGENCY MBS

The structure that is used for a nonagency MBS is the CMO structure, referred to as nonagency CMO.

Credit support is needed to absorb expected losses from the underlying loan pool due to defaults. This additional credit support is referred to as a credit enhancement. There are four forms of credit enhancement: (1) senior-subordinated structure, (2) excess spread, (3) overcollateralization, (4) monoline insurance.

In a senior-subordinated structure, two general categories of tranches are created: a senior tranche and subordinated tranches. Excess spread is basically the interest from the collateral that is not being used to satisfy the liabilities and the fees. The excess spread can be used to realize any losses. Excess collateral is referred to as overcollateralization and can be used to absorb losses. Insurance companies that provide only financial guarantees are called monoline insurance companies.

Subprime MBS Meltdown

In addition to the comments in the book, the teacher should bring students up to date on the financial crisis, including the stock market crash of September and October of 2008.

An essential lesson is that securitization should not be blamed for the meltdown. There may have been flaws in the overall financial process, such as problems with mortgage underwriting, but the process of securitization is a legitimate, beneficial method of increasing the supply of capital supporting mortgage underwriting and spreading risk.

CHAPTER 24 MARKET FOR COMMERCIAL MORTGAGE LOANS AND COMMERCIAL MORTGAGE-BACKED SECURITIES

COMMERCIAL MORTGAGE LOANS

Commercial mortgage loans are for mortgage loans for income-producing properties. Commercial mortgage loans are nonrecourse loans.

Indicators of Potential Performance

Two key indicators of the potential credit performance are the debt-to-service coverage ratio and the loan-to-value ratio. The debt-to-service coverage ratio is the ratio of the property's net operating income divided by the debt service. The loan-to-value ratio is the measure of loan to the market or appraised value of the property.

Call Protection

For commercial mortgage loans, call protection can take the following forms: (1) prepayment lockout, which is a contractual agreement that prohibits any prepayment during a specified lockout period, (2) defeasance, which is the borrower's provision of sufficient funds for the servicer to invest in a portfolio of Treasury securities that replicates the cash flows that would exist in the absence of prepayments, (3) prepayment penalty points, which are predetermined penalties that must be paid by the borrower if the borrower wishes to refinance, (4) yield maintenance charges, which makes the lender indifferent as to the timing of prepayments.

Balloon Maturity Provisions

A balloon loan requires a substantial principal payment at the end of the term. If there is a default, the lender may agree to a work-out period. During this time, a higher interest rate may be charged, which is the default interest rate. The risk that a borrower will not be able to make the balloon payment is called the balloon risk.

COMMERCIAL MORTGAGE-BACKED SECURITIES

A commercial mortgage-backed security is a security backed by one or more commercial mortgage loans.

Issuers of CMBS

CMBS can be issued by Ginnie Mae, Fannie Mae, Freddie Mac, and private entities. Ginnie Mae issued securities are backed by FHA-insured multifamily housing loans. These loans are called project loans.

CMBS can be classified by the type of loan pool. The first type of CMBS is those backed by a single borrower. The second type of CMBS is those backed by loans to multiple borrowers. This is the most common type of CMBS. The most prevalent form of deal backed by commercial mortgage loans to multiple borrowers is the conduit deal. Multiple borrower CMBS deals that combine loans that are included in conduit deals with a large or “mega” loan are called fusion deals or hybrid deals.

Servicers

There is usually a master servicer and special servicer. The master servicer is responsible for (1) overseeing the deal, (2) verifying that all servicing agreements are being maintained, (3) facilitating the timely payment of interest and principal. A special servicer is responsible for delinquent loans and workout situations.

Differences between CMBS and Nonagency RMBS Structuring

The transaction structure is the same as nonagency residential MBS with three major exceptions. First, prepayment terms for commercial mortgages differ significantly from residential mortgages. Second, there are significant differences between commercial and residential mortgages with respect to the role of the servicer when there is a default. Lastly, the junior class of bond buyers is typically sought before the deal is structured.

How CMBS Trade in the Market

CMBS trade much like corporate bonds because there is greater prepayment protection.

CHAPTER 25 ASSET-BACKED SECURITIES MARKET

CREATION OF AN ABS

An asset-backed security (ABS) is a security created by pooling loans other than residential prime mortgage loans. Assets subject to securitization come in two types: existing assets and receivables to arise in the future. There are two types of securitizations, existing asset securitization and future flow securitization.

The originator originates the loans or receivable that is later securitized. The loan or receivable is subject to the underwriting standards of the originator. To securitize the assets, the originator creates a legal entity called a special purpose vehicle (SPV), which receives the assets in an arms-length transaction between the originator and the SPV.

The Parties to a Securitization

A securitization may involve a conduit that buys the loans and securitizes them. There is also a trustee for the securities issued with responsibility of representing the interests of the bond classes.

Transaction Structure

There may be various tranches of securities. Nonagency MBS are credit enhanced. All ABSs are credit enhanced. Credit enhancement levels are determined relative to a specific rating desired.

Role of the SPV

There are four principal reasons why a corporation may elect to raise funds via a securitization rather than a corporate bond: (1) potential for reducing funding costs, (2) diversify funding sources, (3) accelerate earnings for financial reporting purposes, (4) potential relief from capital requirements.

Credit Enhancement Mechanisms

The most common form of credit enhancement is bond insurance, referred to as a surety bond or a wrap. Most securitizations that employ internal credit enhancements follow a predetermined schedule that prioritizes the manner in which principal and interest

generated by the underlying collateral must be used. This schedule is known as the cash flow waterfall, or simply the waterfall. The cash flow that remains after all of the scheduled periodic payment obligations are met is the excess spread.

COLLATERAL TYPE AND SECURITIZATION STRUCTURE

Amortizing versus Nonamortizing Assets

The collateral for an ABS can be classified as either amortizing or non-amortizing. Amortizing assets are loans in which the borrower's periodic payment consists of a scheduled principal and interest payment over the life of loan (an amortization schedule). The standard residential mortgage loan falls into this category. Auto loans and certain types of home equity loans are amortizing assets. Non-amortizing assets do not have a schedule for the periodic payment that the individual borrower must make. A non-amortizing asset is one in which the borrower must make a minimum periodic payment, such as credit card receivables and home equity loans.

When amortizing assets are securitized, the collateral is fixed over the life of the structure. This is called self-liquidating structure. For nonamortizing assets, for a period of time referred to as the lockout period or revolving period, all principal received is used to purchase new collateral. Hence, new assets are being added to the collateral, and this structure is referred to as a revolving structure. After the lockout period, called the amortization period, principal received is distributed to the bond classes.

Fixed Rate Versus Floating Rate

There are fixed-rate and floating-rate asset-backed securities. Floating-rate asset-backed securities are typically created where the underlying pool of loans or receivables pay a floating rate. The most common are securities backed by credit card receivables, home equity line of credit receivables, closed-end home equity loan with an adjustable rate, student loans, Small Business Administration loans, and trade receivables.

MAJOR ASSET CLASSES SECURITIES

Credit Card Receivable-Backed Securities

For credit card receivable asset-backed securities, interest is paid monthly and the principal is not amortized. Instead, the principal payments made by credit card borrowers are retained for a period of time known as the lockout period or the revolving period. After the lockout period, the principal is paid back to investors during the

principal-amortization period. If the credit quality of an issue deteriorates, there are provisions for earlier amortization of the principal. These provisions are known as early amortization or rapid amortization.

Automobile Loans-Backed Securities

For asset-backed securities backed by automobile loans, borrowers pay regularly scheduled monthly loan payments (interest and scheduled principal repayments), and may make prepayments. For securities backed by automobile loans, prepayments result from: (1) sales and trade-ins requiring full payoff of the loan; (2) repossession and subsequent sale of the automobile; (3) loss or destruction of the vehicle; (4) payoff of the loan with cash to save interest cost; (5) refinancing of the loan at a lower interest cost. Prepayments for auto loan-backed securities are measured in terms of the absolute prepayment speed (APS). The APS is the monthly prepayment expressed as a percentage of the original collateral amount. The SMM (Monthly CPR) expresses payments based on the prior month's balance. The cash flow of securities backed by automobile loans do not have a great deal of uncertainty.

Rate Reduction Bonds

Rate reduction bonds are backed by a special charge included in the utility bills of utility customers. If the assets that back up the bonds are "stranded assets," then the bonds are known as stranded cost bonds or stranded asset bonds.

Student Loan Backed Securities

Student loans are made to cover college costs and tuition for a wide range of vocational and trade schools. Securities backed by student loans, popularly referred to as SLABS, have similar structural features as other asset-backed securities. Congress created the Student Loan marketing Association ("Sallie Mae") as a government sponsored enterprise to purchase student loans in the secondary market and to securitize pools of student loans. Since its first issuance in 1995, Sallie Mae is now the major issuer of its SLABS and its issues are viewed as the benchmark issues.

Small Business Administration Loan-Backed Securities

The Small Business Administration (SBA) is an agency of the U.S. government empowered to guarantee loans made by approved SBA lenders to qualified borrowers. The loans are backed by the full faith and credit of the government. Most of SBA loans are variable-rate loans where the reference rate is the prime rate.

Asset Risks

If there are a few borrowers in the asset pool that are significant in size relative to the entire pool balance, the diversification benefit can be lost, resulting in a higher level of credit risk referred to as concentration risk.

Structural Risks

The rating agencies analyze the structure to test whether the collateral' s cash flows match the payments that must be made to satisfy the issuer' s obligations. This risk is referred to as structural risk.

Third-Party Providers

Several third parties are involved. These include third-party credit guarantors, the servicer, a trustee, issuer's counsel, a guaranteed investment contract provider, and accountants. The rating agency will investigate all third-party providers.

Potential Legal Challenges

The longstanding view is that investors in ABS are protected from the creditors of the seller of the collateral. That is, when the seller of the collateral transfers it to the trust, the transfer represents a "true sale" and therefore in the case of the seller's bankruptcy, the bankruptcy court cannot penetrate the trust to recover the collateral or cash flow from the collateral. However, this issue has never been fully tested. The closest challenge was the bankruptcy of LTV Steel Company.

SECURITIZATION AND THE IMPACT ON FINANCIAL MARKETS

The key benefit of securitization to financial markets is that it allows for the creation of tradable securities with better liquidity for financial claims that would otherwise have remained in the portfolio of financial intermediaries and therefore highly illiquid.

CHAPTER 26 FINANCIAL FUTURES MARKETS

FUTURES CONTRACTS

Futures contracts involving commodities are called commodity futures. futures contracts based on financial instrument or a financial index is called financial futures. these are classified as: (1) stock index futures, (2) interest rate futures, (3) currency futures.

A futures contract is an agreement between a buyer and a seller, in which: (1) the buyer, who takes the long position, agrees to take delivery of something at a specified price at the end of a designated period of time; (2) the seller, who takes the short position, agrees to make delivery of something at a specified price at the end of a designated period of time.

The price at which the parties agree to transact in the future is the future price. the designated date at which the parties must transact is the settlement date or delivery date. The “something” that the parties agree to exchange is the underlying.

Liquidating A Position

Most financial futures contracts have settlement dates in the months of March, June, September, or December. The contract with the closest settlement date is called the nearby futures contract. The contract farthest away from settlement is called the most distant futures contract. Alternatives to liquidating a futures position are: (1) prior to the settlement date, take an offsetting position in the same contract; (2) wait until the settlement date and settle the contract. For cash settlement contracts, settlement is made in cash only. A useful statistic measuring liquidity of a contract is the contract’s open interest, the number of contracts that have been entered into but not yet liquidated.

The Role of the Clearinghouse

The clearinghouse guarantees performance on a futures contract by interposing itself as a party to the contract. Thus it promises to deliver the security to the buyer and the cash to the seller. Parties need not be concerned with each other’s credit worthiness.

The clearinghouse also permits unwinding or offsetting a position. Should a buyer wish to liquidate prior to maturity he merely makes a contract to sell the security. Since the clearinghouse is now a party to the original contract, such action does not affect the initial seller.

Margin Requirements

Unlike the underlying securities, there is no borrowing of stocks or bonds here. But a small initial margin is required by the exchange as "good faith money" and brokers are free to set their terms above it. Maintenance margin is the minimum level (specified by the exchange) to which an investor equity position may fall as a result of an unfavorable price movement before the investor is required to deposit additional margin. The additional margin deposit is called variation margin, and it is an amount necessary to bring equity in the account back to its initial margin. The "mark-to-market" process builds on this fee.

Each trading day a settlement price is determined by the exchange for the futures contract. If the price goes up the seller must add to a variation margin by the amount of the price change. Should prices fall the buyer must pay cash. Failure to provide the necessary deposit leads to a closing out of the position by the exchange. On the other hand, upon unwinding the original contract the buyer or seller can also close out the account.

Daily Price Limits

In an effort to impose some degree of price stability the exchanges impose daily price limit, the maximum and minimum prices for futures contract transactions. Such actions provide cooling off periods during times when new information might create major price instability. But with each day come new limits, and trends cannot be avoided, so the necessity of these limitations remains a subject for debate.

FUTURES VERSUS FORWARD CONTRACTS

A forward contract is an agreement for the future delivery of something at a specific price at the end of a designated period of time. Because of constant trading futures contracts are perforce standardized by time to maturity and amount. The forward market is not. It is an OTC market with no clearinghouse. Hence, there is greater credit risk and illiquidity in the forward market. Contracts are thus more expensive. On the other hand, some hedgers or speculators may need non-standard contracts so they are willing to pay the extra charge.

Futures contracts are marked to market at the end of each trading day, while forward contracts are not. Parties to a forward contract are exposed to credit risk because either party may default on their obligation. In contrast, credit risk is minimal for futures contracts because the clearinghouse associated with the exchange guarantees the other side of the transaction.

THE ROLE OF FUTURES IN FINANCIAL MARKETS

Financial futures markets permit both hedging and speculation. This market allows investors to alter portfolio positions without the transactions costs associated with sales and purchases of actual securities. Moreover, hedging, which is designed to shift risk, would not be possible without risk takers. Price discovery is less costly on the futures market and can be transmitted to the cash or spot market via arbitrage. The use of futures markets for price discovery, however, begs the question of whether such markets increase price volatility on other markets or whether such volatility is inherent in any new information concerning particular securities.

U. S. FINANCIAL FUTURES MARKETS

Stock Index Futures Market

Several stock index futures contracts are currently traded on the futures market, among them the Standard & Poor's 500, the New York Stock Exchange and the Value Line Average. Prices are set in terms of the index times a multiple, e.g. the S&P 500 multiple is \$500. If the S&P Index is 310 the price of one contract will be $310 \times \$500$ or \$155,000. If this contract is later sold when the Index is 330 the investor enjoys a profit of $20 \times \$500 = \$10,000$. Settlement is in cash (the difference between the settlement and the initial price) since it is difficult for any one investor to deliver the whole basket of stocks in the Index.

Single Stock Futures Contracts

Single stock futures are equity futures in which the underlying is the stock of an individual company. These contracts received approval for trading in the United States in 2001.

Narrow Based Stock Index

A narrow based stock index is a futures contract on a small group of stocks. The determination of the companies included is based on what large institutional investors who are customers of the exchange have identified as interesting for their trading strategies.

Interest Rate Futures Markets

Eurodollar futures: These are settled in cash for the value of a Eurodollar CD based on LIBOR at the settlement date. They are commonly employed by financial institutions.

Treasury bill futures: In the case of a 13-week contract the seller agrees to deliver a T-bill at settlement with 13 weeks remaining to maturity. Even a 9-month contract requires that 9 months from now the seller will deliver a T-bill with 13 weeks remaining to maturity.

Federal funds futures contract: The 30-day federal funds futures contract, traded on CBOT, is designated for financial institutions and businesses who want to control their exposure to movements in the federal funds rate.

Treasury bond futures: The delivery is based on a 15-year T-bond. Since it is not always possible to obtain such 15-year bonds, the market employs a concept called cheapest to deliver, wherein any T-bond may be used subject to a conversion factor equating it to a 15-year bond. This option is called the quality or swap option. The rate of return calculated is called the implied repo rate.

Treasury note futures: These are modeled after T-bond futures and based on 10-year, 5 year and 2 year notes respectively with 6% coupon rates. The 2 and 5 year notes futures are less liquid than 10 years.

THE GAO STUDY ON FINANCIAL DERIVATIVES

Commercial and investment banks create customized derivative products called Over-The-Counter derivatives. There is a public concern that banks that create OTC products may put themselves in a position that could result in severe financial problems.

In May 1994, the General Accounting Office (GAO) prepared a report on Financial Derivatives: Actions needed to protect the Financial System. The study concluded that, first, senior management must ensure that necessary internal controls for managing derivatives risk are in place. Second, the Financial Accounting Standards board must implement comprehensive accounting rules for derivative products. Third, policy makers in the U.S. must coordinate with their foreign counterparts.

CHAPTER 27 OPTIONS MARKETS

OPTIONS CONTRACTS

In an options contract, the seller (writer) grants the buyer (holder) the right but not the obligation to purchase or sell an asset at a specified price within the expiration date. The writer provides this right for an option premium, which is the value of the option. The specified price at which the asset must be bought or sold is called the exercise or strike price. The feature of an option is referred to as its exercise price.

A call option is the right to purchase an asset to the issuer. A put option is the right to sell an asset to the issuer. An American option can be exercised up to the maturity date. A European option is an option that can only be exercised at the maturity date. A Bermuda option, also called Atlantic option, can only be exercised on specific dates.

Exchange-traded options have three advantages: (1) standardized terms of exercise price, the quantity of the underlying securities to be bought or sold, and by expiration date of the contract; (2) for futures contracts, the direct link between buyer and seller is severed; (3) transaction costs are lower.

OTC options are customized, and thus are more costly and not very liquid. But many financial institutions use options to hedge their positions rather than for purposes of speculation or trading. They thus tend to hold options until expiration.

DIFFERENCES BETWEEN OPTIONS AND FUTURES CONTRACTS

Options buyers have no obligation to perform. Options buyers pay premiums vs. margins for futures.

Maximum loss to buyer is premium, and thus there is asymmetric risk.

RISK AND RETURN CHARACTERISTICS OF OPTIONS

The four basic option positions are reviewed: (1) long call option; (2) short call options; (3) long put options; (4) short put options.

Long Call Options

Assume a buyer pays \$3 for a call option to purchase a security at \$100. If the price of the security falls below \$100 the contract will not be exercised and the buyer will be out his original \$3. Even if the security price does not rise above \$103 there is still some loss or at least no gain after subtracting the investment cost of \$3. But if the price

exceeds \$103 the buyer will exercise the option. If the price rises to \$113, the buyer can either buy the security at the exercise price of \$100 and resell it for \$113 on the market or he can sell his option which will now have a worth of \$13. Either way he makes a profit of \$10 on his \$3 investment or a gain of over 300%!

Short Call Options

The maximum profit for a call writer is the premium if the option is not exercised. If it is exercised, however, the writer must deliver the security. If he has the security in his inventory already (covered writing) he suffers an opportunity loss by not being able to take advantage of the price increase himself. If he has written the call "naked" i. e. without owning the security, he will have to purchase it at the now higher price and sell it for an actual loss. With profit potential limited and loss potential unlimited the writer's position mirrors that of the call buyer.

Long Put Options

This involves taking a short position and exercising 'the option should the underlying security price decrease. Again the loss is limited to the amount of the premium, while the potential profit is practically unlimited. If the price declines sufficiently the holder of a put option will either buy the security on the open market and sell it to the writer at the new higher price, or he will trade his option at a higher price.

Short Put Options

The maximum profit is the option premium. The risk is large if prices do go down and the put is exercised, for the seller is then stuck with a stock for which he has paid more than the stock is worth. In sum, persons who buy calls and sell puts gain if security prices rise. Those who sell calls and buy puts gain if prices fall.

Considering the Time Value of Money

The buyer of an option must pay the seller the option price at the time the option is purchased. Thus income is lost until the option is sold or exercised, and some opportunity loss occurs due to the time value of money.

ECONOMIC ROLE OF THE OPTION MARKETS

Futures allow investors to hedge risks of adverse price movements, but they then cannot benefit from favorable price changes. For example, if a portfolio may be hurt by decreased prices an investor can go short in the futures market. If prices indeed go down, the loss on the spot market is offset by gains in the futures market. If prices rise, then gains in spot market are offset by losses in futures.

In the case of options, fear of declining prices can be offset by buying a put. But if prices rise the put need not be exercised and the portfolio can show a net price gain. So far the focus has been on hedging price risk. Options can also allow investors to expand the range of return characteristics.

U. S. OPTIONS MARKETS

Stock Options

The Chicago Board of Options Exchange (CBOE) started trading in stock options in 1973. Since then several other options trading exchanges have been established. The SEC has approved the Options Clearing Corporation (OCC), which registers and clears options trades on all exchanges nationwide. The OCC has standardized trading quantities (units of 100 shares), strike price intervals and expiration dates. Options may be quoted on a per share basis so any option trading is at the price per share X 100.

Stock Index Options

Several index options are now traded. The dollar value of the stock index underlying an index option is equal to the current cash index value multiplied by the contracts multiple. The price of an index contract is the index times \$100, e.g. the S&P Index may be 300 x \$100 or \$30,000 per unit. Exercises of these options are settled in cash rather than actual delivery, the amount being the difference between the actual and exercise price.

Long-Term Equity Anticipation Securities.

Long-Term Equity Anticipation Securities (LEAPS) are option contracts designed to offer option contracts with longer maturities. These contracts are available on individual stocks and some indexes. Index option Leaps have a multiple of 10.

Interest Rate Options

These options cover Treasury securities and mortgage-backed-securities. Most of these instruments are traded on OTC, where liquidity is not of major importance to buyers. Typically, the maturity of the option coincides with the time period over which the investor wants to hedge.

FLEX Options

A FLEX option is an option contract with some terms that have been customized. It is traded on an options exchange and cleared and guaranteed by the associated clearinghouse for the exchange.

Exotic Options

OTC Options can be customized in any manner desired by institutional investor. The more complex options are called exotic options. Two examples of types of exotic options are: alternative options and out performance options. An alternative option, also called an either-or option, has a payoff that is the best independent payoff of two distinct assets. An out performance option is an option whose payoff is based on the relative payoff of two assets at the expiration date.

FUTURES OPTIONS

an option on a futures contract, called futures option, gives the buyer the right to buy from or sell to the writer a designated futures contract at a designated price at any time during the life of the option.

Mechanics of Trading Futures Options

Upon exercise, the futures price will be set equal to the exercise price. The position of the two parties is then immediately marked to market based on the then-current futures price. Thus, the futures position of the two parties will be at the prevailing futures price. at the same time, the option writer or seller must pay the option buyer the economic benefit from exercising.

Reasons for the Popularity of Futures Options

There are three reasons why futures options have largely supplanted options on physicals as the options vehicle used by institutional investors: (1) futures options on Treasury coupon futures do not require payments for accrued interest to be made; (2) futures options are believed to be “cleaner” instruments because of the reduced likelihood of delivery squeezes; (3) futures prices are readily available.

CHAPTER 28 PRICING OF FUTURES AND OPTIONS CONTRACTS

PRICING OF FUTURES CONTRACTS

The pricing of futures is based on arbitrage principles. In a cash and carry trade, an investor sells an overpriced future, purchases the underlying asset at the borrowing rate, and thereby pockets an arbitrage profit. In a reverse cash and carry trade, the investor buys an underpriced future, shorts the underlying asset and invests the money, and thereby pockets an arbitrage profit. (See book for details of this trade.) The equilibrium price at which there is no arbitrage is the theoretical futures price.

Theoretical Futures Price Based on Arbitrage Model

Using arbitrage arguments, the equilibrium futures price can be determined based on the following information: (1) the price of the asset in the cash market; (2) the cash yield earned on the asset until the settlement date; (3) the interest rate for borrowing and lending until the settlement date. The borrowing and lending rate is referred to as the financing cost.

Letting:

r = the financing cost (in percent)

y = the cash yield (in percent)

P = the cash market price (in dollars)

F = futures price (in dollars)

The theoretical futures price is: $F = P + P(r - y)$

The term $(r - y)$ is called the net financing cost (or cost of carry, or simply carry).

The theoretical futures price may sell at a premium to the cash market price or at a discount from the cash market price.

Price Convergence at the Delivery Date

At the delivery date, the futures price must be equal to the cash market price. As the delivery date approaches, the futures price will converge to the cash market price.

A Closer Look at the Theoretical Futures Price

The following common factors are some of the reasons for the deviation of the actual futures price from the theoretical futures price:

- (1) interim cash flows are not considered;
- (2) there may be a difference between borrowing and lending rates;
- (3) there are transaction costs;
- (4) the proceeds from short selling may not be available;
- (5) the deliverable asset and the settlement date may be unknown;
- (6) the deliverable may be a basket of securities which may be difficult to track; and
- (7) there are differences in the tax treatment of securities and futures contracts.

PRICING OF OPTIONS

Basic Components of the Option Price

The option price can be decomposed into two parts. (1) The intrinsic value is the option's economic value if it is exercised immediately. If there is no positive economic value that will result from exercising immediately then the intrinsic value is zero. (2) The time premium is the amount by which the option premium exceeds its intrinsic value.

Put-Call Parity Relationship

Put-call parity is the relationship between the price of a call option and the price of a put option on the same underlying instrument, with the same strike price and the same expiration date. The prices of puts and calls can be shown to follow the following relation

$$P - C = X / (1 + R)^t + D / (1 + R)^t - S \quad \text{where } P = \text{put price}$$

C = call price

R = borrowing rate

X = exercise price

D = cash distribution from asset

S = underlying asset

Factors that Influence the Option Price

There are six factors that influence the option price: (1) the current price of the underlying asset; (2) the strike or exercise price; (3) the time to expiration of the option; (4) the expected price volatility of the underlying asset over the life of the option; (5) the short-term risk-free interest rate over the life of the option; (6) the anticipated cash payments of the underlying asset over the life of the option (such as dividends).

An *increase* in these factors has the following effects on the value of a call and put option.

American Call	American Put	
Stock price	+	-
Strike price		+
Time to expiration	+	+
Volatility	+	+
Risk-free rate	+	
Dividends		+

Call values are positively related to the price and expected volatility of the underlying asset, the time until expiration, and the short-term interest rate. The value of a call option is negatively related to increases in the strike price and the level of cash payments to the underlying asset.

Put values are positively related to the strike price, the time to expiration, the expected price volatility of the underlying asset, and the level of anticipated cash payments to the underlying asset. Put prices are negatively related to the value or price of the underlying asset and the short-term riskless rate of interest.

Option Pricing Models

Theoretical boundary conditions for the price of an option can be derived based on arbitrage arguments. Boundary conditions can be “tightened” by using arbitrage arguments coupled with certain assumptions about the cash distributions expected for the underlying asset. The most popular option pricing model is the Black-Scholes model. The underlying principle is that the payoff of an option can be replicated with a portfolio consisting of the underlying asset and borrowed funds.

Deriving the Binomial Option Pricing Model

To derive a one-period binomial option pricing model for a call option, we begin by constructing a portfolio consisting of (1) a long position in a certain amount of the asset,

and (2) a short call position in the underlying asset. The book runs through detailed examples of how the hedge is done. Below is another simplified example of a binomial option pricing scheme.

It is helpful to see a simple option value calculation and how its determinants affect value, particularly as value relates to volatility. The following example can be used in class.

Assume that the current stock price $S = \$100$, strike price $X = \$130$, time period $T = 1$ year, borrowing rate $R = 5\%$, and no transaction costs. For simplicity, assume that the variance of the stock price moves ± 50 percent by maturity so that the spread of possible future share prices is $[S_u, S_d] = [\$150, \$50]$. At the strike price of $\$130$, the option would be in the money only if the stock goes up by 50 percent. The option payoffs are calculated as $P = \max [0, S' - X]$ where S' is the share price at maturity. If the payoff is negative, meaning $X > S'$ at maturity, the option would not be exercised and so the payoff would be zero. The spread of possible option payoffs at maturity is $[(P_u = S_u - X), (P_d = S_d - X)] = [\$20, \$0]$. Suppose that the issuer wants to hedge this risk of the option being called against him. He must create a portfolio of stock and borrowing that replicates the option payoff. Moreover, the hedge must be self-funding so that the purchase of the stock is funded externally by the option premium and borrowing as opposed to the issuer's own funds (which would defeat the purpose of a hedge). Based on these conditions, the issuer must purchase $1/5$ share of common stock at the current price of $\$20$, which must be funded by $\$9.52$ of borrowing, and $\$10.48$ of option premium.

These calculations assume that stock prices have a binomial distribution. Of course, stock prices typically take a distribution and the shape of this distribution is determined by the stock's volatility. The Black-Scholes option pricing formula takes this into account with a partial differential equation. But the binomial assumption keeps the example simple. With this in mind, the calculation of the above values requires three steps.

Step 1: How many shares of stock must be bought? This is determined by the hedge ratio, which is the spread of the possible option payoffs divided by the spread of the possible share prices: $\Delta = \frac{P_u - P_d}{S_u - S_d} = \frac{\$20 - \$0}{\$150 - \$50} = \frac{1}{5}$. The issuer must buy $1/5$ share of stock at the current price of $\$100$. This $\$20$ purchase must be funded by borrowing and option premium.

Step 2: How much borrowing is required? The borrowing amount is the present value of the difference between the option payoff and the payoff from the $1/5$ share at maturity:

$$\text{Borrowing} = \frac{(\Delta \times S_u) - P_u}{(1 + R)} = \frac{(\Delta \times S_d) - P_d}{(1 + R)} = \frac{(1/5 \times \$150) - \$20}{(1 + 5\%)} = \frac{(1/5 \times \$50) - \$0}{(1 + 5\%)} = \$9.52.$$

Note that the borrowing is independent of the stock price movement.

Step 3: What is the option premium? The option premium is the value of the synthetic

portfolio: Option Value = Stock Value - Borrowing. Here, the option premium must be $(1/5 \times \$100) - \$9.52 = \$10.48$. The combined amount of borrowing (\$9.52) and premium (\$10.48) exactly funds the issuer's purchase of the 1/5 share of stock (\$20).

The value of the option equals the stock price minus borrowing. By replicating an option payoff from a synthetic portfolio of ordinary assets and liabilities, the issuer has hedged his exposure to the option risk. If this hedge is continuously maintained, the issuer has zero risk and so it is irrelevant whether the stock price goes up or down.

The synthetic portfolio value must equal the option value, lest there be a riskless arbitrage opportunity. Arbitrage is the simultaneous purchase and sale of securities that creates a riskless profit. Much of finance theory rests on the principle that market participants will ruthlessly exploit riskless arbitrage opportunities and so such opportunities are not sustainable. The possibility of arbitrage leads to the most fundamental principle of financial theory, the Principle of Absence of Arbitrage, which states that there is always a tradeoff between risk and reward because in the longterm there are no unbounded riskless gains. The moment such opportunities are discovered, they will be exploited until they cease to exist. Thus, this process drives the market's Law of One Price. Arbitrage keeps prices of the same assets consistent in spite of the different ways in these assets may be packaged.

In the option context, if the option price is mispriced, either higher or lower than the synthetic portfolio, an investor can always lock in a riskless profit by either selling the overpriced option or buying the underpriced option and hedging with the synthetic portfolio. We can prove this. Assume a call option is mispriced one dollar higher than intrinsic value, i. e., \$11.48. An issuer could execute an arbitrage by selling the option at \$11.48, borrowing \$9.52 at a rate of 5 percent and then using the \$21 in hand to buy 1/5 share of stock at \$20. One dollar remains, which is invested at a risk-free 5 percent. At maturity, if the stock increases to \$150, the call option is in the money and she owes the holder \$20 and the lender \$10. This \$30 liability is matched exactly by the 1/5 share of a \$150 stock. The investor's profit is \$1.05. Now, if the stock price decreases to \$50, the option is out of the money and she owes the holder nothing but still owes \$10 to the lender. This liability is matched by the 1/5 share of \$50 stock. But her profit is still \$1.05. By selling the mispriced option and hedging the exposure, she creates a riskless profit opportunity. Thus, the option value must equal the value of the replicating portfolio.

The variance of the stock price substantially affects option value. Assume that the stock price is less risky and moves ± 35 percent rather than ± 50 percent. At the strike price of \$130 and per the above calculations, the option premium is \$2.72. If the volatility is ± 75 percent, the option value is now \$22.86. The change in variance from ± 35 to ± 75 percent results in an increase in option value from \$2.72 to \$10.48 to \$22.86. *Thus, increased volatility of the underlying asset increases option value.*

Fixed-Income Option Pricing Models

Binomial models may have limited applicability to the pricing of options on fixed-income securities. The binomial model assumed that (1) the price of the security can take on any positive value with some probability, (2) the short-term interest rate is constant over the life of the option, and (3) the volatility of the price of the security is constant over the life of the option.

These assumptions are unreasonable for an option on a fixed-income security: (1) the price of a fixed-income security cannot exceed the undiscounted value of the cash flow; (2) the price of an interest rate option will change as interest rates change; (3) that the variance of prices is constant over the life of the option is inappropriate because as a bond moves closer to maturity its price volatility declines.

The most elaborate models that take the yield curve into consideration, and as a result eliminate arbitrage opportunities, are called yield curve option pricing models or arbitrage free option pricing models.

CHAPTER 29 THE APPLICATIONS OF FUTURES AND OPTIONS CONTRACTS

APPLICATIONS OF FUTURES CONTRACTS

Stock Index Futures

Speculate on market moves: It is easier to buy or sell a composite index than to buy or sell all the individual stocks comprising the index.

Control risk of portfolio: Investors can revise the betas of their portfolios with securities sales and purchases. But such activity takes time and raises transactions costs. Buying futures raises betas, while selling futures reduces portfolio betas.

Hedging against adverse stock price movements: One can reduce portfolio risks with futures contracts to produce a zero beta (really just a special case of controlling risk exposure).

Constructing indexed portfolios: To control costs, many fund managers creating an indexed portfolio will not purchase all the stocks that comprise the index, but will purchase a group that tracks the targeted index. The indexed portfolio produces tracking error risk.

Index arbitrage: When theoretical futures contract prices differ from actual prices an arbitrage opportunity is generated.

Create portfolio insurance: One can buy put options, but can also do "dynamic hedging" with a synthetic put option strategy (sell index futures). Several reasons to prefer futures over options: (1) more stock index futures available than stock options; (2) options contracts often of shorter maturity than investor desires; (3) the cost of a put option may be higher than the transactions costs associated with "dynamic hedging" – a strategy that seeks to insure the value of a portfolio through the use of a synthetic put strategy.

Asset allocation: Changes in allocations among stocks and bonds and cash instruments require time for liquidation and substantial transactions costs. Selling futures contracts substitutes for liquidations.

Interest Rate Futures

Speculate on changing interest rates: There is lower transactions costs than in cash market, lower margins, and short positions easier to accomplish in futures than in the Treasury market.

Control interest rate risk of portfolio: Futures are a quicker and less expensive means to accomplish this aim than trades in the cash market.

Hedge against adverse interest rate movements: Lock in prices or interest rates.

Enhancing returns when mispriced: This can result in arbitrage between actual and theoretical prices for bonds as well as equities.

Asset allocation: This is similar to equity situation. Interest rate futures and stock index futures are quick, cheap and effective ways to change the composition of a portfolio between bonds and stocks.

APPLICATIONS OF OPTIONS CONTRACTS

Stock Options and Stock Index Options

Puts can be purchased to speculate on stock price declines. Likewise, puts can be used to hedge a portfolio against price declines. This strategy is a protective put buying strategy. The put guarantees a minimum price equal to strike price minus the cost of buying the option. Calls have the opposite effect.

Interest Rate Options

As with stocks, options on bonds can be used to speculate on interest rate changes or to hedge against them. Institutional investors like pension fund managers can use them to hedge against adverse interest rate movements.

GENERAL PRINCIPLES OF HEDGING WITH FUTURES

The purpose of hedging is to transfer price risks to those persons willing to bear them, namely the speculators. As long as cash and futures prices move in the same way a profit will offset a loss. Of course by the same token a loss can offset a profit. But the purpose of hedging is to transfer or eliminate risk, not to create returns. The latter opportunity is left to the speculator.

Hedging, however, cannot eliminate basis risk and the risk occurring in cross hedging. The basis is the difference between the cash and futures price. Basis risk refers to the possibility that, though both prices may move in the same general direction, the basis may widen or narrow, thereby not providing a complete offset. Speculators can take advantage of the changing basis through risk arbitrage, but that is no comfort for the hedger.

Cross hedging occurs when underlying instrument in the cash market is different from the one named in the futures contract. After all, not every financial asset has its own derivative futures contract. E. g. suppose that an investor desires to hedge a particular corporate bond against price loss, but there are no corporate bond futures contracts traded. Perhaps the nearest item would be a Treasury bond. Yes, there should be a strong positive correlation of returns, but the basis risk can still be substantial.

A short hedge is taken in order to protect a financial asset from a price decline. E.G. On the cash side is a vulnerable asset, on the futures side is a sale of a futures contract. Should a price decline occur in the cash market, the effect would be offset by a profit when buying a futures contract to unwind the sale.

A long hedge is taken to protect against an increase in prices! When would that be a problem? Let's say a sum of money is expected in the near future, but concern arises that interest rates may go down so that these funds will earn lower returns than they would do now. A long hedge, or buying a futures contract would offset that risk, since the investor would profit from a possible gain in price upon unwinding the trade and selling the futures. The textbook uses the instance of a food processor who is concerned that corn prices will go up in the future. He can buy corn futures to offset that price risk.

CHAPTER 30 OTC INTEREST RATE DERIVATIVES: FORWARD RATE AGREEMENTS, SWAPS, CAPS, AND FLOOR

FORWARD RATE AGREEMENTS

A forward rate agreement (FRA) is the OTC equivalent of the exchange-traded futures contracts on short-term rates. Typically, the short-term rate is LIBOR. The elements of an FRA are the contract rate, reference rate, settlement rate, notional amount, and settlement date. The contract rate is the rate specified in the FRA at which the buyer of the FRA agrees to pay for funds and the seller of the FRA agrees to receive for investing funds. The reference rate is the interest rate used. The notional amount is the benchmark from which the interest payments are to be calculated is specified in the FRA. The settlement rate is the value of the reference rate at the FRA's settlement date.

FRA buyer benefits if: Settlement Rate > Contract Rate

FRA seller benefits if: Settlement Rate < Contract Rate

Neither party benefits if: Settlement Rate = Contract Rate

If Settlement Rate > Contract Rate:

Interest Differential = (Settlement Rate Contract Rate) x (Days in Contract Period / 360) x Notional Amount

If Contract Rate > Settlement Rate:

Interest Differential = (Contract Rate Settlement Rate) x (Days in Contract Period / 360) x Notional Amount

INTEREST RATE SWAPS

An interest rate swap is an agreement wherein two parties exchange periodic interest payments on amounts called notional principal. There is a fixed-rate payer, and a floating-rate payer. Only the interest payments are exchanged, never the principal. The most common swap (plain vanilla) involves an exchange of fixed-rate for floating-rate payments. Floating rate payments are typically based on LIBOR or T-bill rates.

Risk-Return Characteristics of a Swap

A swap has a value and a secondary market exists for swaps. The value is comparable to a mortgage assumption. Should the original agreement specify a fixed-rate payment of 10% and market rates rise to 11%, a buyer will pay more for the opportunity to pay the lower rate. A decline in rates, however, forces the seller to discount the swap. The returns will be just the opposite for the floating-rate payer.

Interpreting a Swap Position

There are two ways that a swap position can be interpreted: (1) as a package of forward or futures contracts, wherein values change with changes in interest rates; (2) as a package of cash flows from buying and selling cash market instruments. In the case of swaps, the fixed-rate payer takes a short position, whereas the floating-rate payer is long. The fixed-rate payer benefits if interest rates rises, the floater gains as interest rates fall.

Applications

Application to asset/liability management: Most often, swaps are used in asset/liability management to lock in interest rate spreads, e.g. take two parties, one a bank with fixed-rate assets and variable-rate liabilities and an insurance company with a fixed-rate GIC contract and variable rate assets. Both parties have an asset/liability mismatch. A swap agreement would provide that the insurance company makes variable payments to the bank (either directly or through an intermediary) and that the bank provides fixed payments to the insurance company either directly or through the same intermediary. In effect the bank now has fixed-rate liabilities and the insurance company has variable-rate ones, both now matching their asset cash flow characteristics. For reporting purposes the liability structures have not changed, but footnotes will show off-balance sheet financing. The swap permits each financial institution to alter the cash flow characteristics of its assets: from fixed to floating in the case of the bank, and from floating to fixed in the case of the life insurance company. This type of transaction is an asset swap. The bank and life insurance company could have used the swap market instead to change the cash flow nature of their liabilities. Such a swap is a called a liability swap.

Application to debt issuance: A second use of swaps is to take advantage of capital market inefficiencies where creditworthiness is concerned, e.g. assume Company A is a low-risk firm, and company B is a higher-risk one. Clearly debt issues of both firms should reflect the difference. But suppose that in the floating-rate market the quality spread is 50 basis points and in the fixed-rate one it is 150 basis points (a market inefficiency). The parties can take advantage of the 100 point difference. Company A pays the floating rate to Company B, while Company B pays the fixed rate to Company A. Company B then benefits from a lower floating rate. A in turn benefits in that it can apply the higher fixed rate returns from B against its floating rate costs. So both gain along with a possible intermediary who benefits from fees in the arrangement.

Reasons for the Development of the Interest Rate Swap Market

The swap market has grown significantly since the first publicly announced agreement was made in 1981. There are two primary reasons: (1) credit arbitrage opportunities; (2) increased interest rate volatility.

Role of the Intermediary

Commercial and investment banks tend to be the intermediaries for swaps serving as a broker. For a fee they play important roles: (1) provide insurance in case one or the other party defaults; (2) help large client base in finding swap partners; (3) act as principal on a swap if necessary.

Market Quotes

A swap dealer will quote a floating rate equal to an index and then the fixed rate that would apply, e. g. , a dealer might quote LIBOR "flat," meaning no spread to be received by the fixed-rate payer, in turn for which he would pay 10.85% to the fixed-rate receiver. The fixed-rate receiver may get a quote of 10.2%, which allows the dealer to pick up a small fee. Instead of a "flat" LIBOR quote the dealer might cite a spread of 25 basis points over LIBOR. In effect, the difference between the fixed rate paid and received is the bid-offer spread, usually given in basis points. In recent years this spread has fallen to a level of 5 to 10 basis points.

Primary Determinants of Swap Spreads

Since swaps essentially constitute a package of forward contracts. The swap key determinant of the spread for swaps with maturities of five years or less is the cost of hedging in the Eurodollar CD futures (highly liquid) market. For longer maturity swaps, the main determinant is the credit spread in the corporate bond market. Since a swap can be interpreted as a package of long and short positions in fixed-rate bond and floating rate bond, it is credit spreads in two markets that will spread in two markets that will be determined of the swap spread. Boundary conditions for the spreads are determined by technical factors, such as the relative supply of fixed-rate and floating-rate corporate bonds and the costs to dealers of hedging their inventory position of swaps.

Secondary Market for Swaps

There are three general types of transactions in the secondary market for swaps: (1) swap reversal: a fixed rate is swapped for a floating one, but that leaves the original party still liable to both other parties; (2) swap sale (or assignment): another party takes on the obligations but the original counter party must agree to the sale; (3) swap buy-back or close-out sale: sell directly back to counter party to close out the sale.

Beyond the Plain Vanilla Swap

In the plain vanilla variety the notional amounts are not considered. Thus it is called a bullet swap. The principal is considered like a bullet loan, paid at the end of the swap agreement by the original party. But swaps can be arranged wherein notional amounts can vary over time. An amortizing swap is one where the notional amount decreases in a predetermined way over the life of the swap. An accreting swap is one in which the notional principal amount increases at a predetermined manner over time. In a roller-coaster swap, the notional principal amount can rise or fall from period to period.

The terms of the interest rate swap typically specify one party as the floating-rate payer and the other as the fixed-rate payer. It is also possible to have a basis rate swap, wherein parties pay according to different reference rate, e.g., one party may make floating payments based on LIBOR, the other one payments based on a prime rate. The risk is that the spread between prime rate and LIBOR will change-called basis risk.

There also exist options on swaps called swaptions. The buyer of such an option has the right but not the obligation to enter into a swap on predetermined terms. He pays a premium to the writer.

A forward start swap is a swap wherein the swap does not begin until some future date that is specified in the swap agreement. Thus, there is a beginning date for the swap at some time in the future and a maturity date for the swap.

Interest Rate/Equity Swaps

Swaps can be used to create a security. For example, it is possible to create a bond whose annual interest rate is based on the performance of the S&P 500 Stock Index. Such a bond would be attractive to some institutional investors who are prohibited from investing in stocks (for example, a depository institution) but who would like to benefit from higher returns. Debt instruments created by using swaps are known as structured notes.

INTEREST RATE CAPS AND FLOORS

An interest rate cap and an interest rate floor is an agreement between two parties in which one party, for a premium, agrees to compensate the other if a designated interest rate, called the reference rate is different from a predetermined level. Suppose on a floating rate the borrower wants a cap. He pays a premium to the lender, who will compensate him when this cap is exceeded. Likewise, the lender may wish to establish a floor rate or minimum he will get when rates decline. He may pay the borrower for this privilege. A situation where both a cap and a floor is set is called a collar. Options exist on caps, called captions, while options on floors are called flotions.

Risk/Return Characteristics

A buyer of a cap benefits when interest rates go up. The seller then has sold a package of put options. The buyer of a floor benefits if rates fall below the strike rate, so he has effectively bought a package of call options.

Applications

Banks often borrow through variable rate instruments. It may be to their benefit to purchase a cap to impose a ceiling on their costs of funds. They can reduce the cost of the cap by selling a floor, which guarantees the lender a minimum return. In effect, the bank has created a collar. Another example is a life insurance company with a GIC. It can buy a floor for its asset returns. It can pay for this floor by selling a cap on these returns, thereby locking in the spread to pay the GIC.

CHAPTER 31 MARKET FOR CREDIT RISK TRANSFER

VEHICLES: CREDIT DERIVATIVES AND COLLATERALIZED DEBT OBLIGATIONS

CREDIT DERIVATIVES

For financial institutions, credit derivatives allow the transfer of credit risk to another party without the sale of the loan. By far the most popular type of credit derivative is the credit default swap. Not only is it the most popular stand-alone product, but it is also used extensively in what is known as structured credit products.

ISDA Documentation

Prior to 1998, the development of the credit derivatives market was hindered by the lack of standardization of legal documentation. In 1998, the International Swap and Derivatives Association (ISDA) developed a standard contract that could be used by parties. ISDA documentation is primarily designed for credit default swaps, but the contract form is sufficiently flexible so that it can be used for other types of credit derivatives.

Reference Entity and Reference Obligation: The reference entity is the issuer of the debt instrument and hence is also referred to as the reference issuer. It could be a corporation or a sovereign government. The reference obligation, also called the reference asset, is the particular debt issue for which credit protection is sought.

Credit Events: Credit default products have a payout that is contingent upon a credit event occurring. Bankruptcy is defined as a variety of acts that are associated with bankruptcy or insolvency laws. A failure to pay results in a default. Obligation acceleration occurs when, upon default, the obligation becomes due and payable prior to the scheduled due date. A reference entity may disaffirm or challenge the validity of its obligation. This is a credit event that is covered by repudiation/moratorium.

The most controversial credit event that may be included in a credit default product is restructuring of an obligation. A restructuring occurs when the terms of the obligation are altered so as to make the new terms less attractive to the debt holder than the original terms. The reason why restructuring is so controversial is that a protection buyer benefits from the inclusion of restructuring as a credit event and feels that eliminating restructuring as credit event will erode its credit protection. In January 2003, the ISDA published its revised credit events definition. The major change was to restructuring whereby the ISDA allows parties to a given trade to select from among the following four definitions: (1)

no restructuring; (2) full or old restructuring, which is based on the 1998 ISDA definition; (3) modified restructuring, which is based on the Supplement Definition; and (4) modified modified restructuring.

CREDIT DEFAULT SWAPS

A credit default swap in which there is one reference entity is called a single-name credit default swap. When there are multiple reference entities, it is referred to as a basket credit default swap. In a credit default swap index, there are multiple entities, but unlike a basket credit default swap there is a standardized basket of reference entities. Credit default swaps can be settled in cash or physically.

Single-Name Credit Default Swap

The swap premium is the payment made by the protection buyer to the protection seller. The swap premium payment for a quarter is:

$$\text{Quarterly Premium} = \text{Notional Amount} \times \text{Swap Rate} \times (\text{Actual Number of Days in Quarter}) / 360$$

If the credit event occurs, two things happen. First, there are no further payments of the swap premium by the protection buyer to the protection seller. Second, the termination value is determined for the swap.

With physical settlement the protection buyer delivers a specified amount of the face value of bonds of the reference entity to the protection seller. The protection seller pays the protection buyer the face value of the bonds. Since all reference entities that are the subject of credit default swaps have many issues outstanding, there will be a number of alternative issues of the reference entity that the protection buyer can deliver to the protection seller. These issues are known as deliverable obligations.

Basket Credit Default Swaps

In a first-to-default basket swap, if any of the reference obligations default there is a payout and then termination of the swap. A second-to-default basket swap is one where a payout is triggered only after two reference obligations default. In general, if it takes k reference obligations to trigger a payout, the swap is referred to as k -to-default basket swap. Unlike a single-name credit default swap, the preferred settlement term for a basket default swap is cash settlement.

Credit Default Swap Index

In a credit default swap index, the credit risk of a standardized basket of reference entities is transferred between the protection buyer and protection seller. As of a year end 2006, the only standardized indexes are those compiled and managed by Dow Jones.

COLLATERALIZED DEBT OBLIGATIONS

A collateralized debt obligation (CDO) is a security backed by a diversified pool of one or more of the following types of debt obligations. When the underlying pool of debt obligations consists of bond-type instruments, a CDO is referred to as a collateralized bond obligation (CBO). When the underlying pool of debt obligation is bank loans, a CDO is referred to as a collateralized loan obligation (CLO).

Structure of a CDO

In a CDO structure, there is a collateral manager responsible for managing the portfolio of debt obligations. The funds to purchase the collateral assets are obtained from the issuance of debt obligations. These debt obligations are referred to as tranches. The proceeds to meet the obligations to the CDO tranches can come from coupon interest payments from collateral assets, maturing of collateral assets, and sale of collateral assets.

Arbitrage Versus Balance Sheet Transactions

CDOs are categorized based on the motivation of the sponsor of the transaction. If the sponsor's motivation is to earn the spread between the yield offered on the collateral and the payments made to the various tranches in the structure, then the transaction is referred to as an arbitrage transaction. If the motivation is to remove debt instruments from its balance sheet, then the transaction is referred to as a balance sheet transaction.

Arbitrage transactions can be divided into two types depending on the primary source of the proceeds from the collateral to satisfy the obligation to the tranches. If the primary source is the interest and maturing principal from the collateral, then the transaction is referred to as a cash flow transaction. If the proceeds to meet the obligations depend heavily on the total return generated from the collateral, then the transaction is referred to as a market value transaction.

Synthetic CDOs

A CDO is classified as a cash CDO or a synthetic CDO. The adjective cash means that the collateral manager purchases cash market instruments. A synthetic CDO is one where the collateral manager does not actually own the pool of assets on which it has the credit risk exposure. In other words, it absorbs the credit risk, but not the legal ownership of the reference obligations.

STRUCTURED FINANCE OPERATING COMPANIES

A structured finance operating company (SFOC) is a term used by Moody's to refer to an entity whose business activities and operations as well as its credit rating are based on detailed, predetermined parameters. A SFOC seeks to generate "arbitrage" returns by borrowing funds and investing those funds in credit-risky debt instruments in such a way to earn more than the cost of the funds. This arbitrage is not a true arbitrage, but is instead risky. There are many types of SFOC. The most popular one is the structured investment vehicle. However, the survival of the SFOCs as an investment product may be short-lived given the difficulties they faced in the credit crisis of 2007 and 2008.

CREDIT-LINKED NOTES

A credit-linked note is a security issued by an investment banking firm or another issuer, which has credit risk to a second issuer and the return is linked to the credit performance of the reference issuer. Embedded in a CLN is a credit derivative, typically a credit default swap.

CONCERNS WITH NEW CREDIT RISK TRANSFER VEHICLES

Clean Risk Transfer

The concerns with credit derivatives are several. First, there is a concern with counterparty risk. Second, while the development of standard documentation for credit derivative trades by the ISDA fostered the growth of that market, there remains a concern with legal risks that may arise from a transaction.

Risk of Failure of Market Participants to Understand Associated Risk

With the development of any market vehicle there is the concern that market participants will not understand the associated risks.

Potentially High Concentration of Risk

A CRT vehicle can result in either the transfer of the credit risk from one bank to another or from a bank to a nonbank entity. Within the banking system, the concern is whether there has become too much concentration of risk.

Adverse Selection

The ability of originators to transfer credit risk via credit derivatives, CDOs, or securitization has raised concerns that a lending culture based on origination volume rather than prudent lending practices may be inadvertently adopted by banks.

CHAPTER 32 THE MARKET FOR FOREIGN EXCHANGE AND RISK CONTROL INSTRUMENTS

EURO

Before 1999, a widely used composite currency unit for capital market transactions was the European Currency Unit (ECU) created in 1979 by the European Economic Community (EEC). The currencies included in the ECU were those that are members of the European Monetary System (EMS). Exchange rates between the ECU and those countries not part of the EEC floated freely. However, the exchange rate between those countries in the EEC was allowed to fluctuate within a narrow range.

In 1995, the members of the Economic and Monetary Union (EMU) agreed to establish a single currency called the euro. Members of the EMU are said to be a part of “euroland” because the euro became the only legal currency. Initially the member countries maintained their own physical currencies, although they were fixed in value relative to the euro, and the euro had no physical existence. The actual euro currency physically replaced the individual currencies of the participating countries on January 1, 2002. To qualify as a participating country in the EMU requires that a country satisfy certain economic standards. Current members are Germany, Finland, Netherlands, France, Spain, Italy, Belgium, Luxembourg, Austria, Ireland, Portugal, and Greece.

FOREIGN EXCHANGE RATES

Foreign exchange risk, or currency risk, is the risk that a currency’s value may change adversely. An exchange rate is defined as the amount of one currency that can be exchanged for a unit of another currency.

Exchange Rate Quotation Conventions

Direct quote is the number of units of local currency (LC) needed for one foreign unit, e. g., dollars per Swiss franc. Indirect quote is the number of units of a foreign currency (FC) needed to buy one unit of LC. Note that given a direct quote, we can calculate an indirect quote, which is the reciprocal of the direct quote.

Foreign Exchange Risk

From the perspective of a U.S. investor, the cash flows of assets determined in a foreign currency expose the investor to uncertainty as to the cash flow in U.S. dollars. An appreciation or depreciation of foreign exchange rates will affect LC value of

foreign-currency denominated assets and liabilities, e.g. a depreciation of the Swiss franc means that financial assets denominated in Swiss francs (bonds, stocks) and current accounts in Swiss francs will have less value in LC terms. Of course, Swiss franc liabilities will fall in value as well. An appreciation of the Swiss franc will have the exact opposite effect. This change in value due to a change in exchange rates is called foreign exchange risk.

SPOT MARKET

The spot exchange market, also called cash exchange rate, is the market for settlement of foreign-denominated transactions within two business days. Spot rates are determined by several factors that enter into the supply-demand formula, such as speculative demand and trade deficits. The basic determinant is purchasing power parity, or the relative degrees of inflation among countries. If the U.S. has greater inflation than the European Union, the dollar will depreciate relative to the euro. Arbitrage assures that the exchange rates will be the same between two countries. Quoting in terms of U.S. dollars per unit of foreign currency is called American terms, while quoting in terms of the number of units of the foreign currency per U.S. dollar is called European terms.

Cross Rates

The exchange rate between two countries other than the U.S. can be inferred from their exchange rates with the U.S. dollar. The rates thus obtained are known as cross rates. These are computed as follows for two countries X and Y: (Quote in American terms of currency X) / (Quote in American terms of currency Y). Triangular arbitrage ensures that these rates will stay in line with each other. When investors sell the overvalued currency (relative to dollars) in one market and purchase the undervalued currency (relative to dollars) in another market, they help to close the price differences across the three currencies.

Dealers

Dealers quote rates at which they are willing to buy foreign currency and one at which they are willing to sell a foreign currency. That is, there is a bid-ask spread. Both bid and asked quotations are provided in the financial press. Dealers in the foreign exchange market are large international banks and other financial institutions that specialize in making markets in foreign exchange. The former dominate the market. There is no organized exchange where foreign currency is traded. Instead, dealers are linked by telephone and by various information transfer services. Consequently, the foreign exchange market can best be described as an inter-bank OTC market.

INSTRUMENTS FOR HEDGING FOREIGN EXCHANGE RISK

Currency Forward Contracts

Similar to interest rate forward contracts mentioned earlier, currency forward contracts establish a price now for a future transaction. Forward contracts are available for major world currencies. They can be used to hedge FC receipts or FC payables, since LC prices are then locked in. Most forward contracts have a maturity of less than two years. Long-term forward contracts are not readily available and when obtainable have a large bid-ask spread.

Pricing Currency Forward Contracts

The spot exchange rate and the interest rates in two countries determine the forward exchange rate of their currencies. The relationship among the spot exchange rate, the interest rates in two countries, and the forward rate is called interest rate parity. Forward rates are determined by covered interest arbitrage. Mathematically, interest rate parity between the currencies of two countries A and B can be expressed in this way:

$$I(1 + i_A) = (I/S)(1 + i_B)F$$

where I is the amount of A 's currency to be invested, F is the forward rate, S is the spot rate, i_A is the interest rate in A and i_B is the interest rate in B .

Of course, theoretical parity is rarely attained, since it is based on several assumptions: (1) there are no transactions costs for executing an arbitrage strategy; (2) investors can borrow and lend at the same rate; (3) there are no tax differences between different economies; (4) there are no barriers to capital mobility between economies.

Link between Eurocurrency Market and Forward Prices

Market participants in most countries look to one interest rate in order to perform covered interest arbitrage, and that is the interest rate in the Eurocurrency market. The Eurocurrency market is the name of the unregulated and informal market for bank deposits and bank loans denominated in a currency other than that of the country where the bank initiating the transaction is located.

Currency Futures Contracts

As opposed to forward contracts made through banks and dealers, currency futures contracts are traded on organized exchanges and are highly liquid. The tradeoffs for increased liquidity and lower credit risk are standardization by term to maturity, size of contract, and rates of exchange. As in the forward markets, the longest maturity is one year, so futures contracts may not be good hedging instruments for long-dated foreign currency exposures.

Currency Option Contracts

Foreign currency options work similar to regular options. They may be obtained OTC or traded on organized exchanges. In the latter case they are standardized by units, time periods, and exchange rates. Options limit downside risk to the premiums paid and allow upward gains.

Currency Swaps

Currency swaps constitute an exchange of principal and interest payments. Suppose a domestic firm issues a bond overseas. It then swaps with a foreign firm, which has a bond issue in the domestic firm's home currency. The result is that the domestic firm pays in local currency and the foreign firm pays the local currency debt in foreign currency. This eliminates the exchange risk of each issue. The situation can be modified to incorporate one party with floating-rate debt and a party with fixed-rate debt. Such an arrangement is called a currency coupon swap. The textbook provides an illustration.

Reasons for development of the currency swap market: In a perfect world, arbitrage would make sure that the borrowing costs would be uniform throughout the world. But market imperfections persist and it is often possible to reduce borrowing costs by issuing foreign currency debt. Hedges may be desirable against the associated exchange risk, but the forward and futures markets provide no long-term contracts. Swaps consist of packages of forward contracts, so they hold the potential to save transactions costs.

《金融投资定量分析》教学大纲

田文昭 编写

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前 言

金融投资定量分析是利用数学、金融学、计算机技术等研究金融投资问题，包括数学建模、理论分析、数值计算（包括编写计算机程序）等。本课程授课是为了适应国内外金融形势而开设的一门金融工程课程。

本课程旨在使学生了解和掌握从事金融投资活动所必需的金融基本理论、金融计算方法，其内容主要包括货币的时间价值、各种金融资产定价（包括原生产品和衍生产品定价）、投资组合理论、资本资产定价模型、期权定价理论等，最为主要的是包括国内多数高校所欠缺的C++金融数值计算。

本课程的教学方法：通过数学推导、习题讲解、课堂实验等使学生掌握金融理论模型的求解方法及其C++数值计算方法在金融中的应用。

本课程的先修课为高等数学、高等代数、概率论与数理统计、宏观经济学、微观经济学、金融市场与金融机构等。

第 1 章 货币的时间价值

在本章，我们讨论货币时间所涉及的如下内容：

- ✚ 复利的终值：
 - ✓ 单期复利终值；
 - ✓ 多期复利终值；
- ✚ 复利的现值：
 - ✓ 单期复利现值；
 - ✓ 多期复利现值；
- ✚ 内部收益率；
- ✚ 年金：
 - ✓ 普通年金终值；
 - ✓ 普通年金现值；
- ✚ 计息次数与利率的关系。

2.1 复利的终值

复利计息是指每期的利息收入在下一期转化为本金所产生的新的利息收入。复利的终值是一笔资金按复利计息，在未来一段时间后的价值。复利终值有单期复利终值和多期复利终值之分。

2.1.1 单期复利的终值

单期复利终值的计算公式为：

$$FV = C_0(1+r)^n \quad (2.1.1)$$

式中，

FV ：复利终值；

C_0 ：本金（期初金额或现值）；

r ：利息率；

n ：计息期数（通称以年为单位）。

2.1.2 多期复利的终值

多期现金流终值是各单期现金流终值之和。假设期数为 n ，各期现金流为 C_t ，利率是 r ，则多期现金流的终值为：

$$FV = \sum_{t=1}^n C_t(1+r)^{t-1} \quad (2.1.2)$$

式中，

FV ：复利终值

C_t ：每期现金流

t ：计息时间

r ：利息率

n ：计息期数（通称以年为单位）

2.2 复利的现值

2.2.1 复利的现值

复利现值是复利终值的对应概念，是指未来一定时间现金流按照复利计算的现在价值。与复利终值一样，复利现值也有单期现值和多期复利现值之分。

单期现值的计算公式为：

$$PV = \frac{C_n}{(1+r)^n} \quad (2.2.1)$$

式中：

PV ：复利现值

C_0 ： n 期现金流

r ：贴现率

n ：现金流的流入和流出时刻（通称以年为单位）

2.2.2 多期现金流的现值

多期现金流现值就是各单期现金流现值之和，它的计算公式如下：

$$PV = \sum_{i=1}^n \frac{C_i}{(1+r)^i} \quad (2.2.2)$$

式中：

PV ：复利现值；

C_t ： t 期现金流；

r ：贴现率；

n ：计息期数（通称以年为单位）。

2.3 内部收益率

内部收益率是使得投资收益现值与初始投资额相等时的收益率，其计算公式如下：

$$\sum_{i=1}^n \frac{C_i}{(1+y)^i} - C_0 = 0 \quad (2.3.1)$$

式中：

y ：内部收益率

C_0 ：初始投资额

C_t ： t 期的现金流

n ：计息期数

上述方程为一多项式，无法给出 y 的确切解，故只能给出数值解。计算方法是，先用试错法找出接近于零的两个正负净现值，然后再用内差法求出相应的内部收益率。

2.4 年金

年金是指一定时期内每期金额相等的现金流。例如，分期偿还贷款、发放养老金、分期支付工程款等都属于年金支付形式。按照收付次数和支付时间来划分，年金可分为普通年金、预付年金、递延年金和永续年金。以下将分别讨论这 4 种年金的计算方法。

2.4.1 普通年金

普通年金：又称后付年金，是指在各期期末收付的年金，其收付形式如图：

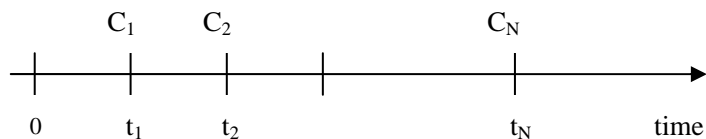


图 2.4.1：普通年金的收付形式

图中，横线表示时间的延续，竖线下的符号 t_1, t_2, \dots, t_N 表示支付的时刻，竖线上端符号

C_1, C_2, \dots, C_N 表示支付的金额。对于年金，有如下关系：

$$C_1 = C_2 = \dots = C_N = C$$

1. 普通年金终值

普通年金终值是指最后一次支付时的本利和，是每次支付的复利终值的和，其计算公式如下：

$$FV = C \sum_{t=1}^n (1+r)^{t-1} \quad (2.4.1)$$

式中，

FV ：年金终值；

C ：每期支付的现金流；

t ：计息时间；

r ：利息率；

n ：计息期数（通称以年为单位）。

2. 普通年金现值

普通年金现值是指在每期末取得相等金额，现在需要投入的金额，它的计算公式如下：

$$PV = \sum_{t=1}^n \frac{C}{(1+r)^t} \quad (2.4.2)$$

式中，

PV ：年金现值

C ：每期现金流

r ：贴现率

n ：计息期数（通称以年为单位）

2.4.2 预付年金

预付年金是在每期期初支付的年金，其支付形式如图所示：

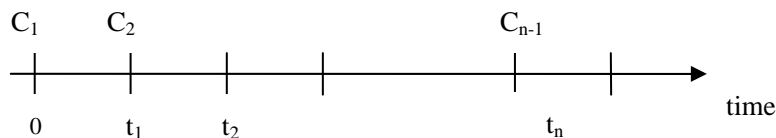


图 2.4.2：预付年金的支付形式

1. 预付年金终值的计算公式为：

$$FV = C \sum_{t=1}^n (1+r)^t \quad (2.4.3)$$

式中,

FV : 年金终值;

C : 每期支付的现金流;

t : 计息时间;

r : 利息率;

n : 计息期数 (通称以年为单位)。

注: 在计算预付年金终值时, 应该将普通年金终值乘上 $(1+r)$ 。 r 未贴现率。

2. 预付年金现值的计算公式为:

$$PV = \sum_{t=1}^n \frac{C}{(1+r)^t} \quad (2.4.4)$$

式中,

PV : 年金现值;

C : 每期现金流;

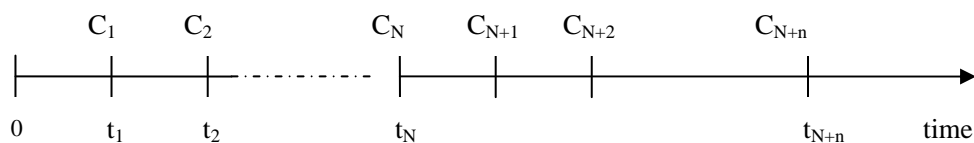
r : 贴现率;

n : 计息期数 (通称以年为单位)。

注: 在计算预付年金终值时, 应该将普通年金终值乘上 $(1+r)$ 。 r 未贴现率。

2.4.3 递延年金

递延年金是指第一次支付发生在第二期或者第三期以后的年金, 如图所示:



其中, t_N 是年金支付起始期, t_{N+n} 是年金支付的终止期。

1. 递延年金终值

递延年金终值的计算方法与普通年金终值的方法类似, 只是计息期数从第一次支付发生期开始。

2. 递延年金现值

递延年金现值是 $t_N \rightarrow t_{N+n}$ 为止的现金流的现值与第一期支付前现金流的现值两者之差:

$$PV = PV_{N+n} - PV_N \quad (2.4.5)$$

式中,

PV_N : 第一期支付前现金流的现值;

PV_{N+n} : 自第 0 期开始, 第 t_{N+n} 为止的现值。

2.5 计息次数与利率

复利计息期不一定是1年，有可能是季度、月或者日。当利息在1年内复利几次时，有如下计算方法：

$$1+i = \left(1 + \frac{r}{m}\right)^m$$

整理后，有结果：

$$r = m(1+i)^{1/m} - m \quad (2.5.1)$$

式中，

i ：年利率；

r ：每期利率；

m ：复利次数。

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第 2 章 普通股定价

本章将在货币时间价值的基础上讨论普通股定价问题，即：

✚ 股票定价基本模型：

- ✓ 贴息贴现模型；
- ✓ 零增长模型；
- ✓ 不变增长模型；
- ✓ 三阶段增长模型；
- ✓ 多元增长模型。

✚ 市盈率模型：

- ✓ 不变增长模型；
- ✓ 零增长模型；
- ✓ 多元增长模型。

3.1 股票定价的基本模型

股票定价的基本模型是股息贴现模型 (Dividend discount model)：

$$V = \frac{D_1}{1+r} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \cdots + \frac{D_t}{1+r} + \cdots = \sum_{t=1}^{\infty} \frac{D_t}{(1+r)^t} \quad (3.1.1)$$

式中，

V ：股票价值；

r ：贴现率；

D_t ：每期的股息；

t ：时间。

这是一个我们非常熟悉的模型。该模型实际上是货币时间价值在股票定价中的应用。所不同的是，计息期数取无穷大。但是，在实际为股票定价时，我们可以根据实际需要，将计息期数取足够大即可。

3.2 不变增长模型

不变增长模型（戈登模型，Gordon Model）基于如下三个假设：

- 1) 股息的支付在时间上是永久性的；
- 2) 股息的增长速度是一个常数；
- 3) 贴现率大于股息增长率。

由以上假设，经过适当的整理，有结果：

$$V = \frac{D_0(1+g)}{r-g} \quad (3.2.1)$$

式中，

V ：股票价值；

r ：贴现率；

D_0 ：股息；

g ：股息增长率。

3.3 三阶段增长模型

三阶段增长模型（莫洛多斯，1965）将股息增长分为三个不同的阶段：在第一阶段（期限为 A），股息的增长率是一个常数（ g_a ）；第二个阶段（期限为 A+1 到 B-1），股息增长率以线形的方式从 g_a 变化到 g_n ；第三阶段，股息维持增长率 g_n 不变。

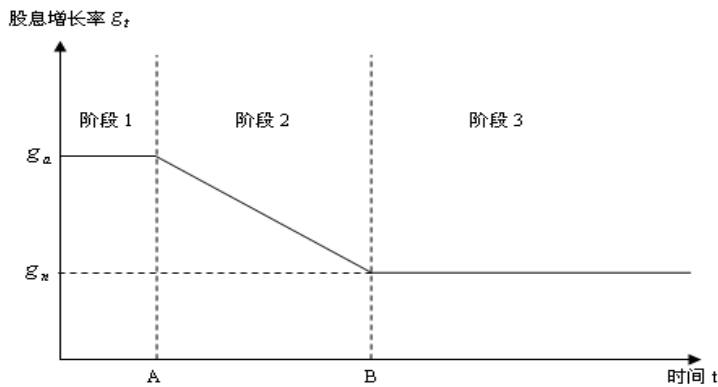


图 3.3.1: 三阶段增长模型

三阶段增长模型的计算公式为：

$$V = D_0 \sum_{t=1}^A \left(\frac{1+g_a}{1+r} \right)^t + \sum_{t=A+1}^{B-1} \frac{D_{t-1}(1+g_t)}{(1+r)^t} + \frac{D_{B-1}(1+g_n)}{(1+r)^{B-1}(r-g_n)} \quad (3.3.1)$$

式中，

V ：股票价值；

D_0 ：第一阶段初期的股息；

g_a ：第一阶段股息增长率；

D_{t-1} ：第二阶段初期的股息；

g_t ：第二阶段股息增长率， $g_t = \frac{g_n - g_a}{B - A}(t - A) + g_a \quad A < t \leq B$

D_{B-1} ：第三阶段初期的股息；

g_n ：第三阶段股息增长率；

r ：贴现率；

t ：时间。

3.4 H 模型

H 模型假设：1) 股息的初始增长率为 g_a ，随后以线性的方式递减；2) $2H$ 期后，股息增长率为一常数 g_n ；3) 在股息递减过程中的 H 点上，股息的增长率恰好是初始增长率 g_a 和常数增长率 g_n 的平均数。

在上述假设的条件下，Fuller 和 Hisa (1984) 证明股票的内在价值为：

$$V = \frac{D_0}{(r - g_n)} [(1 + g_n) + H(g_a - g_n)] \quad (3.4.1)$$

式中，

V ：股票内在价值；

D_0 ：初始股息；

g_a ：股息的初始增长率；

g_n ：股息的常数增长率；

r ：贴现率；

H ：股息递减过程中的特殊时点。

3.5 市盈率模型

市盈率模型有三种：1) 不变增长模型；2) 零增长模型；3) 多元增长模型。以下将分别介绍它们的基本模型，并讨论算法实现问题。

3.5.1 不变增长模型

不变增长模型的数学形式如下：

$$\frac{P}{E} = \frac{b}{r - g} \quad (3.5.1)$$

式中，

P/E ：市盈率； P 是每股股价， E 是每股利润；

b ：派息率；

r ：贴现率；

g ：股息增长率；

3.5.2 零增长模型

零增长模型的数学形式如下：

$$\frac{P}{E} = \frac{b}{y} \quad (3.5.2)$$

式中，

P/E ：市盈率，

P ：股价

E ：每股利润

b ：派息率

g ：股息增长率

3.5.3 多元增长模型

多元市盈率增长模型假定在某一时刻 T 之后，股息增长率和派息比率分别为常数 g 和 b ，在此之前股息增长率和派息比率都是可变的，这样经过适当的整理有如下结果：

$$\frac{P}{E} = \sum_{j=1}^T [b_j \prod_{i=1}^j (1 + g_i)] + \frac{b(1+g) \prod_{i=1}^T (1 + g_i)}{(r-g)(1+r)^T} \quad (3.5.3)$$

式中，

P/E ：市盈率；

P ：股价；

E ：每股利润；

b_j ：某时点之前的派息率；

g_i ：某时点之前的股息增长率；

b ：某时点之后的派息率；

g ：某时点之后的股息增长率；

r ：贴现率。

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第 4 章 固定收益证券定价

固定收益证是指在未来的某个确定的时间内有确定现金流发生的证券。例如，储蓄存款、货币市场工具、国债、企业债等。在本章，我们将讨论固定收益证券的定价问题：

✚ 固定收益证券的定价：

- ✓ 一般固定收益证券定价；
- ✓ 零息票债券定价；
- ✓ 两利息支付日之间交割的债券定价；

✚ 债券的收益率：

- ✓ 一般债券的到期收益率；
- ✓ 两次付息期间购买的债券的到期收益率；
- ✓ 赎回收益率；
- ✓ 投资组合到期收益率。

4.1 固定收益证券定价

假设债券的收益率不变，则可以利用货币时间价值方面的知识来对债券进行定价。

4.1.1 一般固定收益证券定价

债券的现金流由（1）每期利息和（2）到期值两部分组成。由多期复利现值的计算公式，有如下结果：

$$P = \sum_{i=1}^T \frac{C_i}{(1+r)^i} \quad (4.1.1)$$

式中，

P ：债券价格；

C_t ：当 $t < T$ 时， $C_t = C$ （每期支付的利息）；当 $t = T$ 时， $C_t = C + M$ （利息加本金）；

r ：贴现率；

n ：计息期数（通称以年为单位）；

4.1.2 零息票债券定价

零息债券指的是在其存续期内不支付利息的债券，其定价公式为：

$$P = \frac{M}{(1+r)^T} \quad (4.1.2)$$

式中，

P ：债券价格；

r ：贴现率；

T ：计息期数（通称以年为单位）；

M ：本金。

4.1.3 两利息支付日之间交割债券的定价

在一般情况下，投资者通常是在两个付息日期间买卖债券的。这时，对债券定价，必须知道以下条件：

1. 到下一个付息日还有多少天；
2. 如何计算各期间现金流现值；

3. 买方应该向卖方补偿多少在卖方持有期间应得的票面利息。

在这些条件已知的情况下，债券的定价公式如下：

$$P = \frac{C}{(1+r)^w} + \frac{C}{(1+r)^{1+w}} + \cdots + \frac{C+B}{(1+r)^{t+w-1}}$$

$$= \sum_{t=1}^n \frac{C}{(1+r)^{t+w-1}} + \frac{B}{(1+r)^{n+w-1}} \quad (4.1.3)$$

式中，

P ：债券价格；

C ：各期利息收入；

B ：债券的变现价值。当债券投资者一直将债券持有至到期日时，则 B 为债券面值；当债券投资者在债券到期日之前转让，则 B 为债券的转让价格。

r ：贴现率；

n ：剩余的付息期数（通称以年为单位）；

w ：清算日到下一个付息日的天数/两次付息间隔天数。

4.2 债券的收益率

在对固定收益证券定价时，一般已知债券收益率和每期现金流来对债券进行定价。然而有些时候，我们常常需要在已知价格和每期现金流的条件下，求解债券收益率。这种收益率就是债券的到期收益率。下面是几种债券收益率的计算方法。

4.2.1 一般债券的到期收益率

到期收益率是使投资收益现值与初始投资额相等时的收益率，它不仅考虑了当前息票的收入，而且还考虑了投资者通过持有债券至期满将实现的资本利得或损失，乃至现金流发生的时间。到期收益率的计算公式如下：

$$P = \sum_{t=1}^T \frac{C_t}{(1+r)^t} \quad (4.2.1)$$

式中：

P ：债券价格；

r ：为到期收益率；

C_t ：当 $t < T$ 时， $C_t = C$ （每期支付的利息）；当 $t = T$ 时， $C_t = C + M$ （利息+本金）；

T ：计息期数。

要求的就是式（4.2.1）中的到期收益率 r 。这个收益率没有解析解，所以只能采用数值法进行求解。

4.2.2 两次付息期间购买债券的到期收益率

当在两付息日期间购买债券时，债券的到期收益率为：

$$P = \sum_{t=1}^T \frac{C_t}{(1+r)^{t+w-1}} \quad (4.2.2)$$

式中，

P ：债券价格；

C_t ：当 $t < T$ 时， $C_t = C$ （每期支付的利息）；当 $t = T$ 时， $C_t = C + M$ （利息+本金）；

r ：收益率；

w ：债券购买日到下一个购买日之间的日期/两次利息支付日时间间隔。

4.2.3 赎回收益率

赎回收益率是使赎回日现金流的现值等于债券全价的收益率，其计算公式如下：

$$P = \sum_{i=1}^{n''} \frac{C}{(1+r)^t} + \frac{CP}{(1+r)^{n''}}$$

$$= \sum_{i=1}^{n''} \frac{C_t}{(1+r)^t} \quad (4.2.3)$$

式中，

P ：债券价格；

C_t ：当 $t < n''$ 时， $C_t = C$ （每期支付的利息）；当 $t = n''$ 时， $C_t = C + CP$ （利息+赎回价格）；

r ：赎回收益率；

n'' ：赎回日前的利息支付期数；

CP ：赎回价格。

4.2.4 投资组合的收益率

投资组合的收益率有两种：1) 加权平均投资组合收益率；2) 投资组合内部收益率。

1. 加权平均投资组合和收益率

$$r_p = w_1 r_1 + w_2 r_2 + \cdots + w_n r_n \quad (4.2.4.1)$$

式中，

w_i ：债券 i 的市值占投资组合总市值的比例

r_i ：债券 i 的收益率

n ：投资组合的债券总数

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第 5 章 利率期限结构

在本章，我们将在放松贴现率不变的条件下讨论利率与到期期限之间的关系，即讨论利率的期限结构问题。本章的内容如下：

- ✚ 理论即期利率；
- ✚ 隐含的远期利率；
- ✚ 即期利率、远期利率和贴现因子之间的关系；
- ✚ 利率期限结构；
- ✚ 债券定价。

5.1 理论即期利率

一般而言，第 n 个 6 月期的理论即期利率可以如下方程求解得出：

$$P_n = \sum_{t=1}^{n-1} \frac{C}{(1+r_t)^t} + \frac{C+M}{(1+r_n)^n}$$

式中，

P_n ：债券价格；

C_t ：当 $t < n$ 时， $C_t = C$ （每期支付的利息）；当 $t = n$ 时， $C_t = C + M$ （利息加本金）；

r_n ：理论即期利率的 1/2；

n ：计息期数（通称以年为单位）。

由该式，有结果：

$$r_n = \frac{C+M}{P_n - \sum_{t=1}^{n-1} \frac{C}{(1+r_t)^t}} \quad (5.2.1)$$

r_n 乘以 2，就得出理论的即期利率。

5.2 隐含的远期利率

一般而言，隐含的远期利率的计算公式为：

$$f_t^n = \left[\frac{(1+z_{n+t})^{n+t}}{(1+z_n)^n} \right]^{1/t} - 1$$

式中，

z_n ：半年度的即期利率；

f_t^n ： $2f_t^n$ 为隐含的远期利率等价收益率。

5.3 即期利率、远期利率和贴现因子之间的关系

利率的期限结构可以由贴现因子、即期利率和远期利率详细说明。贴现因子；即期利率；远期利率。它们三者的关系如下：

$$r_t = [(1+r_1)(1+f_1^1)(1+f_{21}^1)(1+f_3^1)\cdots(1+f_t^1)]^{1/t} - 1 \quad (5.1.1)$$

$$d_t = \frac{1}{(1+r_t)^t}$$

式中,

r_t : t 期的即期利率;

r_1 : 当前的即期利率;

f_t^1 : 隐含的 6 月远期利率。

d_t : 贴现因子。

5.4 利率期限结构

利率期限结构指的是债券利率与其到期期限之间的关系。利率期限结构可通过插值法来构造。在构造利率期限结构时,我们首先要选择债券的类型,然后使用相关的方法构造利率期限结构。最常用的方法是线性插值法。在使用这个方法时,假设收益率是按照增序的顺序排列的。

5.5 债券定价

在构造出来了利率的期限结构之后,就可以在放松贴现率不变的假设的条件下重新为债券进行定价。由于使用即期利率和使用远期利率在确定现金流时的结果一样,所以我们在这里只讨论使用后者计算债券价格,结果为:

$$P = \frac{c}{1+z_1} \left[1 + \sum_{i=1}^n \prod_{j=1}^i (1+f_j^1)^{-1} \right] + \frac{c+M}{(1+z_1)(1+f_1^1)(1+f_2^1)\cdots(1+f_n^1)}$$

式中,

P : 债券价格;

z_1 : 6 个月期的理论即期利率的 1/2;

c : 半年度的现金流;

M : 债券的到期值;

n : 期限;

f_t^1 : 隐含的远期利率;

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第 5 章 利率期限结构

在本章，我们将在放松贴现率不变的条件下讨论利率与到期期限之间的关系，即讨论利率的期限结构问题。本章的内容如下：

- ✚ 理论即期利率；
- ✚ 隐含的远期利率；
- ✚ 即期利率、远期利率和贴现因子之间的关系；
- ✚ 利率期限结构；
- ✚ 债券定价。

5.1 理论即期利率

一般而言，第 n 个 6 月期的理论即期利率可以如下方程求解得出：

$$P_n = \sum_{t=1}^{n-1} \frac{C}{(1+r_t)^t} + \frac{C+M}{(1+r_n)^n}$$

式中，

P_n ：债券价格；

C_t ：当 $t < n$ 时， $C_t = C$ （每期支付的利息）；当 $t = n$ 时， $C_t = C + M$ （利息加本金）；

r_n ：理论即期利率的 1/2；

n ：计息期数（通称以年为单位）。

由该式，有结果：

$$r_n = \frac{C+M}{P_n - \sum_{t=1}^{n-1} \frac{C}{(1+r_t)^t}} \quad (5.2.1)$$

r_n 乘以 2，就得出理论的即期利率。

5.2 隐含的远期利率

一般而言，隐含的远期利率的计算公式为：

$$f_t^n = \left[\frac{(1+z_{n+t})^{n+t}}{(1+z_n)^n} \right]^{1/t} - 1$$

式中，

z_n ：半年度的即期利率；

f_t^n ： $2f_t^n$ 为隐含的远期利率等价收益率。

5.3 即期利率、远期利率和贴现因子之间的关系

利率的期限结构可以由贴现因子、即期利率和远期利率详细说明。贴现因子；即期利率；远期利率。它们三者的关系如下：

$$r_t = [(1+r_1)(1+f_1^1)(1+f_{21}^1)(1+f_3^1)\cdots(1+f_t^1)]^{1/t} - 1 \quad (5.1.1)$$

$$d_t = \frac{1}{(1+r_t)^t}$$

式中,

r_t : t 期的即期利率;

r_1 : 当前的即期利率;

f_t^1 : 隐含的 6 月远期利率。

d_t : 贴现因子。

5.4 利率期限结构

利率期限结构指的是债券利率与其到期期限之间的关系。利率期限结构可通过插值法来构造。在构造利率期限结构时,我们首先要选择债券的类型,然后使用相关的方法构造利率期限结构。最常用的方法是线性插值法。在使用这个方法时,假设收益率是按照增序的顺序排列的。

5.5 债券定价

在构造出来了利率的期限结构之后,就可以在放松贴现率不变的假设的条件下重新为债券进行定价。由于使用即期利率和使用远期利率在确定现金流时的结果一样,所以我们在这里只讨论使用后者计算债券价格,结果为:

$$P = \frac{c}{1+z_1} \left[1 + \sum_{i=1}^n \prod_{j=1}^i (1+f_j^1)^{-1} \right] + \frac{c+M}{(1+z_1)(1+f_1^1)(1+f_2^1)\cdots(1+f_n^1)}$$

式中,

P : 债券价格;

z_1 : 6 个月期的理论即期利率的 1/2;

c : 半年度的现金流;

M : 债券的到期值;

n : 期限;

f_t^1 : 隐含的远期利率;

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第 6 章 固定收益证券价格波动测度

本章讨论利率变化对固定收益证券价格变化的影响，内容大致如下：

- ✚ 久期的概念；
- ✚ 债券价格变化对利率的敏感性—久期；
- ✚ 债券价格变化对利率的敏感性—凸性；

6.1 久期的概念

久期是债券现金流的加权平均期限。它的计算公式如下：

$$D = \frac{\sum_{t=1}^T t \frac{C_t}{(1+r)^t}}{\sum_{t=1}^T \frac{C_t}{(1+r)^t}} \quad (6.1.1)$$

其中，

- D ：久期；
- C_t ： t 时刻现金流；
- t ：现金支付的时间；
- T ：到期时间。

久期的计算方法有两种：一种是已知贴现率计算债券久期；另一种是通过计算债券的到期收益率来计算久期。

1. 已知债券收益率计算债券久期：

如果债券在一年内付息多次，则久期计算公式修改为：

$$D' = \frac{D}{k} \quad (6.1.2)$$

其中， k 是每年利息支付次数。

2. 通过计算债券的到期收益率 y 来计算债券久期：

计算步骤如下：

1) 计算到期收益率：已知各期现金流和债券价格，由下式计算到期收益率。

$$P = \sum_{t=1}^T \frac{C_t}{(1+y)^t}$$

2) 计算债券久期：

$$D = \frac{\sum_{t=1}^T t \frac{C_t}{(1+y)^t}}{\frac{C_t}{(1+y)^t}} \quad (6.1.1)$$

6.2 久期的简单计算

在数学上可以证明：每半年付息一次的债券的久期等于：

$$\text{Macaulay 久期} = \left(\frac{1+y}{y}\right)H + \left(\frac{y-i}{y}\right)n(1-H) \quad (6.2.1)$$

$$H = \frac{\sum_{t=1}^n \frac{C_t}{(1+y)^t}}{\left(\sum_{t=1}^n \frac{C_t}{(1+y)^t} + \frac{M}{(1+y)^n}\right)}$$

式中,

y : 年收益率的 1/2;

H : 年利息现值之和占债券价格的比率;

i : 半年的利率;

n : 利息支付次数。

6.3 久期与债券价格波动之间的关系

久期可以解释为债券价格的波动性。经过适当的数学推导, 有结果:

$$\frac{\Delta P}{P} = -\frac{D}{1+y} \Delta y$$

式中, D 是债券的久期, y 到期收益率。

定义 $D^* = \frac{D}{1+y}$ 为修正久期, 则有结果:

$$\frac{\Delta P / P}{\Delta y} = -D^* \quad (6.3)$$

式 (6.2.1) 左边是价格变化的百分比, 右边是负的修正久期与到期收益率变化之乘积, 所以知道修正久期, 就可以很容易求出债券价格的变化率。

6.4 债券组合久期

债券组合的久期为组合中所有债券久期的加权平均值, 权重为各债券在组合中所占价值的比率。用公式表示如下:

$$D_p = W_1 D_1 + W_2 D_2 + \cdots + W_n D_n \quad (6.4)$$

式中,

D_p : 组合的久期;

W_i : 债券 i 的价值在组合总价值中所占的比率;

D_i : 债券 i 的久期;

n : 组合中的债券数。

6.5 债券的凸性

债券的凸性是债券价格变化率对收益率变化关系曲线的曲率, 是债券价格对收益率的二阶导数除以债券价格:

$$Cx = \frac{1}{P} \frac{d^2 P}{dy^2}$$

在离散状态下, 凸性的计算公式为:

$$Cx = \frac{1}{P(1+r)^2} \sum_{t=1}^T t(t+1) \frac{C_t}{(1+r)^t} \quad (6.5.1)$$

式中，各符号的含义已定义过，这里不再重述。

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第 7 章 远期、期货与互换

在本章，我们将讨论远期、期货和互换三种金融产品定价问题：

- ✚ 远期合约定价：
 - ✓ 无收益证券的远期合约；
 - ✓ 支付已知现金收益证券的远期合约；
 - ✓ 支付已知红利证券的远期合约；
- ✚ 期货合约定价：
 - ✓ 商品期货定价；
 - ✓ 金融期货定价；
 - ✓ 利率期货定价
- ✚ 互换定价：
 - ✓ 金融互换；
 - ✓ 货币互换。

7.1 远期合约定价

远期合约是一种在将来确定的时间，按照确定的价格购买或者出售某种资产的协议。其中，购买标的资产的一方称为多头（long position），出售标的资产的一方称为空头（short position）。

7.1.1 无收益证券的远期合约

无收益远期合约的价值为：

$$f = S - Ke^{-r(T-t)} \quad (7.1.1)$$

无收益远期合约价格就是使合约价值为零的交割价格 K ，即：

$$F = Se^{r(T-t)} \quad (7.1.2)$$

式中，

- f ：远期合约价值；
- F ：远期合约价格；
- S ：标的资产现价；
- K ：远期合约的交割价格；
- r ：无风险利率；
- $T-t$ ：距离到期日时间。

7.1.2 支付已知现金收益证券的远期合约

支付已知现金收益证券的远期合约价值为：

$$f = S - I - Ke^{-r(T-t)}$$

支付已知现金收益证券的远期合约价格为：

$$F = (S - I)e^{r(T-t)} \quad (7.1.2)$$

式中，

- f ：远期合约价值；
- F ：远期合约价格；

S ：标的资产现价；
 K ：远期合约的交割价格；
 I ：现金收益现值；
 r ：无风险利率；
 q ：红利率；
 $T-t$ ：距离到期日时间。

7.1.3 支付已知红利率证券的远期合约

支付已知红利率证券的远期合约价值为：

$$f + Ke^{-r(T-t)} = Se^{-q(T-t)} \quad (7.1.3)$$

支付已知红利率证券的远期合约价格为：

$$F = Se^{(r-q)(T-t)} \quad (7.1.4)$$

式中，

f ：远期合约价值；
 S ：标的资产现价；
 K ：远期合约的交割价格；
 r ：无风险利率；
 q ：红利率；
 $T-t$ ：距离到期日时间。

7.2 期货合约定价

期货合约是指由期货交易所统一制订的、规定在将来某一特定的时间和地点交割一定数量和质量实物商品或金融商品的标准化合约。期货合约一般分为商品期货和金融期货，我们首先讨论商品期货的定价问题。

7.2.1 商品期货定价

商品期货一般分为两大类：一类是以投资为目的的期货，另一类是以消费为目的的期货。

1. 投资为目的的期货

以投资为目的的期货一般有黄金和白银，在不考虑存储成本的情况下，它们的价格类似无收益证券：

$$F = Se^{r(T-t)} \quad (7.2.1)$$

如果考虑存储成本，上式需要作如下修改：

$$F = (S + U)e^{r(T-t)} \quad (7.2.1)$$

式中，

F ：期货价格；
 S ：现货价格；
 U ：期货合约在有效期间所有存储成本的现值，可看作是负的收益；
 r ：无风险利率；
 $T-t$ ：距离到期日时间。

2. 消费为目的的期货

以消费为目的的期货，个人或企业不会积极主动地出售商品而购买期货（因为期货合约不能消费），因此一般有结果：

$$F \leq (S + U)e^{r(T-t)}$$

如果存储成本是现货价格的一定比例 u ，则有：

$$F \leq Se^{(r+u)(T-t)}$$

为了使上述等式成立，引入便利收益（convenience yield）的概念。便利收益反映了市场对未来商品的期望。在期货有效期内，商品短缺的可能性越大，便利收益越高。如果商品使用者囤积了大量的库存，则在不久的将来出现商品短缺的可能性就很小，从而便利收益就会越低。反之，较低的库存会导致较高的便利收益。

便利收益 y 定义为：

$$Fe^{y(T-t)} = (S + U)e^{r(T-t)} \quad (7.2.3)$$

整理后，有结果：

$$F = (S + U)e^{(r-y)(T-t)} \quad (7.2.4)$$

如果每单位存储成本是现货价格的一定比例 u ，则 y 定义为：

$$Fe^{y(T-t)} = Se^{(r+u)(T-t)}$$

整理后，有如下结果：

$$F = Se^{(r+u-y)(T-t)} \quad (7.2.5)$$

7.2.2 金融期货

金融期货是指协议双方同意在约定的将来某个交易日按照约定的条件（包括价格、交割地点、交割方式）买入或者卖出一定标准数量某种金融工具的协议。按照标的资产来划分，金融期货可分为外汇期货、利率期货和股指期货等。利率期货相对复杂，将专门讨论。这里只讨论外汇期货和股指期货。

1. 外汇期货：

外汇期货的价值为：

$$f = Se^{-r_f(T-t)} - Ke^{-r(T-t)}$$

外汇期货的价格为：

$$F = Se^{(r-r_f)(T-t)} \quad (7.2.6)$$

式中，

f ：外汇期货的价值；

S ：外汇的即期价格；

K ：交割价格；

r_f ：外汇的无风险利率；

r ：无风险利率；

F ：外汇期货价格。

2. 股指期货定价

股指期货可以看作是支付红利的证券（这里证券是构成指数的股票组合），这种红利就是该组合持有者得到的红利。假设红利是连续支付的，则有如下结果：

$$F = Se^{(r-q)(T-t)} \quad (7.2.7)$$

式中，

F ：股指期货的价格；

S ：指数现值；
 q ：红利收益率；
 r ：无风险利率；
 $T-t$ ：距离到期日时间。

7.3 利率期货

利率期货是指标的资产价格依赖于利率水平的期货合约。最普遍的利率期货有中长期国债期货、短期国债期货和欧洲美元期货。考虑到欧洲美元期货定价与短期国债期货定价类似，所以这里仅讨论前两者的定价问题。

7.3.1 中长期国债期货

中长期国债期货的标的物是中长期国债，它的价格是：

$$F = (S - I)e^{r(T-t)} \quad (7.3.1)$$

式中，

F ：期货价格；
 S ：债券价格；
 I ：期货合约有效期内债券利息的现值；
 r ：时刻 t 到 T 之间的无风险利率。

7.3.2 短期国债期货

短期国债期货的标的物是短期国债，它在存续期间不单独支付利息，在到期日投资者收到债券的面值，因此短期也称贴现债券。短期国债期货的定价公式为：

$$F = Ve^{rT-r^*T^*} \quad (7.3.2)$$

式中，

F ：期货价格；
 V ：短期国债的面值；
 T ：期货合约的到期日；
 r ：期货合约的无风险利率；
 T^* ：作为标的资产的短期国债的到期日；
 r^* ：短期国债的无风险利率。

7.3.3 使用利率期货进行风险对冲

使用利率期货进行风险对冲时要用到修正久期的概念。在连续复利条件下，债券价格变化率与修正久期的关系式为：

$$\Delta P = -PD\Delta y$$

式中，

P ：债券价格；
 D ：修正的久期；
 Δy ：收益率的微小变化；
 ΔP ：收益率微小变化引起的债券价格 P 的变化。

下面我们利用利率期货对某利率头寸进行风险对冲。我们定义如下符号：

F ：利率期货合约的价格；
 D_F ：该期货合约标的资产的久期；
 S ：需要对冲的资产的价值；

D_S ：需要对冲的资产的久期。

由上式，有结果：

$$\Delta S = -SD_S \Delta y$$

$$\Delta F = -FD_F \Delta y$$

为了对冲收益率变化 Δy 的不确定性，需要的合约数为：

$$N^* = \frac{SD_S}{FD_F} \quad (7.3.3)$$

该式是基于久期的对冲比率，运用它可使整个头寸的久期为零。

7.4 金融互换

金融互换（Financial Swaps）是两个或者两个以上当事人约定按照商定的条件在约定的时间交换一系列现金流的合约。最常见的金融互换是利率互换和货币互换。在这里，我们将讨论这两种金融互换的算法问题。

7.4.1 利率互换

利率互换是双方同意在未来的一定时间内根据同种货币同样名义本金交换现金流的协议。其中，一方的现金流根据浮动利率计算，另一方的现金流根据固定利率计算。

在没有违约的条件下，利率互换可以理解为债券多头与另外一种债券空头的组合。

考虑一家公司与金融机构之间的互换。我们可以把这种互换看成是金融机构出售给该公司一定数额的浮动利率债券，同时从该公司购买同等数额的固定利率债券的行为。假设现在是 0 时刻，金融机构在未来的 t 时刻收取的固定收入为 k 美元，同时以浮动利率支付。

我们做如下定义：

V ：互换的价值

B_1 ：互换过程中固定利率债券的价值

B_2 ：互换过程中浮动利率债券的价值

Q ：互换过程中的名义本金

则债券的价值为：

$$V = B_1 - B_2 \quad (7.4.1)$$

其中，固定利率债券的价值：

$$B_1 = \sum_{i=1}^T ke^{-r_i t_i} + Qe^{-r_T T} = \sum_{i=1}^T k'e^{-r_i t_i}$$

式中，

t_i ：支付利息的时刻；

r_i ：与时刻 t_i 对应的贴现率；

T ：到期日；

k' ：现金流。当 $t < T$ 时， $k' = k$ ； $t = T$ 时， $k' = k + Q$

浮动利率债券的价值为

$$B_2 = Qe^{-r_1 t_1} + k^* e^{-r_1 t_1} = (Q + k^*) e^{-r_1 t_1}$$

式中，

t_1 ：到下一个支付日的时间；

r_1 ：下一个支付日的利息；

k^* ： t_1 时刻支付的浮动利率利息。

将固定债券价值和浮动利率债券价值代入式（7.4.1），即可计算出互换的价值。

7.4.2 货币互换

货币互换是将一种货币的本金和固定利息与另一种货币的等价本金和固定利息进行交换的行为。在没有违约风险时，货币互换可以分解为两种债券的组合。

考虑一家进行金融互换的公司，它每年以外币收取年利率 r_1 的利息，以本币支付年利率 r_2 的利息，两种货币的本金分别为 Q_1 和 Q_2 ，互换将持续 T 年。假设本外币利率期限结构是水平的，外币的年利率为 y_1 ，本币的年利率为 y_2 ，则互换的价值 V 为：

$$V = SB_F - B_D \quad (7.4.3)$$

$$B_F = \sum_{t=1}^T r_2 Q_2 e^{-y_2 t}$$

$$B_D = \sum_{t=1}^T r_1 Q_1 e^{-y_1 t}$$

式中，

S ：即期汇率；

B_F ：为互换中用外币表示的外币债券价值；

B_D ：为互换中本币债券的价值。

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第 8 章 期权定价理论

期权是一种赋予了其购买者在规定的时间内按照双方约定的价格购买或者出售一定数量标的资产权利的合约。期权定价理论主要指的是 Black-Scholes 期权定价理论。围绕着 Black-Scholes 期权定价理论，本章主要介绍如下内容的数值算法：

- ✚ Black-Scholes 微分方程的推导；
- ✚ Black-Scholes 期权定价公式；
- ✚ 期权价格的偏导数；
- ✚ 隐含波动率；
- ✓ 二分法；
- ✓ Newton-Raphson 法；
- ✚ 红利的影响；
- ✓ 支付已知红利欧式期权定价；
- ✓ 支付已知红利美式看涨期权定价。

8.1 Black-Scholes 微分方程

Black-Scholes 微分方程是基于不支付红利股票的衍生证券价格必须满足的方程。推导该方程，需要做如下假设：

1. 股票价格遵循预期收益率 μ 和价格波动率 σ 为常数的几何布朗运动；
2. 允许卖空衍生证券；
3. 没有交易费用或税收，且所有证券都是高度可分的；
4. 在衍生证券有效期内，标的资产（股票）没有红利支付；
5. 不存在无风险套利机会；
6. 证券交易是连续的；
7. 无风险利率 r 是常数且对所有到期日都相同。

根据假设 1，有结果：

$$dS = \mu S dt + \sigma S dz$$

式中， dz 是一个维纳过程， μ 和 σ 意义同上。

假设衍生证券价格 f 依赖于标的资产价格 S ，则 f 一定是 S 和时间 t 的某一函数。由 ITO 定理得：

$$df = \left(\frac{\partial f}{\partial S} \mu S + \frac{\partial f}{\partial t} + \frac{1}{2} \frac{\partial^2 f}{\partial S^2} \sigma^2 S^2 \right) dt + \frac{\partial f}{\partial S} \sigma S dz$$

它们的离散形式为：

$$\Delta S = \mu S \Delta t + \sigma S \Delta z$$

$$\Delta f = \left(\frac{\partial f}{\partial S} \mu S + \frac{\partial f}{\partial t} + \frac{1}{2} \frac{\partial^2 f}{\partial S^2} \sigma^2 S^2 \right) \Delta t + \frac{\partial f}{\partial S} \sigma S \Delta z$$

式中， ΔS 和 Δf 是 S 和 f 在短时间间隔 Δt 后的变化量。由于 f 和 S 遵循相同的维纳过程，所以两式中的 Δz 应该相同，这样适当地选择股票和衍生证券组合就可以消除 Δz 。

为了消除 Δz ，我们构建了一个包括一单位衍生证券空头和 $\frac{\partial f}{\partial S}$ 单位标的证券多头的组合。令 Π 代表该投资组合的价值，则有结果：

$$\Pi = -f + \frac{\partial f}{\partial S} S$$

在 Δt 时间后，该投资组合的价值变化 $\Delta \Pi$ 为：

$$\Delta \Pi = -\Delta f + \frac{\partial f}{\partial S} \Delta S$$

将 ΔS 和 Δf 代入该式，得：

$$\Delta \Pi = \left(-\frac{\partial f}{\partial t} - \frac{1}{2} \frac{\partial^2 f}{\partial S^2} \sigma^2 S^2 \right) \Delta t \quad (8.1.1)$$

由于该式中不包含 Δz ，所以在时间间隔 Δt 后该组合的价值必定无风险，它在 Δt 后的瞬时收益率一定等于无风险利率。否则，套利者就可以通过套利获得无风险收益率：

$$\Delta \Pi = r \Pi \Delta t$$

代入式 8.1.1 得：

$$\left(-\frac{\partial f}{\partial t} - \frac{1}{2} \frac{\partial^2 f}{\partial S^2} \sigma^2 S^2 \right) \Delta t = r \left(f - \frac{\partial f}{\partial S} S \right) \Delta t$$

整理后得：

$$\frac{\partial f}{\partial t} + r \frac{\partial f}{\partial S} S + \frac{1}{2} \frac{\partial^2 f}{\partial S^2} \sigma^2 S^2 = rf \quad (8.1.2)$$

式 (8.1.2) 就是著名的 Black-Scholes 偏微分方程。这个方程适用于价格取决于标的证券价格 S 的所有衍生证券定价。

8.2 Black-Scholes 期权定价公式

由式 (8.1.2) 知，Black-Scholes 偏微分方程独立于投资者的风险偏好。这意味着衍生证券的价格与风险无关，所以我们可以选择任何一种偏好来对衍生证券进行定价。方便起见，假设所有投资者都是风险中性的。这样的假设为求解 Black-Scholes 偏微分方程提供了方便。在风险中性世界里得出的解不仅适用于风险中性世界，也适用于其它所有风险世界。

在风险中性的条件下，欧式看涨期权到期时 (T 时刻) 的期望值为：

$$\hat{E}[\max(S_T - X, 0)]$$

根据风险中性定价原理，欧式看涨期权的价格等于将此期望值按无风险利率进行贴现后的现值：

$$c = e^{-r(T-t)} \hat{E}[\max(S_T - X, 0)]$$

在风险中性的世界里， $\ln S_T$ 的概率分布为：

$$\ln S_T \sim \varphi \left[\ln S + \left(r - \frac{\sigma^2}{2} \right) (T-t), \sigma \sqrt{T-t} \right] \quad (8.2.1)$$

对式 (8.2.1) 的右边求值是一种积分过程。在这里，我们不进行深入讨论，直接给出计算结果：

$$c = SN(d_1) - Xe^{-r(T-t)} N(d_2) \quad (8.2.2)$$

式中，

$$d_1 = \frac{\ln(S/X) + (r + \sigma^2/2)(T-t)}{\sigma \sqrt{T-t}}$$

$$d_2 = \frac{\ln(S/X) + (r - \sigma^2/2)(T-t)}{\sigma\sqrt{T-t}} = d_1 - \sigma\sqrt{T-t}$$

式 (8.2.2) 是无收益资产欧式看涨期权的定价公式。 $N(x)$ 是标准正态分布变量的累积概率分布函数。

根据欧式看涨期权和看跌期权之间存在平价关系, 容易得出无收益资产欧式看跌期权的定价公式:

$$p = Xe^{-r(T-t)}N(-d_2) - SN(-d_1) \quad (8.2.3)$$

8.3 偏导数

各类欧式看涨期权价格偏导数的定义及计算结果如下:

1. Delta (Δ): 期权价格对标的资产价格的偏导数。

$$\Delta = \frac{\partial c}{\partial S} = N(d_1) \quad (8.3.1)$$

2. Gamma (Γ): 期权价格对标的资产价格的二阶偏导数。

$$\Gamma = \frac{\partial^2 c}{\partial S^2} = \frac{n(d_1)}{S\sigma\sqrt{T-t}} \quad (8.3.2)$$

3. Theta (θ): 期权价格对时间的偏导数。

$$\theta = \frac{\partial c}{\partial(T-t)} = Sn(d_1)\frac{1}{2}\sigma\frac{1}{\sqrt{T-t}} + rXe^{-r(T-t)}N(d_2) \quad (8.3.3)$$

$$\theta = \frac{\partial c}{\partial t} = -Sn(d_1)\frac{1}{2}\sigma\frac{1}{\sqrt{T-t}} - rXe^{-r(T-t)}N(d_2) \quad (8.3.4)$$

2. Vega: 期权价格对波动率的一阶偏导数。

$$Vega = \frac{\partial c}{\partial \sigma} = S\sqrt{T-t}n(d_1) \quad (8.3.5)$$

3. Rho (ρ): 期权价格对无风险利率的一阶偏导数。

$$\rho = \frac{\partial c}{\partial r} = X(T-t)e^{-r(T-t)}N(d_2) \quad (8.3.6)$$

式中,

S : 标的资产价格;

X : 执行价格;

r : 无风险利率;

σ : 标的资产价格的波动率;

t : 当前时刻;

T : 期权到期日;

$n(\cdot)$: 标准正态分布;

$N(\cdot)$: 累积正态分布;

8.4 隐含波动率

隐含波动率是 Black-Scholes 期权定价公式 (8.2.2) 中包含的波动率。这个波动率在市场上是无法观察到的, 并且不能由式 (8.2.2) 给出解析解, 所以只能通过数值方法给出近似解。下面是计算隐含波动率的两种数值算法。

8.4.1 二分法

二分法是一种通过每次把 $f(x_0)=0$ 的根 x_0 所在区间收缩一半，使区间的两个端点逐步逼近 x_0 ，从而求得 x_0 的近似值的方法。

我们在计算隐含波动率之初，可根据经验给出波动率的上下限，然后将它们的平均值代入 Black-Scholes 期权定价公式。由于期权价格是波动率的增函数，所以如果计算结果大于期权价格的观测值，缩小波动率的上下限重新计算。这样，就可以逐步逼近 x_0 的真值。

8.4.2 Newton 迭代法

牛顿迭代法 (Newton's method) 又称为牛顿-拉夫逊方法 (Newton-Raphson method)，是牛顿在 17 世纪提出的一种在实数域和复数域上近似求解方程根的方法。这种方法首先将函数 $f(x)$ 在 x_0 点附近展开成泰勒级数：

$$f(x) = f(x_0) + (x - x_0)f'(x_0) + (x - x_0)^2 f''(x_0) / 2! + \dots$$

然后，取 $f(x)$ 泰勒级数的前两项：

$$f(x) = f(x_0) + (x - x_0)f'(x_0) = 0$$

设 $f'(x) \neq 0$ ，则解为 $x_1 = x_0 - f(x_0) / f'(x_0)$ ，这样得到牛顿法的迭代公式：

$$x_{n+1} = x_n - f(x_n) / f'(x_n)$$

这样，就可以求出方程的近似解。

根据上述思路，计算隐含波动率的步骤如下：

1. 假设其它变量保持不变，认为函数 $f(\sigma)$ 是隐含波动率的一元函数：

$$f(\sigma) = c_t - c_{BS}(\sigma) \quad (8.4.1)$$

2. 求函数 $f(\sigma)$ 的偏导数 $f'(\sigma)$ ；

3. 由下面迭代方程计算波动率，直至 $|f(\sigma_i)| < \varepsilon$ （期望达到的精度）：

$$\sigma_{i+1} = \sigma_i + \frac{c_t - c_{BS}(\sigma)}{-\frac{dc_{BS}(\sigma)}{d\sigma}} \quad (8.4.2)$$

8.5 红利的影响

8.5.1 支付已知红利欧式期权定价

在期权有效期内，如果有红利派发，需要进行相应的调整，即在股票除息这一时点上，股票价格将下降，下降幅度为每股支付的红利的数量。对于欧式期权来说，只要用股票价格减去在期权有效期内所有红利按照无风险利率贴现的现值，就可以直接使用 Black-Scholes 公式计算期权价格。

8.5.2 美式期权定价

美式期权在定价时需要考虑何时行权才是最优的问题。

假设有 n 个除权日 $t_1, t_2, t_3, \dots, t_n$ ，且 $t_1 < t_2 < t_3 < \dots < t_n$ ，相对应的红利分别为 $D_1, D_2, D_3, \dots, D_n$ 。任意 $i < n$ ，如果：

$$D_i > X(1 - e^{-r(t_{i+1} - t_i)})$$

在 t_i 时刻行权是最佳选择。

对于美式看涨期权而言，有如下两种计算方法：

1. 在考虑提前行权的情况下，Black 提出了一种近似处理方法。该方法首先使用 Black-Scholes 定价公式分别计算最终除息日和在到期日欧式期权的价格，然后将两者中较大者确定为美式看涨期权的价格。

如果存在多期红利，需要根据 $D_i \leq X(1 - e^{-r(t_{i+1} - t_i)})$ 判断可否行权。如果都不可行权，按照支付

红利的欧式看涨期权处理。反之，分别计算 t_i 和 T 到期的欧式期权价格，然后将两者之中的较大者确定为美式期权的价格。

2. Roll, Geske, Whaley 提出了一种更精确的支付已知红利美式看涨期权定价公式：

$$c = (S - D_1 e^{-r\tau_1})N(b_1) + (S - D_1 e^{-r\tau_1})M(a_1, b_1; -\sqrt{\frac{\tau_1}{\tau}}) - X e^{-r\tau} M(a_1, b_1; -\sqrt{\frac{\tau_1}{\tau}}) \\ - X e^{-r\tau} M(a_2, b_2; -\sqrt{\frac{\tau_1}{\tau}}) - (X - D_1) e^{-r\tau_1} N(b_2) \quad (8.5.1)$$

式中，

$$a_1 = \frac{\ln[(S - D_1 e^{-r\tau_1}) / X] + (r + \sigma^2 / 2)\tau}{\sigma\sqrt{\tau}}$$

$$a_2 = a_1 - \sigma\sqrt{\tau}$$

$$b_1 = \frac{\ln[(S - D_1 e^{-r\tau_1}) / \bar{S}] + (r + \sigma^2 / 2)\tau_1}{\sigma\sqrt{\tau_1}}$$

$$b_2 = b_1 - \sigma\sqrt{\tau_1}$$

$$\tau_1 = t_1 - t$$

$$\tau = T - t$$

$M(a, b; \rho)$ ：标准二维正态分布的累积分布。该二维正态分布的第一个变量小于 a ，第二个变量小于 b ，两变量之间的相关系数为 ρ

\bar{S} ：方程 $c(\bar{S}, t_1) = \bar{S} + D_1 - X$ 的解。其中， $c(\bar{S}, t_1)$ 代表当 $\bar{S} = S$ ， $t_1 = t$ 时，由式 (8.2.1) 得出的期权价格。

D_1 ：最后支付的红利

t_1 ：最后的除息日。

当预期存在几期红利时，只有在最后一个交易日提前执行期权才可能是明智的。所以，只要将 S 减除了最后红利外的所有红利的现值，就可以使用上述公式。

当存在多期红利时，只有在最后一个除息日前执行权才是明智的。因此，可以运用 Roll-Geske-Whaley 公式，其中 S 要减去除最后红利之外的所有红利现值。变量 D_1 应等于最后红利， t_1 为最后的除息日期。

对于美式看跌期权，需要用数值计算方法进行求解，详细内容见随后的有关章节，这里暂不讨论。

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第 9 章 股票期权、货币期权和期货期权

本章是第 8 章的拓展，主要讨论如下问题：

- ✚ 支付连续红利率股票期权的定价；
- ✚ 股票指数期权定价；
- ✚ 货币期权；
- ✚ 期货期权；
- ✚ 永续期权 (Perpeteual Option)

9.1 支付连续红利率的股票期权定价

考虑一种每年以固定比率 q 支付连续红利率的股票。红利率 q 使得股票价格增长率比不支付红利率时降低了 q 。这样，一种价格为 S 、支付连续红利率的 q 的欧式期权与一种价格为 $Se^{-q(T-t)}$ 不支付红利率股票的欧式期权有相同的价值。因此，为了给这种期权定价，只需将股票现价从 S 降到 $Se^{-q(T-t)}$ ，然后代入 Black-Scholes 期权定价公式即可：

$$c = Se^{-q(T-t)}N(d_1) - Xe^{-r(T-t)}N(d_2) \quad (9.1.1)$$

$$p = Xe^{-r(T-t)}N(-d_2) - Se^{-q(T-t)}N(-d_1) \quad (9.1.2)$$

因为， $\ln\left(\frac{Se^{-q(T-t)}}{X}\right) = \ln\left(\frac{S}{X}\right) - q(T-t)$ ，所以， d_1 和 d_2 的结果分别为：

$$d_1 = \frac{\ln(S/X) + (r - q + \sigma^2/2)(T-t)}{\sigma\sqrt{T-t}}$$

$$d_2 = \frac{\ln(S/X) + (r - q - \sigma^2/2)(T-t)}{\sigma\sqrt{T-t}} = d_1 - \sigma\sqrt{T-t}$$

式中，

- c ：看涨期权价格；
- p ：看跌期权价格；
- S ：标的资产（股票）价格；
- X ：行权价格；
- r ：无风险利率；
- q ：连续支付红利；
- σ ：波动率；
- $T-t$ ：到期时间。

9.2 股票指数期权

股票指数期权 (Stock Index Option) 是一种赋予合约购买者在某一时期以一定的指数点位买入或卖出一定数量的某种股票指数现货或股票指数期货的权利的金融衍生产品。股票指数期权是以现金的方式进行交割的，股票指数期权的购买方有权利但无义务去执行交易，而出售方有义务履行合约的要求。

在为股指期货定价时，一般假设股票指数遵循几何布朗运动。这意味着只要股价 S 等于指数值，波动率 σ 等于指数波动率， q 等于指数红利率，就可以使用式 (9.1.1) 和 (9.1.2) 为欧式指数看涨期权和看跌期权进行定价。

$$c = Se^{-q(T-t)}N(d_1) - Xe^{-r(T-t)}N(d_2) \quad (9.2.1)$$

$$p = Xe^{-r(T-t)}N(-d_2) - Se^{-q(T-t)}N(-d_1) \quad (9.2.2)$$

式中，

S ：股票指数值

σ ：股票指数波动率

q ：指数的红利率

$$d_1 = \frac{\ln(S/X) + (r - q + \sigma^2/2)(T-t)}{\sigma\sqrt{T-t}}$$

$$d_2 = \frac{\ln(S/X) + (r - q - \sigma^2/2)(T-t)}{\sigma\sqrt{T-t}} = d_1 - \sigma\sqrt{T-t}$$

9.3 货币期权

货币期权是指买方在支付了期权费后取得在合约有效期内或到期时以约定的汇率购买或出售一定数额某种外汇资产的权利。货币期权的定价有如下两种方法：

1. 定义 S 是即期汇率， σ 是汇率变化波动率， r_f 是无风险利率。由于外币与支付已知红利的股票类似，外汇持有者收入的“红利收益率”等同于外币无风险利率 r_f ，外汇期权的价格也与支付已知红利率的欧式期权价格相同。所以，只需将支付已知红利率股票期权定价公式中的 q 换成 r_f ，式 (9.1.1) 和 (9.1.2) 仍然正确：

$$c = Se^{-r_f(T-t)}N(d_1) - Xe^{-r(T-t)}N(d_2) \quad (9.3.1)$$

$$p = Xe^{-r(T-t)}N(-d_2) - Se^{-r_f(T-t)}N(-d_1) \quad (9.3.2)$$

$$d_1 = \frac{\ln(S/X) + (r - r_f + \sigma^2/2)(T-t)}{\sigma\sqrt{T-t}}$$

$$d_2 = \frac{\ln(S/X) + (r - r_f - \sigma^2/2)(T-t)}{\sigma\sqrt{T-t}} = d_1 - \sigma\sqrt{T-t}$$

式中，

S ：即期汇率；

X ：行权价格；

r ：国内无风险利率；

r_f ：国外无风险利率；

σ ：波动率。

2. 由 T 时刻到期时的远期汇率与即期汇率的关系:

$$F = Se^{(r-r_f)(T-t)}$$

式 (9.3.1) 和 (9.3.2) 可简化为:

$$c = e^{-r(T-t)} [FN(d_1) - XN(d_2)] \quad (9.3.3)$$

$$p = e^{-r(T-t)} [XN(-d_2) - FN(-d_1)] \quad (9.3.4)$$

其中,

$$d_1 = \frac{\ln(F/X) + (\sigma^2/2)(T-t)}{\sigma\sqrt{T-t}}$$

$$d_2 = \frac{\ln(F/X) + (\sigma^2/2)(T-t)}{\sigma\sqrt{T-t}} = d_1 - \sigma\sqrt{T-t}$$

注意, 在使用式 (9.3.3) 和 (9.3.4) 时, 远期合约的到期日与期权的到期日必须相同。

9.4 期货期权

期货期权是以期货合约为标的资产的期权。它的标的资产既可以是金融期货, 也可以是商品期货。

由标的资产期货价格与现货价格的关系:

$$F = Se^{\alpha(T-t)}$$

如果标的资产是金融资产, α 就是该资产的收益率减去无风险利率; 如果标的资产是商品资产, α 就是无风险利率加上单位时间内单位费用减去便利收益。

假设 1) α 仅是时间的函数, 2) 即期价格 S 的波动率是常数, 则期货价格 F 的波动率也是常数且等于 S 的波动率。在这种情况下, 期货价格可以和支付连续红利 r 的证券等同对待。只要用 F 代替 S, 令 $q=r$, 就可以由支付连续红利 r 的证券的公式导出:

$$c = e^{-r(T-t)} [FN(d_1) - XN(d_2)] \quad (9.4.1)$$

$$p = e^{-r(T-t)} [XN(-d_2) - FN(-d_1)] \quad (9.4.2)$$

其中,

$$d_1 = \frac{\ln(F/X) + (\sigma^2/2)(T-t)}{\sigma\sqrt{T-t}}$$

$$d_2 = \frac{\ln(F/X) + (\sigma^2/2)(T-t)}{\sigma\sqrt{T-t}} = d_1 - \sigma\sqrt{T-t}$$

$N(x)$ 是标准正态分布变量的累积概率分布函数。

9.5 永续期权 (Perpetual Option)

永续期权是没有到期日的期权。显然, 只有美式永续期权才有意义。它的解析解是:

$$c = \frac{K}{h_1 - 1} \left(\frac{h_1 - 1}{Kh_1} \right)^{h_1} S^{h_1} \quad (9.6.1)$$

$$p = \frac{K}{1-h_1} \left(\frac{h_2-1}{Kh_2} \right)^{h_2} S^{h_2} \quad (9.6.2)$$

式中,

$$h_1 = \frac{1}{2} - \frac{r-q}{\sigma^2} + \sqrt{\left(\frac{r-q}{\sigma^2} - \frac{1}{2} \right)^2 + \frac{2r}{\sigma^2}}$$

$$h_2 = \frac{1}{2} - \frac{r-q}{\sigma^2} - \sqrt{\left(\frac{r-q}{\sigma^2} - \frac{1}{2} \right)^2 + \frac{2r}{\sigma^2}}$$

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1. John C. Hull, 期权、期货和衍生证券 (中译本), 华夏出版社, 1997.
2. William H. P, Saul A. T, William T. V, Brian P. F, C++的数值算法 (第二版) (中译本), 电子工业出版社, 2005.

第 10 章 蒙特卡洛数值方法

本章介绍蒙特卡洛模拟的基本原理及其在期权定价方面的应用，内容大致如下：

- ✚ 蒙特卡罗模拟基本原理；
- ✚ 蒙特卡洛法的应用：
 - ✓ 对数正态分布变量的模拟；
 - ✓ 欧式期权定价；
- ✚ 偏导数；
- ✚ 一般的情况；
- ✚ 蒙特卡洛模拟的有效性问题；

10.1 蒙特卡罗模拟基本原理

蒙特卡罗法是一种通过模拟标的资产价格运动而得到期权价值期望值的一种数值方法。由于大部分期权价值实际上都可以归结为期权到期回报的期望值的折现，所以模拟风险中性世界中标的资产价格的多种运动路径，并计算每种路径下的期权回报均值，然后把这些均值贴现，就可以得到期权价值。在这里，我们首先探讨单变量蒙特卡洛法，然后将有关结果推广到多变量。

10.1.1 单变量蒙特卡洛法

假设模拟变量是 θ 满足几何布朗运动，其标准差是 s ，在风险中性世界中的增长率是 \hat{m} ，则有结果：

$$d\theta = \hat{m}\theta dt + s\theta\varepsilon\sqrt{dt} \quad (10.1.1)$$

将衍生证券的有效期被分为 N 个长度为 Δt 时间段，这样上式的近似方程为：

$$\Delta\theta = \hat{m}\theta\Delta t + s\theta\varepsilon\sqrt{\Delta t} \quad (10.1.2)$$

其中， $\Delta\theta$ 是 Δt 时间内 θ 的变化， ε 从正态分布中抽取的随机样本。

在每次进行模拟运算时，首先应该从标准正态分布中抽出 N 个独立随机样本，然后把把这些样本代入式 (10.1.2)，计算出 $0, \Delta t, 2\Delta t, \dots, T$ 时刻的 $\Delta\theta$ 值，这些计算得到一条 θ 的模拟路径，因而可以得到衍生证券的一个样本终值。这一终值可以看成是全部可能终值集合中的一个随机样本。同样方法，可得到大量样本路径的终值。计算这些终值的算术平均值，可得出衍生证券的终值 $\hat{E}(f_T)$ (f_T 是 T 时刻的收益)，根据 $f = e^{-\bar{r}}\hat{E}(f_T)$ 就可计算出衍生证券的现值 (其中， \hat{E} 代表风险中性世界中的期望， \bar{r} 等于 T 时刻到期的零息票债券的收益率)。

如果模拟的变量是利率 r ，或与利率 r 有关的变量，方法与上述类似，但每次模拟的贴现率不同。这个贴现率应该用每次模拟运算时衍生证券在有效期内的 r 的平均值代替。在进行下次模拟时，衍生证券的终值要用该平均利率贴现。在进行了大量模拟运算之后，可得经过贴现的终值的算术平均值。然后由 $f = \hat{E}[f_T e^{-\bar{r}}]$ 就可得到 f 的估计值。其中， \bar{r} 为 0 时刻到 T 时刻瞬间无风险利率的平均值。

10.1.2 多变量蒙特卡洛模拟

当存在多个变量时，每次模拟时都需要对每个变量的路径进行抽样。从样本路径进行模拟运算中得出衍生证券的终值。如果模拟变量是无风险利率的函数，那么每次模拟必须计算出利率 r 的平

均值 \bar{r} ，在下次模拟之前将终值用 \bar{r} 进行贴现。

假设 n 个变量 θ_i ($1 \leq i \leq n$) 均满足几何布朗运动，标准差为 s_i ，在风险中性世界中的期望收益率是 m_i ， ρ_{ij} 是 θ_i 和 θ_j 之间的瞬间相关系数。将衍生证券的有效期分成 N 个长度为 Δt 时间段，则 θ_i 的离散过程形式为：

$$\Delta\theta_i = \hat{m}_i\theta_i\Delta t + s_i\theta_i\varepsilon_i\sqrt{\Delta t} \quad (10.1.2)$$

其中， $\Delta\theta_i$ 是 Δt 时间内 θ_i 的变化， ε_i 是标准正态分布的随机样本， ε_i 和 ε_j 的相关系数是 ρ_{ij} ($1 \leq i, j \leq n$)。每次模拟时，首先要从多维标准正态分布中抽样出来 N 个样本 ε_i ($1 \leq i \leq n$)，然后把这些样本值代入式 (10.1.2)，并由此计算出衍生证券的一个样本值。最后，参照单变量的做法，可以得出衍生证券的现值。

10.2 蒙特卡洛法的应用

10.2.1 对数正态分布随机变量的模拟

假设标的资产价格 S_t 遵循对数正态分布：

$$S_{t+1} = S_t e^{(r - \frac{1}{2}\sigma^2)t + \sigma\tilde{x}}$$

其中， \tilde{x} 为均值为 0，方差是 1 的正态分布变量。

更一般情况，现在时刻是 t ，到期日是 T ，距离到期日的时间是 $T-t$ ，则有结果：

$$S_T = S_t e^{(r - \frac{1}{2}\sigma^2)(T-t) + \sigma\tilde{x}} \quad (10.2.1)$$

对数正态分布随机变量模拟源代码如下：

10.2.2 欧式期权定价

考虑资产价格是 S_0 ，执行价格是 X 的欧式看涨期权。在到期日，期权的价值为：

$$c_T = \max(0, S_T - X)$$

在风险中性的世界中，用无风险利率 r 贴现的结果为：

$$c_t = e^{-r(T-t)} E[\max(0, S_T - X)]$$

这里，只有到期值 S_T 是模拟变量，标的资产在时间 $T-t$ 之间的价格与定价无关。所以，只需模拟终值 S_T ，得到一系列值， $S_T^1, S_T^2, \dots, S_T^n$ 。然后，对所有这些终值应用欧式看涨期权边界条件，得到 n 个 c_t 值，由此得到 c_t 的平均值。把这个平均值用无风险利率 r 贴现，就得到期权的价值：

$$\hat{c}_t = e^{-r(T-t)} \left(\sum_{i=1}^n \max(0, S_T^i - X) \right) \quad (10.2.2)$$

使用同样方法，我们还可以给出欧式看跌期权的期权价值：

$$p_t = e^{-r(T-t)} \sum_{i=1}^n \max(X - S_T^i, 0) \quad (10.2.3)$$

源代码 10.2.2 是欧式看涨期权蒙特卡洛法定价源代码。

10.3 偏导数

我们首先回顾一下函数 f 一阶导数定义：

$$f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h} \quad (12.3.1)$$

根据 delat 定义 $\Delta = \frac{\partial c_t}{\partial S}$ ，期权定价函数 $c_t = f(S; X, r, \sigma, T-t)$ 的 delat 参数是在其它变量保持不变时，期权价值 c_t 对标的资产价格的一阶偏导数，故有结果：

$$\Delta = \frac{f(S+q) - f(S)}{q} \quad (12.3.2)$$

其中， q 是一个很少量。在使用蒙特卡洛模拟时，重要的是估计标的资产价格分别是 S 和 $S+q$ 的两个期权的价值。下面是计算 delat 的源代码，其它偏导数的算法类似。

10.4 一般的情况

如果我们希望对报酬形态依赖于标的资产的任意一种期权定价，可以先写出可能出现的原函数，然后在期权定价时直接调用这些函数即可。

有了上述函数，就可以根据情况编写蒙特卡洛模拟程序。

10.5 蒙特卡洛模拟的有效性问题的

上述模拟往往需要很多的模拟次数才能达到精确度合理的估计值。为了提高效率，人们提出了控制变量法和对偶变量法。

10.5.1 控制变量法

控制变量法非常简单。假设有两种相似的衍生证券 A 和 B 的情况，A 证券是要给出结果的证券，B 证券是与 A 相似并且能够得到解析解的证券。我们使用相同的随机数流和相同的时间间隔 Δt 进行两次模拟：第一次模拟得出证券 A 的估计值 \hat{f}_A ，第二次模拟得出证券 B 的估计值 \hat{f}_B 。然后，使用下面公式得出对证券 A 的更好估计：

$$f_A = \hat{f}_A - \hat{f}_B + f_B \quad (10.5.1)$$

式中， f_B 是证券 B 的真实值。

10.5.2 对偶变量法

对偶变量技术在一次模拟运算中要同时计算衍生证券的两个值 f_1 和 f_2 。第一个值 f_1 是用通常的方法得出的，第二个值 f_2 是通过改变所有标准正态分布的符号计算出来的，而衍生证券的估值就是两者的算术平均值：

$$\bar{f} = \frac{f_1 + f_2}{2} \quad (10.5.2)$$

本章编程要点

1. John C. Hull, 期权、期货和衍生证券（中译本），华夏出版社，1997.
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第 11 章 期权定价的二叉树法

蒙特卡洛法的突出优点是，当回报依赖于多个市场变量，而且报酬形态很复杂时，效率相对而言较高，不足之处是，只能为欧式期权定价，难以处理提前行权的情况。本章介绍的二叉树法在一定程度上弥补了这些不足，它既适用于欧式期权，也适用于美式期权。

- ✚ 二叉树法的基本原理；
- ✚ 无收益资产的期权定价；
- ✚ 支付连续红利率的情形；
- ✚ 支付已知红利率的情形；
- ✚ 支付已知红利额的情形；
- ✚ 指数期权、货币期权和期货期权的二叉树法；
- ✚ 偏导数的计算；

11.1 二叉树法的基本原理

考虑一个不付红利股票期权。把期权的有效期分为许多很小的时间间隔 Δt ，并假设在一个时间间隔 Δt 内证券价格从开始的 S 运动到新值 Su ，或者新值 Sd ，如图 11.1 所示。这里， $u > 1$ ， $d < 1$ ，所以 S 运动到新值 Su 是价格的上升过程， S 运动到新值 Sd 是价格的下降过程。假设价格上升的概率是 P ，下降的概率假设是 $1-P$ 。在风险中性的世界里，股票的期望收益率为无风险利率 r_f ，时间间隔 Δt 末股票的期望值是 $Se^{-r_f\Delta t}$ 。

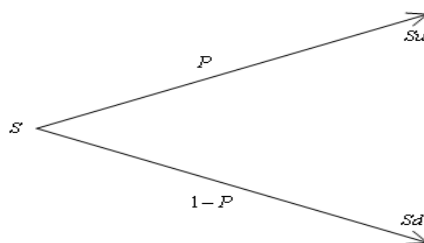


图 11.1: Δt 内证券价格的变化

因此，我们有结果：

$$Se^{-r_f\Delta t} = PSu + (1-P)Sd$$

整理后，得：

$$e^{-r_f\Delta t} = Pu + (1-P)d \quad (11.1)$$

假设股票价格遵循几何布朗运动，则在时间间隔 Δt 内股票价格变化的方差是 $S^2\sigma^2\Delta t$ 。根据方差定义，变量 X 的方差等于 $E(X^2) - [E(X)]^2$ (E 代表期望)，所以有结果：

$$S^2\sigma^2\Delta t = PS^2u^2 + (1-P)S^2d^2 - S^2[Pu + (1-P)d]^2$$

整理后，得：

$$S^2\sigma^2\Delta t = PS^2u^2 + (1-P)S^2d^2 - S^2[Pu + (1-P)d]^2 \quad (11.2)$$

式 (11.1) 和式 (11.2) 为 P , u , d 的确定提供了两个条件。第三个条件是:

$$u = 1/d \tag{11.3}$$

所以, 我们有结果:

$$P = \frac{a-d}{u-d} \tag{11.4}$$

$$u = e^{\sigma\sqrt{\Delta t}} \tag{11.5}$$

$$d = e^{-\sigma\sqrt{\Delta t}} \tag{11.6}$$

其中, $a = e^{r_f\Delta t}$ 。

由式 (11.3) — (11.6), 可以构造出股票价格的树形结构, 如图 11.2 所示。

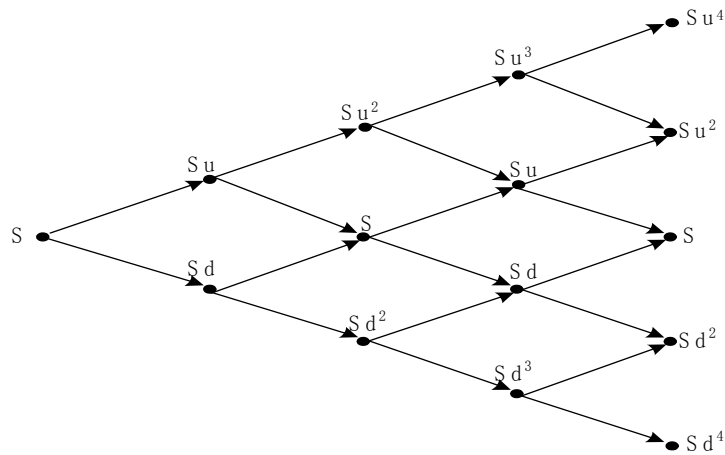


图 11.2: 股票价格树图

在图 11.2 中, 0 时刻的股票的价格是 S ; 在 Δt 时刻, 股票价格有两种可能: Su 和 Sd ; 在 $2\Delta t$, 股票价格有三种可能: Su^2 , Sud , Sd^2 。以此类推, 一般情况下, $i\Delta t$ 时刻股票价格有 $i+1$ 种可能:

$$Su^j d^{i-j} \quad j = 0, 1, 2, \dots, i$$

注意, 在计算图中每个结点的证券价格时, 使用了 $u = 1/d$ 的关系。例如, $Su^2 d = Su$ 。还要注意的是证券价格先升再降与先降后升得到的值一样, 也就是树枝在结点上重合。

上述树形图构造出来之后, 我们就可以通过树图倒推来计算期权的价值。由于 T 时刻的期权价值已知, 在风险中性的世界里 $T-\Delta t$ 时刻每个结点上的期权的价值都可以用 T 时刻在 Δt 时间内无风险利率的贴现求得。 $T-2\Delta t$ 时刻每个结点的期权价值可用 $T-\Delta t$ 的价值在 Δt 时间内无风险利率的贴现求得。以此向后倒推, 通过各个节点, 最后就得到在 0 时刻的期权值。

11.2 无收益资产的期权定价

11.2.1 欧式期权的定价

欧式期权定价一般不使用二叉树法, 原因很简单, 因为这类期权价格可直接由 Black-Scholes 期权定价公式给出。然而, 通过使用二叉树法为欧式期权定价, 可以使我们更深入地了解二叉树定价方法, 为更复杂的期权定价打下基础。

我们首先从单期二叉树期权定价入手来探讨二叉树期权定价法。

1. 单期二叉树期权定价
2. 多期二叉树期权定价

3. 下面算法的输入参数与上述算法不一样，更便于实际使用和比较。

11.2.2 美式期权的定价

美式期权与欧式期权不同，存在着提前行权的可能性。一般来说，除了无收益美式看涨期权与欧式看涨期权有相同的解之外，美式期权不存在解析解。对于美式期权提前行权问题，二叉树法非常有效。

11.3 支付连续红利率的情形

对不支付红利的二叉树期权定价源代码稍加改动，就可得到支付连续红利率的美式看涨或看跌期权定价算法。

11.4 支付已知红利率的情形

如果在未来某时间支付已知红利率 δ ，二叉树的形式如图所示。在除息日之前，某些节点的股价为 $Su^j d^{i-j}$ ， $j=0, 1, \dots, i$ 。但是，在除息日之后，相应节点的股票价格是

$$Su^j d^{i-j} (1-\delta), \quad j=0, 1, \dots, i \quad (11.4.1)$$

对在期权有效期内有多于一个已知红利率的情况，处理方法类似。如果 δ_i 为 0 时刻到 $i\Delta t$ 时刻之间除息日红利支付率，则 $i\Delta t$ 时刻结点的股票价格为：

$$Su^j d^{i-j} (1-\delta_i) \quad (11.4.2)$$

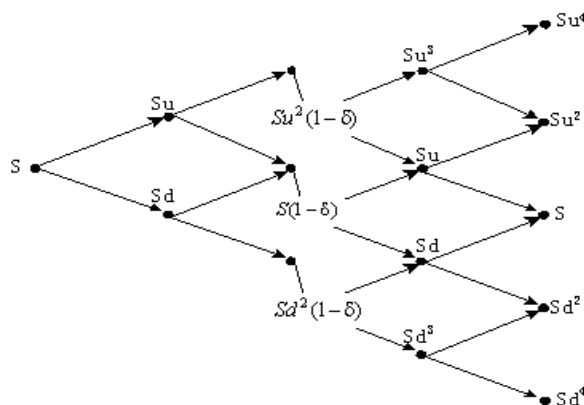


图 11.3：支付已知红利率股价二叉树

11.5 支付已知红利额的情形

假设股票价格由两个部分组成：一部分是不确定的，其价值用 S^* 表示，另一部分是期权有效期内所有未来红利的现值。方便起见，假设在期权有效期内只有一次红利，除息日是 τ ，而且 $k\Delta t \leq \tau \leq (k+1)\Delta t$ 。任一时刻 x 的不确定部分价值 S^* 为：

$$S^*(x) = S(x) \quad x > \tau$$

$$S^*(x) = S(x) - De^{-r(\tau-i\Delta t)} \quad x \leq \tau$$

其中， D 是红利额。假设 S^* 的标准差为 σ^* ，且是常数，那么用 σ^* 代替原来的波动率 σ ，可计算出参数 p ， u ， d 。这样就可用通常的方法构造出 S^* 的二叉树。然后，把未来红利额的现值加在每个节点的股票价格上，就会将原来的二叉树转化为 S 的二叉树。

11.6 指数期权、货币期权和期货期权定价的二叉树法

股票指数、外汇、期货可看成是支付连续红利率的股票。股票指数的“红利率”是股票指数组合的红利收益率；外汇的“红利率”是外国无风险利率；期货的“红利率”是国内无风险利率。下面是这三类期权的二叉树定价方法。

11.6.1 指数期权定价的二叉树法

11.6.2 货币期权定价的二叉树法

11.6.3 期货期权定价的二叉树法

11.7 偏导数的估计

11.7.1 美式看涨期权偏导数

17.1.2 美式看跌期权偏导数

参考文献

1. John C. Hull, 期权、期货和衍生证券（中译本），华夏出版社，1997.

第 12 章 有限差分法

有限差分法通过使用数值法求解衍生证券所满足的偏微分方程来为衍生证券定价的。有限差分法的内容大致如下：

- ✚ 有限差分法的基本思想；
- ✚ 内含有限差分法和外推有限差分法的比较；
- ✚ 内含有限差分法；
- ✚ 外推有限差分法；
- ✚ 有限差分法的评价。

12.1 有限差分法的基本思想

有限差分方法的具体做法是：1) 将衍生证券所满足的偏微分方程转化为转化为一系列近似的差分方程；2) 用迭代法求解差分方程。

我们以不支付红利股票的美式期权为例来说明这种方法。美式期权所满足的偏微分方程如下：

$$\frac{\partial f}{\partial t} + r \frac{\partial f}{\partial S} S + \frac{1}{2} \frac{\partial^2 f}{\partial S^2} \sigma^2 S^2 = rf$$

假设现在是 0 时刻，我们把从 0 时刻到期权到期日 T 分成有限个等间隔的小时间段 $\Delta t = T / N$ ，这样总共有 $N + 1$ 个时间段：

$$0, \Delta t, 2\Delta t, 3\Delta t, \dots, T$$

同时选择有限个等间隔的股票价格段。设股票价格可达到的最大值是 S_{\max} ，定义 $\Delta S = S_{\max} / M$ ，并考虑 $M + 1$ 个股票价格：

$$0, \Delta S, 2\Delta S, 3\Delta S, \dots, S_{\max}$$

我们把上述时间与价格的关系用图 11.1 中的 $(M + 1) \times (N + 1)$ 坐标方格来说明。

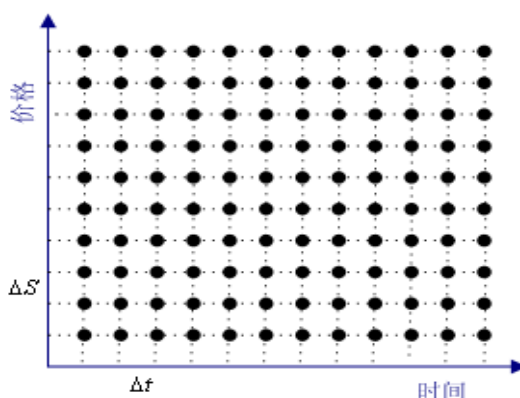


图 11.1：有限差分法的坐标方格

图中的任意点 (i, j) 对应的的时间是 $i\Delta t$ ，股票价格是 $j\Delta S$ 。我们用 f_{ij} 表示 (i, j) 点的期权价值。

这样，我们就可以用离散算子逼近 $\frac{\partial f}{\partial t}$ ， $\frac{\partial f}{\partial S}$ ， $\frac{\partial^2 f}{\partial S^2}$ 各项，从而把上述偏微分方程表示为离散方程。

12.2 内含的有限差分法与外推的有限差分法

有限差分法分为内含有限差分法和外推有限差分法两种，它们的区别如图 11.2 和图 11.3 所示。

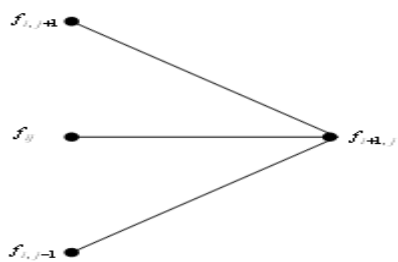


图 11.2: 内含有限差分法

内含有限差分法的表达式为:

$$a_j f_{i,j-1} + b_j f_{ij} + c_j f_{i,j+1} = f_{i+1,j} \quad (11.1)$$

式中,

$$a_j = \frac{1}{2} rj\Delta t - \frac{1}{2} \sigma^2 j^2 \Delta t$$

$$b_j = 1 + \sigma^2 j^2 \Delta t + r\Delta t$$

$$c_j = -\frac{1}{2} rj\Delta t - \frac{1}{2} \sigma^2 j^2 \Delta t$$

外推的有限差分法的表达式为:

$$a_j f_{i+1,j-1} + b_j f_{i+1,j} + c_j f_{i+1,j+1} = f_{ij} \quad (11.2)$$

式中

$$a_j = \frac{1}{1+r\Delta t} \left(-\frac{1}{2} rj\Delta t + \frac{1}{2} \sigma^2 j^2 \Delta t \right)$$

$$b_j = \frac{1}{1+r\Delta t} (1 - \sigma^2 j^2 \Delta t)$$

$$c_j = \frac{1}{1+r\Delta t} \left(\frac{1}{2} rj\Delta t + \frac{1}{2} \sigma^2 j^2 \Delta t \right)$$

内含的有限差分法的优点是它很有效。当 $\Delta t \rightarrow 0$, $\Delta S \rightarrow 0$, 总是收敛于偏微分方程的解。它的不足之处是, 为了从 $f_{i+1,j}$ 值计算出 $f_{i,j}$, 必须同时求解 $M+1$ 个方程。外推的有限差分法由于点 (i, j) 的 $\frac{\partial f}{\partial S}$ 和 $\frac{\partial^2 f}{\partial S^2}$ 与点 $(i+1, j)$ 的值相同, 所以可以克服内含有限差分法的不足。

12.3 外推的有限差分法

外推有限差分法计算起来比较直接方便, 无需象内含有限差分法那样需要求解大量的联立方程, 所以我们首先介绍外推有限差分法的有关算法。有限差分法既可处理欧式期权问题, 又可处理美式期权问题。欧式期权的价格可由 Black-Scholes 公式直接求出。但是, 为了便于了解有限差分法的使用方法, 这里给出了欧式期权定价程序。

12.3.1 欧式期权

12.3.2 美式期权

12.4 内含的有限差分法

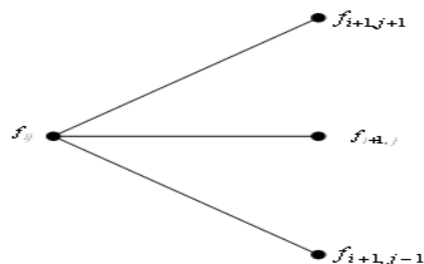


图 11.3: 外推的有限差分法

内含的有限差分法除了计算量大之外，还有一个缺点是算法设计上较为复杂。为了解决这个问题，有必要引入矩阵类库“Newmat”。“Newmat”是为满足矩阵运算而专门设计的类库。有了“Newmat”类库，内含的有限差分法设计上就变得相对简单。

1. 欧式期权定价

2. 美式期权定价

在欧式期权的基础上，我们可以进一步给出美式期权定价源代码。美式期权与欧式期权的差别是在每一点需要检查是否行权。

参考文献

1. William H. P, Saul A. T, William T. V, Brian P. F, C++的数值算法（第二版）（中译本），电子工业出版社，2005.
2. Robert J. S, Sandra L. H, 应用数值方法（使用 Matlab 和 C 语言），机械工业出版社，2004.
3. John C. Hull, 期权、期货和衍生证券（中译本），华夏出版社，1997.

第 13 章 权证

权证是一种由同一家上市公司发行的期权类衍生证券。权证在经过适当的调整后可直接应用前几章介绍过的方法进行定价。围绕着权证定价，本章将介绍如下内容：

- ✚ 权证定价的基本思想；
- ✚ 权证定价的基本算法；

13.1 权证定价的基本思想

权证实质上是一种期权，它赋予其持有者在到期时(或到期前)以约定价格买入或卖出特定证券的权利。权证分为认购权证和认沽权证。认购权证赋予持有者未来买入权利，认沽权证赋予持有者卖出权利的权证。

方便起见，我们仅讨论欧式权证的定价问题。

考虑一个拥有 N 股流通股， M 份流通的欧式认股权证的公司。假设每份认股权证赋予其持有者在到期日 T 时刻以每股 K 的执行价格向公司购买 γ 股股票的权利。

如果在 T 时刻公司的股权值是 V_T ，认股权证的持有者执行了认股权，由于行权价格是 $M\gamma K$ ，那么公司的股权价值增长到 $V_T + M\gamma K$ 。该值在 $N + M\gamma$ 股中分配，所以认股权证执行后瞬间的股票价格是：

$$\frac{V_T + M\gamma K}{N + M\gamma}$$

认股权证持有者的盈利收入为：

$$\frac{N\gamma}{N + M\gamma} \left[\frac{V_T}{N} - K \right]$$

当盈利为正时，认股权证被执行，所以认股权证持有者的盈利为：

$$\frac{N\gamma}{N + M\gamma} \max \left[\frac{V_T}{N} - K, 0 \right]$$

这说明认股权证的价值是 $\frac{N\gamma}{N + M\gamma}$ 份基于 $\frac{V}{N}$ 的看涨期权的价值，其中 V 是公司股权价值，其价值为：

$$V_t = NS_t + MW_t$$

其中， S_t 是股票价格， W_t 是认股权证价格，整理后有结果：

$$\frac{V_t}{N} = S_t + \frac{M}{N} W_t$$

如果我们使用 $S_t + \frac{M}{N} W_t$ 替代股票价格 S_t ，并将波动率 σ 解释为公司股权而不是股票价格的波动率（股票价格波动率+认股权证总价值的波动率），则可以通过在 Black-Scholes 公式前乘以 $\frac{N\gamma}{N + M\gamma}$ 而求出权证的价格：

$$W_t = \frac{N\gamma}{N + M\gamma} C_{BS} \left(\frac{V_t}{N}, K, \sigma, r, T - t \right) \quad (13.1.1)$$

式中， C_{BS} 是 Black-Scholes 期权定价公式。

13.2 权证定价的基本算法

由式 (13.1.1)，权证的价值是

$$W_t = \frac{N\gamma}{N+M\gamma} C_{BS} \left(\frac{NS_t + M\gamma W_t}{N}, K, \sigma, r, T-t \right)$$

该式的两边都有 W_t ，无法得出权证价值的解析解，所以需要借助数值方法求解。

下面，我们使用 Newton-Rhapson 方法对式进行求解。

$$\text{假设 } f(W_t) = W_t - \frac{N\gamma}{N+M\gamma} C_{BS} \left(\frac{NS_t + MW_t}{N}, K, \sigma, r, T-t \right),$$

W_t 的初始值是 W_t^0 ，则由 Newton-Rhapson 方法，有结果：

$$W_t^i = W_t^{i-1} - \frac{g(W_t^{i-1})}{g'(W_t^{i-1})} \quad (13.2.2)$$

重复上述计算，直到函数 $g(W_t^{i-1})$ 满足一定的精度为止。这里， i 表示第 i 次重复计算结果。

在这种情况下，有结果：

$$g'(W_t) = 1 - \frac{M}{M+N} N(d_1)$$

$$d_1 = \frac{\ln\left(\frac{S_t + \frac{M}{N}W_t}{K}\right) + \left(r + \frac{1}{2}\sigma^2\right)(T-t)}{\sigma\sqrt{T-t}}$$

13.2 支付已知红利率权证定价

将式 (13.1.1) 略加修改就可得出支付已知红利率欧式认购权证的价格：

$$W_t = \frac{N\gamma}{N+M\gamma} C_{BS} \left(\frac{NS_t + M\gamma W_t}{N}, K, \sigma, r, q, T-t \right)$$

参考文献

1. John C. Hull, 期权、期货和衍生证券 (中译本), 华夏出版社, 1997.

第 14 章 Black-Scholes 期权定价理论的拓展

在实际应用中，Black-Scholes 期权定价模型经常会产生定价偏差。为了纠正这些偏差，需要对其进行适当的修正，本章将介绍相应的修正模型和算法。

- ✚ Merton 随机波动模型；
- ✚ Merton 的跳跃扩散模型；
- ✚ 决对扩散模型；
- ✚ 纯粹跳跃模型；
- ✚ 转移扩散模型。

14.1 Merton 随机波动模型

Merton 模型是假设利率随机波动的期权定价模型。定义 $B(t)$ 为与期权同时到期，在到期时支付给持有者 \$1 的贴现债券的价值，假设 $B(t)$ 服从如下过程：

$$dB(t) = \mu_B dt + \sigma_B dz_B$$

式中，

- μ_B : $B(t)$ 债券价格增长率；
- σ_B : $B(t)$ 的波动率，假定为时间的函数；
- dz_B : 是维纳过程。

由上述假设，，欧式看涨期权和看跌期权的价格分别为：

$$c = SN(d_1) - BXN(d_2) \quad (14.1.1)$$

$$p = BXN(-d_2) - SN(-d_1)$$

$$d_1 = \frac{\ln(S/X) - \ln B + (\hat{\sigma}^2/2)(T-t)}{\hat{\sigma}\sqrt{T-t}}$$

$$d_2 = d_1 - \hat{\sigma}\sqrt{T-t}$$

$$\hat{\sigma}^2(T-t) = \int_t^T (\sigma^2 + \sigma_B^2 - 2\rho\sigma\sigma_B) dt$$

$$B(t) = e^{-R(T-t)}$$

式中，

- S : 标的资产价格；
- σ : 股票价格波动率
- ρ : 股票价格与债券价格之间的瞬间相关系数
- R : T 时刻到期的无风险债券的利率，该利率取代了 Black-Scholes 期权定价公式中的无风险利率 r 。

14.2 Merton 的跳跃扩散模型

当按比例跳跃幅度的对数值是正态分布时，就可获得最简单形式的 Merton 跳跃扩散模型。假设正态标准差是 δ ，于是欧式看涨期权的价格为：

$$c = \sum_{n=0}^{\infty} \frac{e^{\lambda'\tau} (\lambda'\tau)^n}{n!} C_{BS}(S, X, r_n, \sigma_n^2, \tau) \quad (14.2.1)$$

式中,

$$\tau = Y - t$$

$$\lambda' = \lambda(1 + \kappa)$$

$$\sigma_n^2 = \sigma^2 + \frac{n\delta^2}{\tau}$$

$$r_n = r - \lambda\kappa + \frac{n \ln(1 + \tau)}{\tau}$$

$C_{BS}(S, X, r_n, \sigma_n^2, \tau)$: Black-Scholes 期权定价公式计算出来的价格;

为了避免数值计算的困难, 我们用下式替代式 (14.2.1) 中的 $\frac{e^{\lambda'\tau} (\lambda'\tau)^n}{n!}$:

$$\frac{e^{\lambda'\tau} (\lambda'\tau)^n}{n!} = \exp\left(\ln\left(\frac{e^{\lambda'\tau} (\lambda'\tau)^n}{n!}\right)\right) = \exp\left(-\lambda'\tau + n \ln(\lambda'\tau) - \sum_{i=1}^n \ln i\right) \quad (14.2.2)$$

并且, 适当控制 n 的大小。

14.3 绝对扩散模型

利用绝对扩散模型, 可以得出基于股票的欧式看涨期权的价格:

$$c = (S - Xe^{-r(T-t)})N(y_1) + (S - Xe^{-r(T-t)})N(y_2) + v[n(y_1) - n(y_2)] \quad (14.3.1)$$

式中,

$$v = \sigma \sqrt{\frac{1 - e^{-2r(T-t)}}{2r}}$$

$$y_1 = \frac{S - Xe^{-r(T-t)}}{v}$$

$$y_2 = \frac{-S - Xe^{-r(T-t)}}{v}$$

$$n(y) = \frac{1}{\sqrt{2\pi}} e^{-y^2/2}$$

14.4 转移扩散模型

利用转移扩散模型得到基于股票欧式看涨期权的价格为:

$$c = aSN(d_1) - (X - bS)e^{-r(T-t)}N(d_2) \quad (14.4.1)$$

式中,

$$d_1 = \frac{\ln[aS/(X - bS)] + (r - \sigma_R^2/2)(T-t)}{\sigma_R \sqrt{T-t}}$$

$$d_2 = d_1 - \sigma_R \sqrt{T-t}$$

$a = \alpha(1+\beta)$, α 是风险资产占总资产的初始比例, β 是初始债务与股权的比例;

$$b = (1-a)e^{r(T-t)}$$

本章重点

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2. Robert J.S, Sandra L. H, 应用数值方法 (使用 Matlab 和 C 语言), 机械工业出版社, 2004.
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第 15 章 新型期权

新型期权是比标准的欧式或美式期权更复杂的衍生证券。它们大多是金融机构根据特定金融市场的需要而开发的,并且主要是在场外交易市场进行交易。本章将介绍常见的一些新型期权的算法,内容大致如下:

- ✚ 亚式期权;
- ✚ 回望期权;
- ✚ Bermudan 期权;
- ✚ 障碍期权;
- ✚ 复合期权。

15.1 亚式期权

亚式期权 (asian options) 是收益依赖于标的资产在有效期内至少一段时间平均价格的期权。常见的亚式期权有平均价格期权和平均执行价格期权。

15.1.1 几何平均价格期权

1. 平均价格看涨期权的盈亏为:

$$c_T = \max[0, \bar{S} - X]$$

平均价格看跌期权的盈亏为:

$$c_T = \max[0, X - \bar{S}]$$

这里, \bar{S} 是按预定时间计算的标的资产价格的平均值, X 为执行价格。

2. 平均价格看涨期权的解

如果假设标的资产价格 S 服从对数正态分布,且 \bar{S} 是 S 的几何平均值,就可以获得欧式平均价格期权定价的解析式。在这种场合,只要将标准差 $\sigma/\sqrt{3}$, 红利率 $\frac{1}{2}(r+q+\frac{\sigma^2}{6})$ 代入相应的欧式期权定价公式即可。

15.1.2 算术平均价格期权

算术平均价格期权是一种比几何平均价格期权更普遍的一种期权,但是这种期权没有解析解。对算术平均价格期权的定价,有一种近似方法。这种方法首先精确地计算出算术平均的概率分布的头两项,然后再假定算术平均的分布是具有相同头两项的对数分布。这样就能够近似得出这类期权的解析解。

定义:

$$M_1 = \frac{e^{(r-q)T} - 1}{(r-q)T}$$

$$M_2 = \frac{2e^{[2(r-q)+\sigma^2]T}}{(r-q+\sigma^2)(2r-2q+\sigma^2)T^2} + \frac{2}{(r-q)T^2} \left[\frac{1}{2(r-q)+\sigma^2} - \frac{e^{(r-q)T}}{r-q+\sigma^2} \right]$$

由对数正态分布的性质,如果我们进行对数正态分布近似计算,应当把平均价格期权看成是红利率为 q_A , 标准差为 σ_A 的常规期权。其中,

$$e^{(r-q)T} = M_1$$

$$e^{[2(r-q)+\sigma^2]T} = M_2$$

由上述两式得出：

$$q_A = r - \frac{\ln M_1}{T}$$

$$\sigma_A^2 = \frac{\ln M_2}{T} - 2(r - q_A)$$

所以，算术平均价格看涨期权的解析解为：

$$c = S e^{-q_A(T-t)} N(d_1) - X e^{-r(T-t)} N(d_2)$$

式中，

$$d_1 = \frac{\ln(S/X) + (r - q_A + \frac{1}{2}\sigma_A^2)(T-t)}{\sigma_A \sqrt{T-t}}$$

$$d_2 = \frac{\ln(S/X) + (r - q_A - \frac{1}{2}\sigma_A^2)(T-t)}{\sigma_A \sqrt{T-t}} = d_1 - \sigma_A \sqrt{T-t}$$

S ：标的资产价格；

X ：行权价格；

T ：期权到期日。

15.2 回望期权 (Lookback Option)

回望期权 (lookback options) 的收益依赖于期权在有效期内标的资产达到的最大价格或最小价格。如果 S_1 是曾经达到过的最小价格， S_2 是曾经达到过的最大价格， S_T 是到期时的最终价格，则回望看涨期权的收益为：

$$\max(0, S_T - S_1)$$

回望看跌期权的收益为：

$$\max(0, S_2 - S_T)$$

1. 欧式回望看涨期权的定价公式为：

$$c = S e^{-q(T-t)} N(a_1) - S e^{-q(T-t)} \frac{\sigma^2}{2(r-q)} N(-a_1) - S_{\min} e^{-r(T-t)} \left(N(a_2) - \frac{\sigma^2}{2(r-q)} e^{Y_1} N(-a_3) \right) \quad (15.2.1)$$

式中，

$$a_1 = \frac{\ln(S/S_{\min}) + (r - q + \frac{1}{2}\sigma^2)(T-t)}{\sigma \sqrt{T-t}}$$

$$a_2 = a_1 - \sigma \sqrt{T-t}$$

$$a_3 = \frac{\ln(S/S_{\min}) + (-r + q + \frac{1}{2}\sigma^2)(T-t)}{\sigma \sqrt{T-t}}$$

$$Y_1 = \frac{2(r-q-\frac{1}{2}\sigma^2)\ln(S/S_{\min})}{\sigma\sqrt{T-t}}$$

S_{\min} : 截止到现在价格的最小值

2. 欧式回望看跌期权的价值为:

$$p = S_{\max} e^{-r(T-t)} \left(N(b_1) - \frac{\sigma^2}{2(r-q)} e^{Y_2} N(-b_3) \right) - S e^{-q(T-t)} N(b_2) + S e^{-q(T-t)} \frac{\sigma^2}{2(r-q)} N(-b_2) \quad (15.2.2)$$

式中,

$$b_1 = \frac{\ln(S_{\max}/S) + (-r+q+\frac{1}{2}\sigma^2)(T-t)}{\sigma\sqrt{T-t}}$$

$$b_2 = b_1 - \sigma\sqrt{T-t}$$

$$b_3 = \frac{\ln(S_{\max}/S) + (r-q-\frac{1}{2}\sigma^2)(T-t)}{\sigma\sqrt{T-t}}$$

$$Y_2 = \frac{2(r-q-\frac{1}{2}\sigma^2)\ln(S_{\max}/S)}{\sigma\sqrt{T-t}}$$

S_{\min} : 截止到现在价格的最小值

15.3 Bermudan 期权

百慕大期权 (Bermudan Option) 是一种欧式期权和美式期权的混合期权。这种期权的持有者只能在期权到期日前的一个或多个指定交易日行权。百慕大期权定价的最简单方法是二叉树法。

15.4 障碍期权

障碍期权的收益依赖于标的资产的价格在一段特定时间内是否达到某一特定水平。敲出障碍期权当标的资产价格达到某一特定障碍 H 时自动作废。在敲出看涨期权中, 障碍一般低于执行价格 ($H < X$) 的称为下降敲出期权 (down-and-out)。在敲出看跌期权中, 障碍一般高于执行价格 ($H > X$) 的称为上升敲出期权 (up-and-out)。下降敲入期权 (down-and-in) 是指当标的资产价格碰到障碍 H ($H < X$) 时才可以存在的看涨期权; 上升敲入期权 (up-and-in) 是当标的资产价格碰到障碍 H ($H > X$) 时才可以存在的看跌期权。

当假设标的资产价格服从几何布朗运动时, 欧式下降敲入看涨期权的价格为:

$$c = S e^{-q(T-t)} (H/S)^{2\lambda} N(y) - X e^{-r(T-t)} (H/S)^{2\lambda-2} N(y-\sigma\sqrt{T}) \quad (15.4.1)$$

欧式上升敲入看跌期权的价格为:

$$p = X e^{-r(T-t)} (H/S)^{2\lambda-2} N(-y+\sigma\sqrt{T}) - S e^{-q(T-t)} (H/S)^{2\lambda} N(-y) \quad (15.4.2)$$

$$\lambda = \frac{r-r_f+\frac{1}{2}\sigma^2}{\sigma^2}$$

$$y = \frac{\ln[H^2 / (SX)]}{\sigma\sqrt{T}} + \lambda\sigma\sqrt{T}$$

式中,

H: 特定障碍;

15.5 复合期权

复合期权是期权的期权, 这类期权主要有下面四种组合:

	看涨期权	看跌期权
看涨期权	看涨期权的看涨期权	看跌期权的看涨期权
看跌期权	看涨期权的看跌期权	看跌期权的看跌期权

15.5.1 欧式看涨期权的看涨期权

当假设标的资产价格服从几何布朗运动时, 可以给出欧式看涨期权的看涨期权的解析式:

$$c = Se^{-q(T_2-t)} M(a_1, b_1; \sqrt{(T_1-t)/(T_2-t)}) - X_2 e^{-r(T_2-t)} M(a_2, b_2; \sqrt{(T_1-t)/(T_2-t)}) - e^{-r(T_1-t)} X_1 N(a_2) \quad (15.5.1)$$

式中,

$$a_1 = \frac{\ln(S/S^*) + (-r + q + \frac{1}{2}\sigma^2)(T_1-t)}{\sigma\sqrt{T_1-t}}$$

$$a_2 = a_1 - \sigma\sqrt{T_1-t}$$

$$b_1 = \frac{\ln(S/X_2) + (r - q - \frac{1}{2}\sigma^2)(T_2-t)}{\sigma\sqrt{T_2-t}}$$

$$b_2 = b_1 - \sigma\sqrt{T_2-t}$$

T_1 : 第一个期权的行权日;

T_2 : 第二个期权的行权日;

M : 累积二维正态分布函数;

S^* : T_1 时刻期权价格等于 X_1 时的股票价格。如果 T_1 时刻实际股票价格大于 S^* , 则第一个期权将被执行; 反之, 期权无效。

15.5.2 欧式看跌期权的看跌期权

欧式看跌期权的看跌期权价值为:

$$p = Se^{-q(T_2-t)} M(a_1, -b_1; -\sqrt{T_1/T_2}) - X_2 e^{-r(T_2-t)} M(a_2, -b_2; -\sqrt{T_1/T_2}) + e^{-r(T_1-t)} X_1 N(a_2)$$

式中, 各符号意义与 (15.5.1) 式相同。

15.6 资产交换期权

资产交换期权是放弃一定价值的资产而获得另外一项资产价值的期权。假设两项资产的价格 S_1 和 S_2 均遵循几何布朗运动, 它们的标准差分别是 σ_1 和 σ_2 , 瞬间相关系数是 ρ , 收益率分别是 q_1 和 q_2 , 则该期权的价格为:

$$c = S_2 e^{-q_1(T-t)} N(d_1) - S_1 e^{-q_2(T-t)} N(d_2)$$

式中,

$$d_1 = \frac{\ln(S_2 / S_1) + (q_1 - q_2 + \frac{1}{2}\sigma^2)(T - t)}{\sigma\sqrt{T - t}}$$

$$d_2 = d_1 - \sigma\sqrt{T - t}$$

$$\sigma = \sqrt{\sigma_1^2 + \sigma_2^2 - 2\rho\sigma_1\sigma_2}$$

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第 16 章 利率衍生证券

利率衍生证券是一种在盈亏上依赖于利率水平的证券。由于这种衍生证券的表现形式非常复杂，所以本章只介绍几种常见的利率衍生证券和算法：

- ✚ 利率上限、利率下限和利率双限；
- ✚ 债券期权定价；
- ✓ 零息债券期权定价；
- ✓ 一般债券期权定价。

16.1 利率上限、利率下限和利率双限

16.1.1 利率上限

利率上限是为了保证浮动利率贷款利息不超过某一利率水平（上限利率）而设计的一种衍生证券。它可以保证贷款者在任何给定的时刻所支付的贷款利率是市场当前利率与上限利率中的最小者。

1. 利率上限定价模型

利率上限可以看成是一个基于利率的看涨期权组合。如果利率上限为 R_X ，本金为 L ，从利率上限有效期开始在 $\tau, 2\tau, \dots, n\tau$ 时刻支付利息，利率上限的出售方在 $k+1$ 时刻需支付的金额是：

$$\tau L \max[R_k - R_X, 0]$$

其中， R_k 是 $k\tau$ 时刻将被利率上限盯住的利率值。设 F_k 是 $k\tau$ 至 $(k+1)\tau$ 之间的远期利率值，利率 R_X ， R_k 和 F_k 都用 τ 的复利率来表示。作为近似，我们用 F_k 作为 $k\tau$ 至 $(k+1)\tau$ 之间的贴现率，所以在 $(k+1)\tau$ 时刻的支付额等于在 $k\tau$ 时刻的支付额：

$$\frac{\tau L}{1 + \tau F_k} \max[R_k - R_X, 0] \quad (16.1.1)$$

这样，我们就可以把每个利率上限看成是一个基于 τ 期间利率的欧式看涨期权。该期权在期权到期日 τ 取得回报，期权的本金是 $\tau L / (1 + \tau F_k)$ ，标的资产是远期利率 F_k ，假设远期利率 F_k 的标准差是 σ_F ，则根据 Black-Scholes 定价公式，我们有结果：

$$c = \frac{\tau L}{1 + \tau F_k} e^{-r_k \tau} [F_k N(d_1) - R_X N(d_2)] \quad (16.1.2)$$

其中， d_1 和 d_2 的结果分别为：

$$d_1 = \frac{\ln(F_k / R_X) + \sigma_F^2 k \tau / 2}{\sigma_F \sqrt{k \tau}}$$

$$d_2 = \frac{\ln(F_k / R_X) + \sigma_F^2 k \tau / 2}{\sigma_F \sqrt{k \tau}} = d_1 - \sigma_F \sqrt{k \tau}$$

$N(x)$ 是标准正态分布变量的累积概率分布函数。

2. 利率上限更准确的定价模型

对利率上限更准确的定价模型是把它看作是一个基于贴现债券的看跌期权组合。

由式 (16.1.1)，在 $(k+1)\tau$ 时刻的收益等于 $k\tau$ 时刻的收益 $\frac{\tau L}{1 + \tau F_k} \max[R_k - R_X, 0]$ 。经过代数变换简化为：

$$mac[L - \frac{L(1+R_X\tau)}{1+\tau R_k}, 0]$$

其中, $\frac{L(1+R_X\tau)}{1+\tau R_k}$ 是一个在 $(k+1)\tau$ 时刻收益率为 $L(1+R_X\tau)$ 的贴现债券在 $k\tau$ 时刻的价值。这样, 我们就可以把利率上限看成是一个到期期限是 $k\tau$ 的基于 $(k+1)\tau$ 时刻到期的贴现债券的看跌期权的收益, 其面值为 $L(1+R_X\tau)$, 行权价格是 L 。

根据欧式期权 Black-Scholes 定价公式, 有结果:

$$p = Le^{-r_k\tau} N(-d_2) - \frac{L(1+R_X\tau)}{1+\tau R_k} N(-d_1) \quad (16.1.3)$$

其中, d_1 和 d_2 的结果分别为:

$$d_1 = \frac{\ln(\frac{1+R_X\tau}{1+R_k\tau}) + (r + \sigma_L^2/2)k\tau}{\sigma_L\sqrt{k\tau}}$$

$$d_2 = d_1 - \sigma_L\sqrt{k\tau}$$

式中, σ_L 是贴现债券的波动率, $N(x)$ 是标准正态分布变量的累积概率分布函数。

16.1.2 利率下限和利率双限

利率下限为应支付的利率设置一个下限。一个利率下限是一个基于利率的看跌期权的组合或者是一个基于贴现债券的看涨期权的组合, 可以用类似利率上限的方法定价。

利率双限为将要支付的利率既规定上限又规定下限。一个利率双限是由一个利率上限的多头和一个利率下限的空头组合而成, 可以分别给出利率上限和利率下限的估值, 然后将二者价值合成即可得出利率双限的价值。

16.2 债券期权定价

债券期权是一种盈亏依赖于债券价格的期权。最简单的债券期权定价模型是 Black-Scholes 模型。

16.2.1 零息债券期权定价

在零息债券的情况下, 任意时刻 t 看涨期权和看跌期权的价格可以由 Black-Scholes 给出:

$$c = BN(d_1) - Xe^{-R(T-t)}N(d_2) \quad (16.2.1)$$

$$p = Xe^{-R(T-t)}N(-d_2) - BN(-d_1)$$

其中:

$$d_1 = \frac{\ln(B/X) + (R + \sigma^2/2)(T-t)}{\sigma\sqrt{T-t}}$$

$$d_2 = \frac{\ln(B/X) + (R - \sigma^2/2)(T-t)}{\sigma\sqrt{T-t}} = d_1 - \sigma\sqrt{T-t}$$

$N(x)$: 标准正态分布变量的累积概率分布函数

B : 债券现价

T : 期权到期日

σ : 债券价格的标准差

X : 期权的执行价格

R : T 时刻到期的无风险利率的现值

16.2.2 债券期权定价

如果在有效期内支付息票利息，则利息可按照股票红利来处理。在使用式（16.1.1）时，应该从 B 中减去息票的现值，标准差应该是债券价格减掉息票现值后的标准差。

$$c = (B - \sum_{i=1}^T D_i e^{-R(T-t_i)}) N(d_1) - X e^{-R(T-t)} N(d_2) \quad (16.2.2)$$

$$p = X e^{-R(T-t)} N(-d_2) - (B - \sum_{i=1}^T D_i e^{-R(T-t_i)}) N(-d_1)$$

式中，

D_i ：第 i 时刻所付利息；

t_i ：利息发生时间；

其它符号的意义与式（16.2.1）相同。

16.2.3 使用远期债券价格

当期权的有效期与其标的债券的有效期相比显得很重要时，可认为该期权是按照期权执行时交割债券的远期价格卖出的。这个价格是在期权到期日和债券有到期日之间延续的债券的远期价格。当期权到期时，远期债券价格等于标的债券的价格。在这种情况下，定价公式为：

$$c = e^{-R(T-t)} [FN(d_1) - XN(d_2)] \quad (16.2.3)$$

$$p = e^{-R(T-t)} [XN(-d_2) - FN(-d_1)]$$

$$F = (B - I)e^{-R(T-t)}$$

式中，

$$d_1 = \frac{\ln(F/X) + \sigma^2(T-t)/2}{\sigma\sqrt{T-t}}$$

$$d_2 = \frac{\ln(F/X) - \sigma^2(T-t)/2}{\sigma\sqrt{T-t}} = d_1 - \sigma\sqrt{T-t}$$

$N(x)$ ：标准正态分布变量的累积概率分布函数

F ：远期债券价格

I ：期权有效期内息票利息的现值

σ ：远期债券价格的标准差

T ：期权到期日

X ：期权的执行价格

R ： T 时刻到期的无风险利率的现值

16.2.4 构造远期债券收益率模型

上述定价方法没有考虑债券价格收敛于面值问题。为了弥补这种不足，我们可以把债券期权转化为一个收益率期权。

根据 $\frac{\Delta B}{\Delta y} = -BD$ ，在债券到期日，债权价格 B_T 与其收益率 Y_X 之间的关系近似为：

$$\frac{B_T - X}{X} = -D(Y_T - Y_X)$$

其中， D 是期权到期日时债券的久期。

整理后，得：

$$B_T - X = -DX(Y_T - Y_X)$$

因此，一个看涨期权的收益被记为：

$$\max[DX(Y_X - Y_T), 0]$$

债券看跌期权的收益被记为：

$$\max[DX(Y_T - Y_X), 0]$$

这样，我们就把一个基于债权价格的看涨期权就转化为一个基于债券收益率的看跌期权，并且把一个基于债权价格的看跌期权转换成为了一个基于债券收益率的看涨期权。

如果假设远期债券收益率的标准差为常数，就可用 Black-Scholes 模型来对它进行定价，其定价公式分别为：

$$c = DXY_t N(d_1) - DXY_X e^{-R(T-t)} N(d_2) \quad (16.2.4)$$

$$p = DXY_X e^{-R(T-t)} N(-d_2) - DXY_t N(-d_1)$$

式中，

$$d_1 = \frac{\ln(Y_t / Y_X) + (R + 1/2\sigma^2)(T-t)}{\sigma\sqrt{T-t}}$$

$$d_2 = d_1 - \sigma\sqrt{T-t}$$

$N(x)$ ：标准正态分布变量的累积概率分布函数

σ ：远期债券价格的标准差

T ：期权到期日

X ：期权的执行价格

R ： T 时刻到期的无风险利率的现值

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第 17 章 利率期限结构模型

到现在为止，我们所讨论的利率期权定价模型均为 Black-Scholes 模型的翻版。它们提供了利率衍生证券定价的一些方法，但是存在着明显的不足之处：1) 针对不同期权要使用不同的标准差，很难找到一个办法使得一个期权所使用的标准差与另外一个期权的标准差联系起来；2) 只能用于欧式期权，而对美式期权和其它类型的期权不能进行定价。为了弥补上述方法的不足，人们构造了各种期限结构模型。在本章中，我们将介绍这些期限结构模型，其内容大致如下：

- ✚ Neslon Siegel 期限结构近似；
- ✚ Bliss 期限结构模型；
- ✚ Cubic Splines 期限结构模型；
- ✚ Cox, Ingersoll Ross 期限结构模型；
- ✚ Vasicek 期限结构模型；
- ✚ Rendleman 和 Bartter 二叉树期限结构模型。

17.1 Neslon Siegel 期限结构近似

这种期限结构近似方法是由 Neslon 和 Siegel (1987) 提出的，其形式如下：

$$r(t) = \beta_0 + (\beta_1 + \beta_2) \left[\frac{1 - e^{-t/\lambda}}{t/\lambda} \right] + \beta_2 e^{-t/\lambda} \quad (17.1.1)$$

式中，

$r(t)$ ：利率；

t ：时间；

$\beta_0, \beta_1, \beta_2, \lambda$ ：待估参数。

17.2 Bliss 期限结构模型

Bliss (1989) 发展了 Neslon 和 Siegel 模型：

$$r(t) = \gamma_0 + \gamma_1 \left[\frac{1 - e^{-t/\lambda_1}}{t/\lambda_1} \right] + \gamma_2 \left[\frac{1 - e^{-t/\lambda_2}}{t/\lambda_2} - e^{-t/\lambda_2} \right] \quad (17.2.1)$$

式中，

$r(t)$ ：利率；

$\gamma_0, \gamma_1, \gamma_2, \lambda_1, \lambda_2$ ：待估参数。

17.3 Cubic Splines 期限结构模型

Cubic Splines 是用来近似估算贴现率的一种方法。该方法最初被 McCulloch (1971) 用来估计期限结构的。但是，在这里 Cubic Splines 用来估计贴现率，而不是收益率：

$$d(t) = 1 + b_1 t + c_1 t^2 + d_1 t^3 + \sum_{j=1}^K F_j (t - t_j)^3 L_{\{t < t_j\}} \quad (17.3.1)$$

在这里， $L_{\{t < t_j\}}$ 为某事件 A 的指标函数，K 个节点。为了估计贴现率，需要 3+K 个参数：

$$\{b_0, c_1, d_1, F_1, \dots, F_K\}$$

如果 Spline 节点已知的话，计算过程是一个简单的线性回归。

17.4 Cox, Ingersoll 和 Ross 期限结构模型

Cox, Ingersoll 和 Ross 模型假设短期利率遵循如下过程:

$$dr = \kappa(\theta - r)dt + \sigma\sqrt{r}dt \quad (17.6.1)$$

债券价格采取的形式为:

$$d(t, T) = A(t, T)e^{-B(t, T)r}$$

这里,

$$\gamma = \sqrt{(\kappa + \lambda)^2 + 2\sigma^2}$$

$$A(t, T) = \left[\frac{2\gamma e^{1/2(\kappa + \lambda + \gamma)(T-t)}}{(\gamma + \kappa + \lambda)(e^{\lambda(T-t)} - 1) + 2\gamma} \right]^{2\kappa\theta/\sigma^2}$$

$$B(t, T) = \frac{2e^{\gamma(T-t)} - 1}{(\gamma + \kappa + \lambda)(e^{\lambda(T-t)} - 1) + 2\gamma}$$

式中,

r : 瞬间利率

κ : 均值回复参数

λ : 市场风险参数

θ : 均值

σ : 标准差

17.5 Vasicek 期限结构模型

Vasicek 模型假设当 a , b 和 σ 为常数时, $dr = m(r)dt + s(r)dz$ 中的 $m(r) = a(b - r)$, $s(r) = \sigma$ 。这个模型考虑了均值回复。短期利率的风险中性过程为:

$$dr = a(b - r)dt + \sigma dz$$

在这个模型中, 短期利率以速率 a 被拉向 b 水平, 在这个拉项上还加上了一个正态分布随机项 σdz 。

Vasicek 通过解方程 $P(t, T) = \hat{E}[e^{-\bar{r}(T-t)}]$, 得到了支付\$1 的贴现债券价格的解析式:

$$P(t, T) = A(t, T)e^{-B(t, T)r} \quad (17.5.1)$$

式中,

$P(t, T)$: t 时刻贴现债券的价格

\bar{r} : t 到 T 时间内 r 的平均值

\hat{E} : 风险中性世界的期望值

当 $a \neq 0$ 时, 有结果:

$$B(t, T) = \frac{1 - e^{-a(T-t)}}{a}$$

$$A(t, T) = \exp\left[\frac{(B(t, T) - T + t)(a^2 b - \sigma^2 / 2) - \sigma^2 B(t, T)^2}{a^2} - \frac{\sigma^2 B(t, T)^2}{4a}\right]$$

当 $a=0$ 时, $B(t,T)=T-t$, $A(t,T)=\exp\left[\frac{\sigma^2(T-t)^3}{6}\right]$ 。

选择 a , b 和 σ , 整个期间结构就可以用式 $R(t,T)=-\frac{1}{T-t}\ln P(t,T)$ 被表示为利率 r 的函数。

17.6 Rendleman 和 Bartter 期限结构模型

Rendleman 和 Bartter 假设短期利率 r 可以用一个类似股票二叉树来构造模型。其参数的选择如下:

$$p = \frac{a-d}{u-d}$$

$$u = e^{\sigma\sqrt{\Delta t}}$$

$$d = e^{-\sigma\sqrt{\Delta t}}$$

$$a = e^{M\Delta t}$$

式中,

M : 预期增长率;

σ : 标准差。

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第 18 章 期限结构衍生证券

本章利用前一章建立的利率期限结构模型以及二叉树对利率衍生证券进行定价，其内容主要包括：

- ✚ Vasicek 债券期权定价；
- ✚ Rendlmen 和 Bartter 债券期权定价；
- ✚ 二叉树债券期权定价。

18.1 Vasicek 债券期权定价

Jamshidian 指出，贴现债券期权的价格可由 Vasicek 模型求出。设某贴现债券面值为\$1，到期日为 s ，在 t 时刻基于该贴现债券， T 时刻到期的欧式看涨和看跌期权的价格分别为：

$$c = P(t, s)N(h) - XP(t, T)N(h - \sigma_p) \quad (17.5.2)$$

$$p = XP(t, T)N(-h + \sigma_p) - P(t, s)N(-h)$$

其中，

$$h = \frac{1}{\sigma_p} \ln \frac{P(t, s)}{P(t, T)X} + \frac{\sigma_p}{2}$$

$$\sigma_p = v(t, T)B(T, s)$$

$$v(t, T)^2 = \frac{\sigma^2(1 - e^{-2a(T-t)})}{2a}$$

X ：执行价格

注：当 $a=0$ 时， $v(t, T)^2 = \sigma\sqrt{T-t}$ ， $\sigma_p = \sigma(s-T)\sqrt{T-t}$

18.2 Rendlmen 和 Bartter 债券期权定价

使用 Rendleman 和 Bartter 为美式债券期权定价需要两步骤：

第一，计算树图中每个结点的债权价格；

第二，使用树图来计算期权的价格。这里，从树图往回倒推的方法与股票树图往回倒推的方法类似。主要区别在于：在利率树图中，结点与结点之间所用的贴现利率互不相同。

18.3 二叉树债券期权定价

对于美式债券期权，可以使用前面介绍过的二叉树法对其定价。

上述算法略加变形可给出美式债券看跌期权的价格，我们在这里就不再继续探讨了。

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第 19 章 信用风险

期权定价理论应用于信用风险管理这一想法最早可追溯到莫顿（1974）。本章将在这个思想框下讨论信用风险定价问题，内容大致如下：

- ✚ 莫顿模型的基本思想；
- ✚ 信用风险的基本算法。

19.1 莫顿模型的基本思想

考虑一家价值是 V ，仅有一笔债务（这笔债务可看成是到期日是 T 的零息债券）的公司。假设公司价值 V 遵循几何布朗运动，公司债务可以看成是无风险负债价值减去以公司价值为标的物的看跌期权价值。

由 Black-Scholes 期权定价公司，很容易给出在 t 时刻看跌期权的价格：

$$p = Fe^{-r(T-t)}N(-d_2) - VN(-d_1) \quad (16.2.1)$$

式中，

$$d_1 = \frac{\ln(V/F) + (R + \sigma^2/2)(T-t)}{\sigma\sqrt{T-t}}$$

$$d_2 = \frac{\ln(V/F) + (R - \sigma^2/2)(T-t)}{\sigma\sqrt{T-t}} = d_1 - \sigma\sqrt{T-t}$$

$N(x)$ ：标准正态分布变量的累积概率分布函数

V ：公司价值；

T ：期权到期日；

σ ：债券价格的标准差；

F ：期权的执行价格，债券的面值；

r ： T 时刻到期的无风险利率的现值。

19.2 信用风险的基本算法

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第 20 章 均值-方差模型

在本章，我们将讨论投资组合理论相关的一些内容：

- ✚ 投资组合的均值和方差；
- ✚ 马科维茨的均值-方差模型；
- ✚ 存在无风险资产时的均值-方差分析；
- ✚ 不相关资产的投资组合。

20.1 投资组合的均值、方差和标准差

假设有 $n \geq 2$ 风险资产，它们的预期收益率可用矩阵 R 表示：

$$R = [r_1 \quad r_2 \quad \cdots \quad r_n]^T$$

协方差矩阵为：

$$V = \begin{bmatrix} \sigma(r_1, r_1) & \sigma(r_1, r_2) & \cdots & \\ \sigma(r_2, r_1) & \sigma(r_2, r_2) & \cdots & \\ \vdots & & & \\ \sigma(r_n, r_1) & & \cdots & \sigma(r_n, r_n) \end{bmatrix}$$

这个协方差假设是可逆的。

投资组合 P 被定义为投资在不同风险资产的权重的集合：

$$w = [w_1 \quad w_2 \quad \cdots \quad w_n]^T$$

这里， w_i 是风险资产 i 市值占投资组合总市值的比例。

20.2 马科维茨的均值-方差模型

当存在卖空时，标准的马科维茨均值方差模型为：

$$\begin{cases} \min & \sigma^2 = w^T V w \\ \text{s.t.} & R^T w = r \\ & \mathbf{1}^T w = 1 \end{cases}$$

式中，

$R = [r_1, r_2, \dots, r_n]^T$ ，为 n 种资产的期望收益率；

$V = [\sigma_{ij}]_{n \times n}$ ，为 n 种资产收益率的协方差矩阵；

$\mathbf{1} = [1, 1, \dots, 1]^T$ ，为 n 维单位矩阵；

$w = [w_1, w_2, \dots, w_n]^T$ ，为投资组合权重矩阵；

Merton 给出了有效投资组合及有效前沿的解析解：

$$w = \frac{V^{-1}[(A - Br)1 + (Cr - B)R]}{AC - B^2}$$

$$\sigma^2 = \frac{A - 2Br + Cr^2}{AC - B^2}$$

式中,

$$A = R^T V^{-1} R;$$

$$B = R^T V^{-1} 1;$$

$$C = 1^T V^{-1} 1;$$

$$r \geq B/C;$$

20.3 存在无风险资产时的均值-方差模型

当存在无风险资产时, 标准均值-方差模型改写成:

$$\begin{cases} \min & \sigma^2 = w^T V w \\ \text{s.t.} & R^T w + R_f x = r \\ & 1^T w + x = 1 \end{cases}$$

式中,

R_f : 无风险资产收益率

x : 无风险资产投资比例

Szego, Huang 和 Litzenberger 给出了模型有效投资组合和有效前沿的解析解:

$$w = \frac{r - R_f}{A - 2BR_f + CR_f^2} V^{-1} (R - R_f 1)$$

$$\sigma^2 = \frac{(r - R_f)r^2}{A - 2BR_f + CR_f^2}$$

式中,

$$A = R^T V^{-1} R;$$

$$B = R^T V^{-1} 1;$$

$$C = 1^T V^{-1} 1;$$

$$r \geq R_f。$$

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第 21 章 资本资产定价模型

资本资产定价模型 (CAPM) 是在现代投资组合理论的基础上发展起来的, 是现代金融市场价格理论的支柱。本章讨论如下问题:

- ✚ 标准的资本资产定价模型;
- ✚ 价格型资本资产定价模型;
- ✚ 非标准资本资产定价模型:
- ✓ 不存在无风险借贷的情况;
- ✓ 存在无风险借贷但没有无风险借入的情况;
- ✓ 考虑税收的情况;
- ✓ 多贝塔值资本资产定价模型;

21.1 标准资本资产定价模型

资本资产模型的标准形式是由 Sharp, Lintner, Mossin (1964) 分别独立提出的, 因此被称为 Sharp-Lintner-Mossin 模型。马科维茨认为, 投资组合理论主要考虑一名投资者如何优化行为的问题, 而资本资产定价模型是在假设所有投资者都以资产组合理论的方式优化的条件下考虑市场的均衡。

21.1.1 资本市场线

资本资产定价模型是建立在如下假设的基础上的:

1. 没有交易成本;
2. 资产可以无限分割;
3. 无个人所得税;
4. 投资者不能通过买卖行为影响股票价格;
5. 投资者仅以期望值和标准差进行决策;
6. 允许卖空;
7. 投资者可以以无风险利率无限制借贷;
8. 所有投资者具有相同的预期;
9. 所有资产都是可交易的。

按照上述假设, 很容易找出有效组合风险与收益之间的关系。如果我们用 M 代表市场组合, R_f 代表无风险利率, 从 R_f 出发画一条经过 M 的直线, 这条线就是在允许无风险借贷条件下的线性有效集, 我们称为资本市场线, 如图 21-1 所示。任何不利用市场组合以及不进行无风险借贷的其它组合都将位于资本市场线的下方。

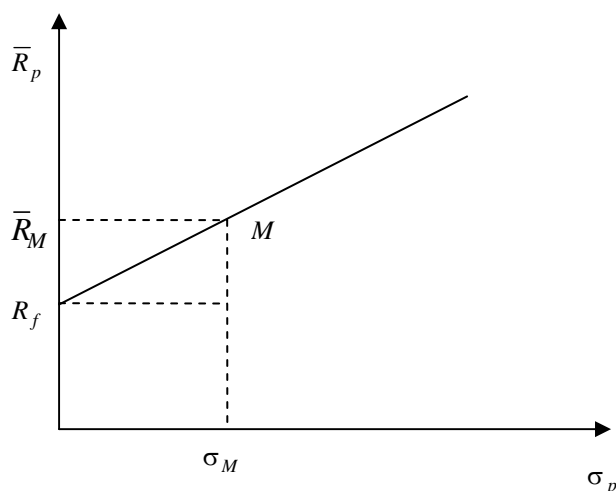


图 21-1：资本市场线

资本市场线的表达式：

$$R_p = R_f + \left[\frac{R_M - R_f}{\sigma_M} \right] \sigma_p \quad (21.1.1)$$

式中，

R_p ：最优投资组合的预期收益率；

σ_p ：最优投资组合的标准差；

R_M ：市场组合的预期收益率；

σ_M ：市场组合标准差；

R_f ：无风险利率；

21.1.2 证券市场线

资本市场线是关于有效组合预期收益率与其标准差之间关系曲线，因此不能告诉我们单个证券预期收益率与标准差之间的关系。为此，我们需要做进一步的分析。

经过严格的数学推导，我们得出在均衡的市场状态下单个证券的收益与风险之间的关系：

$$R_i = R_f + (R_M - R_f) \beta_{iM} \quad (21.1.2)$$

式中，

R_i ：资产 i 的期望收益率；

R_f ：无风险收益率；

β_{iM} ：衡量资产 i 对市场走向的敏感度；

R_M ：市场投资组合 m 的期望收益率。

式 (21.1.2) 所表示的就是证券市场线，它描述了经济中所有资产及资产组合的期望收益率与风险之间的关系。如果我们用 R_i 作纵轴， β_{iM} 作横轴，就可以得到一条截距是 R_f ，斜率是 $(R_M - R_f)$ 的直线。

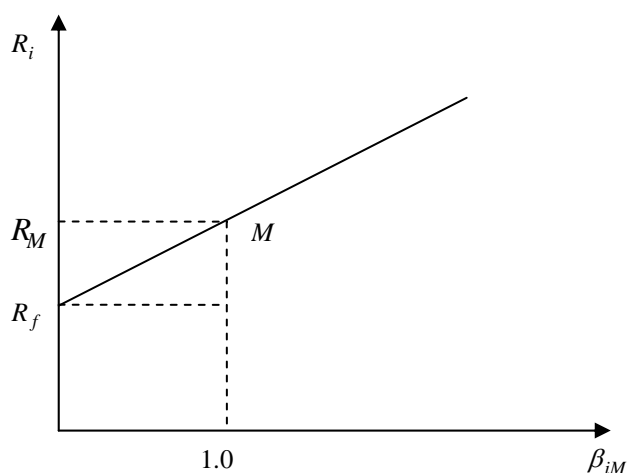


图 20.2：证券市场线

比较资本市场线与证券市场线可以看出，只有最优投资组合才落在资本市场线上；而对于证券市场线来说，无论是有效投资组合，还是非有效组合，均落在证券市场线上。

21.2 价格型标准资本资产定价模型

价格型资本资产定价模型实质上是标准资本资产定价模型的变形。资本资产定价模型既可以用收益率的形式描述，也可以用价格的形式描述。然而，后者在某些情况下更有意义，例如为新资产定价，证券估值等。从资本资产定价模型的收益率形式转换到价格形式非常容易，只需适当代数变换即可。为此，定义如下符号意义：

- P_i ：资产 i 的价格；
- P_m ：市场组合的当前价格；
- Y_i ：资产 i 的市场价值+股利；
- Y_M ：市场组合的价值+股利；
- $\text{cov}(Y_i, Y_M)$ ： Y_i 和 Y_M 之间的协方差；
- $\text{var}(Y_M)$ ： Y_M 的方差；
- R_f ：无风险利率。

经过变换，有如下结果：

$$P_i = \frac{1}{(1+R_f)} \{ \bar{Y}_i - [\bar{Y}_m - (1+R_f)P_m] \frac{\text{cov}(Y_i, Y_M)}{\text{var}(Y_M)} \}$$

其中， \bar{Y}_i 和 \bar{Y}_m 表示预期收益率。

21.3 非标准资本资产定价模型

非标准资本资产定价模型情况很多，它们都是放松某种条件的标准资本资产定价模型的某种拓展。在这里，我们仅讨论几个常用的非标准资本资产定价模型。

21.3.1 不存在无风险借贷的情况

在这种情况下，资本资产定价模型的形式如下：

$$R_i = R_z + \beta_i (R_m - R_f)$$

式中， R_z 是零 β 组合的收益率，其它符号的意义与前面相同。

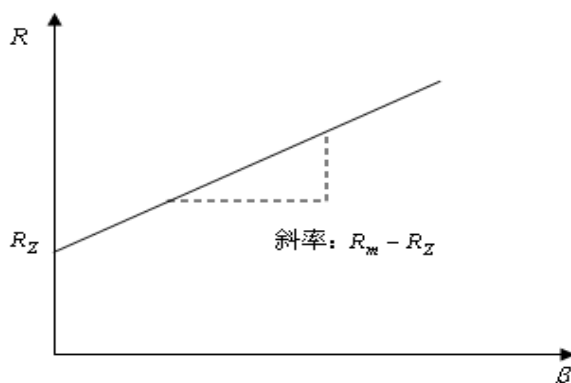


图 3-1: 零 β 资本资产定价模型

21.3.2 考虑税收的情况

在考虑到税收的情况下，资本资产定价模型的形式如下：

$$R_i = R_f + \beta_i [R_m - R_f - \tau(\delta_m - R_f)] + \tau(\delta_i - R_f)$$

其中，

δ_m ：市场组合的股利率；

δ_i ：股票的股利率；

τ ：资本利得和税收的相关税率

21.3.3 多贝塔值资本资产定价模型

多贝塔值资本资产定价模型如下：

$$R_i = R_f + \beta_i (R_m - R_f) + \beta_{i1} (R_{11} - R_f) + \dots + \beta_{in} (R_{in} - R_f)$$

式中，

β_i ：证券 i 与市场组合的贝塔值；

$\beta_{i1}, \dots, \beta_{in}$ ：证券 i 与其它因素的贝塔值。

在使用多贝塔值资本资产定价模型时，应该首先计算出贝塔值矩阵，然后才可以使用上述算法。贝塔值的计算见前面的算法。

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第 22 章 风险对冲策略

风险转移有风险分散、风险对冲和保险三种基本方法。风险分散前面已经讨论过，保险学是一门独立的学科，感兴趣的读者可参考相应文献，我们在这里主要讨论风险对冲的原理和数值算法，内容大致如下：

- ✚ 风险对冲的基本原理；
- ✚ 风险对冲策略；
- ✚ 股票组合的对冲策略；
- ✚ 利用股指期货的股票组合进行对冲。

22.1 风险对冲的基本原理

风险对冲就是构造一个与原组合风险暴露相反的头寸以部分或者全部规避风险。

下面，我们考虑一个由 m 种证券组成 V_1, V_2, \dots, V_n 构成的投资组合，投资组合的价值为：

$$V = w_1 V_1 + w_2 V_2 + \dots + w_n V_n$$

其中， w_i 是组合中某一资产的权重。在构造对冲头寸时，通过选择适当的 w_i ，使得在影响投资组合价值变化的风险因素 x 变化时，投资组合的价值 V 保持不变。为此，对上式求一阶偏导数：

$$\frac{\partial V}{\partial x} = w_1 \frac{\partial V_1}{\partial x} + w_2 \frac{\partial V_2}{\partial x} + \dots + w_n \frac{\partial V_n}{\partial x} = 0$$

当风险因素 x 发生微小变化时，组合的价值变化为：

$$\Delta V = \frac{\partial V}{\partial x} \Delta x = 0$$

这里，风险因素 x 可以是标的资产的价格变化、时间变化、波动性变化等。

但是，在实际中或者无法构造与原组合风险特性完全相反的头寸，或者由于投资者愿意承担一定风险，或者由于完全对冲成本太高等，所以大多数对冲是不完全的。

22.2 风险对冲策略及优化

考虑使用 n 种与现货资产有密切相关的替代资产的期货合约进行套期保值。我们用 $Z_1, Z_2, Z_3, \dots, Z_n$ 表示这 n 项资产，期货资产 Z_i 的价格是 F_i ，套期保值率为 h_i 。套期保值策略是：一单位现货资产，用 h_1 单位的 Z_1 资产， h_2 单位的 Z_2 资产， \dots, h_n 单位的 Z_n 资产对冲其价格波动风险。

在进行对冲时，最关心的是资产现货的价格与期货合约价格的差值，这个差值定义为基差 (basis)。对冲基差就是现货资产价格 S 与替代资产组合的一单位价格之差：

$$b_n = S - \sum_{i=1}^n h_i F_i$$

基差的风险为：

$$\sigma_b^2 = \sigma_s^2 - 2H^T C_n + H^T V_n H$$

式中，

σ_s^2 ：现货价格的方差；

$H^T = [h_1, h_2, \dots, h_n]$ ：对冲比率向量；

$C = [\sigma_{s1}, \sigma_{s2}, \dots, \sigma_{sn}]^T$: 期货资产价格与现货资产价格的协方差;

V_n : 替代资产收益率的协方差, 假设为正定矩阵。

由该式, 当现货资产和相应的替代资产选定后, 基差风险由对冲比率向量 $H = [h_1, h_2, \dots, h_n]$ 确定。对冲风险者为了加强对冲效果, 应该根据下面模型选择对冲比率向量:

$$\text{Min } \sigma_b^2 = \sigma_s^2 - 2H^T C_n + H^T V_n H$$

由 $\nabla \sigma_b^2 = 0$, 可导出 $A_n H_n = C_n$, 所以模型最优解为:

$$H_n = A_n^{-1} C_n \quad (22.1.1)$$

式中,

H_n : 为最优对冲比率向量;

A_n : 期货价格的协方差矩阵;

C_n : 期货价格与现货价格的协方差矩阵。

最优对冲基差为:

$$J_n = \sigma_s^2 - C_n A_n^{-1} C_n \quad (22.1.2)$$

22.2 股票组合的对冲策略

设股票组合由 n 种股票构成, 整个股票组合的市值是 $V = \sum_{i=1}^n w_i P_i$, 其中 w_i 是股票 i 的权重, P_i

是股票 i 的价格。现在, 我们用 m 种金融期货来对组合进行对冲 (考虑到股票组合中的不同股票可能会用同一种金融期货资产对冲, 所以有结果 $m < n$)。这 m 种金融期货资产一经确定, 股票组合投资者在对冲期内预期收益和对冲风险完全由对冲结构向量 K_m , 即金融期货资产的数量 k_1, k_2, \dots, k_m 组成的向量决定。股票组合对冲者应该使用下面模型选择对冲策略, 从而使得股票组合的对冲风险最小:

$$\begin{cases} \min & \sigma_b^2 = A_0^T C_n A_0 - 2A_0^T M_{n \times m} B_0 K_m + K_m^T B_0 N_m B_0 K_m \\ \text{s.t.} & A_0^T \mu_{R_n} - K_m^T B_0 \mu_{S_m} = \mu_0 \end{cases} \quad (22.2.1)$$

式中,

σ_b^2 : 组合的对冲风险;

A_0 : 股票组合内部各股票在对冲期时初值组成的矩阵;

C_n : 股票组合的收益率向量 R_n 的协方差矩阵;

$M_{n \times m}$: 股票组合的收益率 R_n 与金融期货组合收益率 S_n 的自协方差矩阵;

B_0 : 金融期货在对冲期期初的市场价格矩阵, 为一对角矩阵;

N_m : 金融期货资产组合收益率向量 S_m 的自协方差矩阵;

K_m : 各期货资产数量构成的矩阵;

μ_{R_n} : 股票组合的期望收益率矩阵;

μ_{S_m} ：金融期货资产组合的期望收益率矩阵；

μ_0 ：股票组合对冲后的期望收益率。

当 N_m 正定时，模型 (24.2.1) 的唯一最优解为：

$$K_A = B_0^{-1} N_m^{-1} M_{n \times m} A_0 + \lambda_0 B_0^{-1} N_0^{-1} \mu_{S_m}$$

$$\lambda_0 = \frac{A_0^T \mu_{R_n} - \mu_{S_m}^T N_m^{-1} M_{m \times n}^T A_0 - \mu_0}{\mu_{S_m}^T N_m^{-1} \mu_{S_m}}$$

22.3 利用股指期货的股票组合进行对冲

股票组合在对冲期内的收益为：

$$b = \sum_{i=1}^N q_i P_{0i} r_i - N F_0 t_0 s \quad \begin{cases} b > 0 & \text{保值值时有利} \\ b = 0 & \text{保值值时无利} \\ b < 0 & \text{对冲同时有损失} \end{cases}$$

利用资本资产定价模型有结果：

$$b = \sum_{i=1}^N q_i P_{0i} \varepsilon_i + \sum_{i=1}^N q_i P_{0i} r_f (1 - \beta_i) + \left(\sum_{i=1}^N q_i P_{0i} \beta_i - N F_0 t_0 \right) s$$

对冲比率：

$$N_0 = \frac{\sum_{i=1}^N q_i P_{0i} \beta_i}{F_0 t_0}$$

式中，

F_0 ：对冲期初的股指期货价格；

t_0 ：每一点股指的期货价值；

q_i ：期指组合中股票 i 的数量；

P_{0i} ：期指组合中股票 i 初始时刻的价格。

β_i ：期指组合中股票 i 的贝塔系数；

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第 23 章 投资组合业绩评价

投资组合绩效评价是对其在一定时期内的多大程度上实现目标的评价。投资绩效评价主要依赖于一些指标。这些指标基本上都可以归纳为收益和风险调整收益两大类指标。在本章，我们将讨论这两大类指标的数值算法：

- ✚ 资产收益率；
- ✚ 风险调整收益；

23.1 收益率

23.1.1 算术平均收益率

算术平均收益率是一种加权平均收益率，其计算公式如下：

$$R = \frac{R_1 + R_2 + \cdots + R_n}{n} \quad (22.1.1)$$

式中，

- R ：算术平均收益率；
- R_i ：子区间 i 的投资收益；
- n ：评估期内的子期间数；

23.1.2 几何平均收益率

几何平均收益率的计算公式如下：

$$R = [(1 + R_1)(1 + R_2) \cdots (1 + R_n)]^{1/n} - 1 \quad (22.1.2)$$

式中，

- R ：几何平均收益率；
- R_i ：子区间 i 的投资收益；
- n ：评估期内的子期间数；

23.1.3 业绩贡献分析

业绩贡献分析着重解释投资组合 P 与另一个市场基准组合 B 之间的收益差别，其计算公式如下：

$$\bar{r}_p - \bar{r}_b = \sum_{i=1}^n (w_{pi}r_{pi} - w_{mi}r_{mi}) \quad (22.3.1)$$

式中，

$\bar{r}_p - \bar{r}_b$ ：投资组合 P 与另一个市场基准组合 B 之间的收益差别；

w_{pi} ：投资组合中第 i 项资产的权重；

r_{pi} ：投资组合中第 i 项资产的收益率；

w_{mi} ：市场组合中第 i 项资产的权重；

r_{mi} ：市场组合中第 i 项资产的收益率。

23.2 风险调整收益

资产收益率是评价投资业绩的基本度量单位。然而，仅考虑投资收益率并不完全，还应该考虑风险的大小，这种考虑风险的收益称为风险调整收益。风险调整收益在投资组合绩效评价中占有非常重要的地位，是国际上许多投资机构评价绩效的重要指标。

23.2.1 夏普系数

夏普系数公式如下：

$$SR = \frac{R_p - R_f}{\sigma_p} \quad (22.2.1)$$

式中，

SR ：夏普指数

R_p ：投资组合的收益率

R_f ：无风险利率

σ_p ：投资组合标准差

23.2.2 特雷诺系数

特雷诺系数公式如下：

$$TR = \frac{R_p - R_f}{\beta_p} \quad (22.2.2)$$

式中，

TR ：特雷诺系数；

R_p ：投资组合的收益率；

R_f ：无风险利率；

β_p ：投资组合的贝塔系数。

23.2.3 詹森系数

詹森系数的公式如下：

$$Jensen = \bar{r}_p - [r_f + \beta_p(\bar{r}_m - r_f)] \quad (22.2.3)$$

式中，

$Jensen$ ：詹森系数；

\bar{r}_p ：样本期内投资组合的平均回报率；

r_f ：无风险收益；

β_p ：组合所承担的系统风险；

\bar{r}_m ：样本期内市场基准组合的平均回报率。

23.2.4 市场风险调整绩效

市场风险调整绩效 (market risk adjusted performance) 是将所有基金的系统风险调整到与市场组合系统风险相同水平的收益率。它的计算公式如下:

$$MraP = \frac{\bar{r}_p - r_f}{\beta_p} + r_f \quad (22.2.4)$$

式中,

$MraP$: 市场风险调整绩效;

r_p : 投资组合的收益率;

r_f : 无风险收益;

β_p : 投资组合的贝塔值。

23.2.5 M_2 测度

M_2 测度的计算公式如下:

$$M_2 = \frac{\sigma_m}{\sigma_p} (\bar{r}_p - r_f) - \bar{r}_m + r_f$$

式中,

\bar{r}_p : 投资组合的收益率;

r_f : 无风险收益;

\bar{r}_m : 市场组合收益率;

σ_p : 投资组合标准差;

σ_m : 市场组合标准差。

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第 1 章 C++ 语言与编程

在本章，我们将结合本书之需要介绍以下内容：

- ✚ C++程序的结构；
- ✚ 类的概念；
- ✚ 重要概念。主要指本书中经常用到的 C++知识，例如常引用、向量容器、矩阵类等。希望系统学习 C++语言的读者可参阅相关专业书籍。

1.1 C++程序的结构

1.1.1 基本数据类型

本书所用到的基本数据类型主要有以下几种：

1. bool（布尔型）；
2. char（字符型）；
3. int（整型）；
4. double（双精度浮点型，简称双精度型）。

通过下面的例子，可以使读者对上述几种数据类型有一个初步了解：

```
bool this_is_true = true;      // 布尔型，这样定义是为了使用上的方便。
char A= 'a' ;                // 字符型
int i=0;                     // 整型变量
double pi=3.1415926535897;   // 双精度型
```

除了上述类型外，还可以在上述数据类型的基础上自定义数据类型。自定义数据类型是通过“类”来实现的。关于“类”的概念，请参见本章“1.2 类的概念”。

1.1.2 运算符及其重载

C++中的运算符包括基本运算符和自增自减运算符。

1. 基本运算符：+（加），-（减），*（乘），/（除），%（取余）。
2. 自增和自减运算符：包括++（自增）和--（自减）两种。它们都有前置和后置两种，如 i++，--i 等。在一般情况下，前置或后置的作用是一样的，都是将操作数的值增 1（减 1）后，重新写回该操作数在内存中的原有位置。

除了上述运算符外，C++的类支持运算符的重载（改变运算符自身的含义及运算方式），会出现同一个运算符在不同地方代表的含义不完全相同的现象。例如，“*”在不同的运算中有不同的意义。

请看下面的例子：

```
Matrix A;
Matrix B;
Matrix C = A * B;           // 矩阵 A 和矩阵 B 相乘
Matrix D = B * A;           // 矩阵 B 和矩阵 A 相乘
```

在这里，“*”不是两个简单变量的乘法，而是根据矩阵乘法规则进行的两个矩阵的相乘。“*”的运算功能被改变了。

C++中运算符有优先级问题。但在运算符被重载后，优先级如何处理呢？在 C++中，运算符被用户重新定义后，并不改变原运算符的优先级以及运算符的语法结构。也就是说，单目运算符重载后还是单目运算符，双目运算符也只能被重载成双目运算符。

1.1.3 函数和系统函数

1. 函数

函数是 C++ 程序中的基本抽象单元，是对功能的抽象。一个较为复杂的系统往往被划分为若干个子系统。在 C++ 语言中，这些子程序体现为函数。函数必须被一个称之为主函数 (main) 的调用。主函数 (main) 是程序执行的开始点，通过主函数调用子函数、子函数调用其他子函数这种链锁形式来完成特定的功能。

函数的语法形式如下：

类型说明符 函数名 (形式参数)

```
{  
语句系列;  
}
```

2. 系统函数：

C++ 系统库中提供有几百个函数可供使用。充分利用库函数，可以大大减少编程的工作量，提高程序的运行效率和可靠性。在上述求 x 的 n 次方的计算中，我们也可以直接调用系统库中对应的函数给出计算结果。

系统函数在调用之前必须先声明函数原型。系统函数的原型声明全部由系统提供，分类存在于不同的头文件中。我们需要做的事情就是用 include 指令嵌入相应的头文件，然后便可以使用系统函数。

1.1.4 C++的基本语句

C++ 的基本语句包括：表达式语句、复合语句、选择语句、循环语句。下面是这些语句的简单介绍。

1. 表达式语句：C++ 中任何一个表达式加上分号就组成了一个表达式语句。如：

```
A = PI * pow(r, 2);  
double exp(r*time_to_maturty);  
B=ln(a/b);
```

2. 复合语句：由两条或两条以上语句组成为复合语句。复合语句由一对花括号 { } 包裹起来。

如：

```
if(a>=b)  
{  
语句 1;  
...  
语句 N  
}
```

3. 选择语句：

```
if(布尔表达式=真)  
{  
执行代码块 A  
}  
else  
{  
执行代码块 B  
}
```

4. 循环语句: C++中提供了三种循环语句: while, do-while, for。这些语句各有特点, 在很多情况下可以互换使用。

1) while 循环语句:

```
while(<条件>
{
代码块;
需要直接跳出时可以用 break;提前结束循环
}
```

注: <条件>可以是布尔类型的变量或表达式。

2) do-while 循环语句:

```
do-while 循环语句
do
{
代码块;
需要直接跳出时可以用 break;提前结束循环
}
while(<条件>)
```

Do-while 循环与 while 循环用法类似, 但有一点区别需要注意, while 循环是先判断<条件是否满足>, 也就是说, 如果条件不满足循环体中的代码, 可能一次也不被执行, 而 do-while 循环是先执行代码块, 然后再判断退出条件, 这样无论<条件>是什么, 代码段都会被执行一次。

3) for 循环语句:

```
for(<初始值变量>;<循环退出条件>;<初始值变量增减>)
{
代码块;
需要直接跳出时可以用 break;提前结束循环;
}
```

for 循环语句的功能是先计算初值变量的值, 用此值与退出条件进行比较, 如果不满足就执行循环体中的代码, 然后对初始变量值进行增减操作, 并判断是否满足退出条件。

1.1.5 名字空间 (Namespace)

传统的 C++中, 通常只有单一的全局名字空间 (global namespace)。不同开发人员编写的程序在合并时可能会出现名字冲突, 这就有必要引入名字空间的概念。名字空间 (namespace) 维持了局部变量和局部函数与整个程序使用之间的匹配关系, 避免了名字冲突, 在大型程序开发中非常有用。因此, 有必要知道任一函数在标准 C++库中自己的名字空间, 即标准名字空间。为了获得这些库函数, 需要进行如下声明:

```
using namespace std;
```

大多数 C++程序是从标准头文件 include 语句开始, 之后紧随着 using 声明。我们在本书中也同样采取这种方式, 即:

```
# include <iostream.h>
# include <math.h>
using namespace std;
.....
```

除了使用上述方法外, 读者还可以采用其他方法声明名字空间。但这已远远超出本书的范围。

从使用角度考虑，我们在编写程序时，均使用上述名字空间声明方法。

1.1.6 基本输入和输出

在 C++ 中，将数据从一个对象到另一个对象的流动抽象为“流”。流在使用前要被建立，使用后要被删除。从流中获取数据的操作称为提取操作，向流中添加数据的操作称为插入操作。数据的输入和输出是通过 I/O 流实现的，cin 和 cout 是被定义在 iostream.h 中的预定义流类对象。cin 用来处理标准输入，即键盘输入；cout 用来处理标准输出，即屏幕输出。

1.2 C++语言的扩展：类的概念

我们在前面已经介绍了 C++ 的几个基本变量类型。除了这些基本数据类型，C++ 还允许用户根据问题的需要自定义数据类型。这种用户自定义的数据类型称为类。类是面向对象程序设计的核心，是逻辑上相关函数与数据的封装，是对所要处理问题的抽象描述。“类”拥有与基本数据类型（int, char, double）类似的特征。然而，与基本数据类型不同的是，类这种数据类型中同时包含了数据的操作函数。

在金融学领域有大量的金融产品，如股票、债券、期权、期货、互换、衍生证券等，如果能够针对这些金融产品自定义变量，将会使有关问题的解决变得容易些。在这里，我们打算像一般专业书籍那样系统地介绍类的概念及面向对象的程序设计，而是通过一些例子来介绍这种思想。

类有如下的定义语法：

```
class 类名称
{
public:           // “公有成员”声明关键字；
外部接口，包括公有成员数据和成员函数；
protected:     // “私有成员”声明关键字；
保护型成员，包括保护型成员数据和成员函数；
private:       // “保护成员”声明关键字；
私有成员，包括私有成员数据和成员函数；
};
```

类的成员（公有成员、保护型成员、私有成员）包括成员数据和成员函数。成员数据的定义方式与一般变量相同，只要将这个定义放在类中相应的位置即可，它与一般变量的区别是，其访问权限可以由类来控制，从而具有一般变量所无法拥有的特征。成员函数就是类中定义的描述类行为的成员，一般在类中说明原形，在类外定义函数的具体实现。

定义了类之后，就可以定义这种数据类型的变量-对象。对象定义和变量的定义相同，都采取如下形式：

类名 对象名；

定义了对象，就可以通过对象来使用其公有成员，达到对对象内部属性的了解和改变。这种访问所采取的形式如下：

对象名.公有成员函数名(参数表?)

至此，我们已经对类和其对象有了一定的了解。下面通过一个典型的 C++ 程序来说明面向对象的程序开发过程。

典型的 C++ 程序基本上都有如下三部分构成：

1. 类的声明：*.h；
2. 类的成员函数的实现：*.cpp，对于较为简单的成员函数，可以采用内嵌实现的方式；
3. 主函数：*.cpp。

关于“类”的概念更深入的讨论，可参阅相关专业书籍。

1.3 重要概念

特指本书编写过程中经常用到的知识，如常引用、向量容器和矩阵类等。常引用和向量容器在每个程序中都要用到，而矩阵类则主要应用在投资组合理论、有限差分等较为复杂的计算中。

1.3.1 常引用

如果在说明引用时使用 `const` 修饰，则被说明的引用为常引用。常引用所引用的对象不能被更新。用常引用做形参，不会意外地发生对实参的更改。

常引用的说明形式如下：

```
const 类型说明符 & 引用名
```

下面两个表达方式是可相互替换的：

1. `some_function (double r);`
2. `some_function (const double &r);`

由于在金融领域经常处理海量数据且处理的变量非常多，所以应尽可能使用第二种函数调用形式。

1.3.2 向量容器 (vector)

标准模板库提供了一个容器类 `vector`，它不仅代替数组，而且比数组功能更强大，使用起来更安全。`vector` 是一个经过优化的、对其中的元素按照下标进行访问的容器。它在名字空间 `namespace` 的头文件 `<vector>` 中定义。

向量容器在必要时可自我增长，以便容纳更多的元素。假如我们已经建立了一个由 10 个元素构成的股票历史价格向量：

```
vector<double> stock_history_price(10);
```

这时，编译器将为这 10 个变量分配足够的内存空间，每个变量都是 `double` 数据类型。这 10 个元素填满该向量后，如果再往向量中添加一个元素，向量将自动增大容量，容纳第 11 个元素。

向量 `vector` 中的元素数目可以用 `stock_history_price.size()` 进行检索。向量中的下标是从 0 开始的。如果读者将股票价格 20.268 赋给了 `stock_history_price` 的第 6 个元素，则：

```
stock_history_price[5]= 20.268;
```

将一个元素添加到向量中可以有多种方式，最常用的一种是 `push_back()`：

```
stock_history_price.push_back(20.268);
```

1.3.3 矩阵运算

矩阵运算在金融定量分析中应用非常普遍。投资组合优化、期权定价、风险管理、时间序列分析等许多方面都要用到矩阵运算。从技术方面来看，使用 C++ 进行矩阵编程有一定难度，所以出现了许多关于矩阵方面的算法。这些算法尽管能够进行矩阵运算，但是在使用时面临编程上的许多困难，还存在书写不直观的问题。

为了减轻编程方面的压力，本书引入 *newmat* 矩阵类库。该类库是为满足矩阵运算而专门设计的一种类库，使用起来非常方便。读者在编写程序时，只需将 *newmat* 包含在头文件中，就可以按照一般的矩阵运算书写习惯进行矩阵的“+”、“-”、“*”、“求逆”等运算，从而省略了繁琐的编程过程。

关于 *newmat* 类库，感兴趣的读者可查阅相应的网站。

1.3.4 C++的其他概念

有关 C++ 的其他概念，我们将在随后的有关章节中随用随介绍。

1.4 C++程序的开发过程

C++ 程序的开发，一般要经过编辑→编译→连接→运行调试这几个步骤。编辑是将源代码输入

到计算机中，生成后缀为.cpp 的文件。编译是将程序源代码转换为机器语言代码。连接是将多个源程序文件及库中的某些文件连在一起，生成一个后缀为.exe 的可执行文件。最后是对程序进行调试。

在编译连接时，会对程序中的错误进行检查，并将查出的错误显示在屏幕上。编译阶段查出的错误是语法错，连接时查出的错误是连接错。

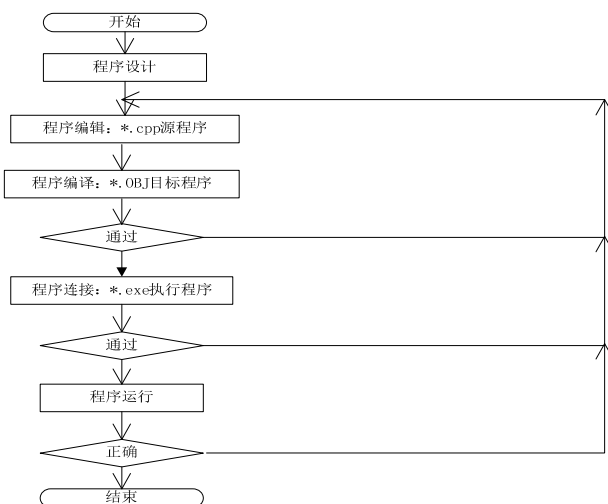


图 14. 1: C++程序的开发过程

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《国际贸易理论与政策》教学大纲

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《国际贸易理论与政策》教学大纲

宏结 刘毅

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课程英文名称：International Trade Theory and Policy

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前 言

课程性质

《国际贸易理论与政策》也称为《国际贸易学》，是教育部规定的经济、财经类的专业主干课程之一，目前是中国政法大学商学院国际商务的专业必修课。国际贸易理论与政策是国际经济学中的微观部分，是一门注重理论与现实问题相结合，开放性和前瞻性相结合的，理解起来有一定难度的课程。伴随着经济全球化过程的演进，国际贸易知识将成为经济管理、法律人才知识结构中不可缺少的重要组成部分。

编写目的

本大纲概括了国际贸易课程的基本内容，是教师进行本课程教学工作的指南，任课教师必须依据本大纲内容为学生授课。本大纲也使学生能够对本课程的教学内容和教学安排有一个大致的了解，以便于更好地学习本课程。

课程简介

国际贸易学是研究商品、服务和生产要素跨国界提供和接受的经济学分支科学。它主要探讨在特定条件下的资源配置过程，以及这个过程按照一定模式运行的机制。对这种机制的阐述或概括是国际贸易学的任务。在内容体系上，国际贸易学包括国际贸易理论和国际贸易政策两个方面。国际贸易理论是国际贸易学中非常重要的一个部分，其基础是微观经济学。国际贸易理论研究的范围不仅包括商品和服务的国际流动，也包括生产要素的国际流动和技术知识的国际传递。国际贸易理论不仅研究商品、服务和生产要素国际流动的原因和方向，也研究流动的结果。国际贸易的政策分析主要研究两个方面的问题：贸易政策的影响和贸易政策制定中的政治经济学。国际贸易的发展史也是一部各国制定有利于自己的贸易政策和措施的发展史。在社会经济发展的不同历史时期，自由贸易政策和保护贸易政策这两类基本贸易政策始终在相互交替发挥作用。从研究的性质上看，国际贸易理论可分为实证的理论和规范的理论。整个国际贸易理论体系是实证和规范统一。从研究方法上看，国际贸易学主要运用微观经济分析中的一些分析工具和模型。随着国际经济关系的飞速发展，国际贸易学在经济学中的地位也在日益提高，目前，国际贸易学已成为经济、财金类专业的一门十分重要的专业必修课。

课程进度安排

本课程作为商学院学生的专业必修课是 54 个课时，每周 3 学时。教师可根据各自单位的具体情况确定具体的学时数。若教学学时紧张，教材中的某些章节教学可将课堂讲授与学生自主学习结合起来进行。另外，建议有条件的教师采用多媒体教学方式，这样一方面可节约讲课时间，增加教师与学生之间以及学生之间的讨论与交流机会，另一方面，还可提高教学效果，激发学生的学习兴趣。

第一章 绪 论

教学目的和教学要求：通过本章学习，要求学生掌握国际贸易学的研究内容、特点和研究对象，了解国际贸易学的研究方法和研究国际贸易学的意义。

学习重点和难点：本章学习的重点是掌握国际贸易学的研究对象，并通过国际贸易学与相关学科的对比，了解国际贸易学作为一门独立存在的学科所具有的独特特点。

学时分配：2 学时

第一节 国际贸易学的研究对象及其基本内容

一、国际贸易学的研究对象

国际贸易学（International Trade）的研究对象是商品、服务和生产要素的跨国界流动，并以参与者获得经济利益为目的的经济学分支科学。

二、国际贸易的特点

1. 国际贸易是跨国界的贸易现象。
2. 国际贸易在不同的货币媒介下开展。
3. 国际贸易具有较高的交易成本。
4. 国际贸易必须考虑到收支平衡问题。
5. 国际贸易常受到民族主义的干扰。

三、国际贸易学的基本内容

1. 国际贸易理论

（1）国际贸易的基础。包括用技术差异来解释贸易基础的斯密模型和李嘉图模型，用资源的不同配置来解释贸易基础的赫克歇尔——俄林模型，用市场和生产规模的不同来解释贸易基础的规模经济贸易模型，解释成本优势动态变动的产品周期理论。

（2）贸易产生的影响。包括对本国经济、本国社会福利、国际市场和外国贸易伙伴利益的影响。

（3）国际贸易的动态变动。研究贸易模式和贸易量的动态变化。

2. 国际贸易政策

包括贸易政策的影响和贸易政策的政治经济学。

第二节 国际贸易学的研究方法

国际贸易学的研究方法是从一般经济学那里承袭下来的。不同的是，这些研究方法在国际贸易学中具体应用时，体现了国际贸易学的特色：

1. 国际贸易学的基本分析工具是经济学中的微观经济分析方法，包括一般均衡分析和局部均衡分析的方法。国际贸易理论多采用一般均衡分析方法。

2. 各贸易模型大都假定世界上只有两个国家、两种商品，且生产要素不超过两个。

3. 大多数国际贸易理论都是一种静态或比较静态分析。

第三节 研究国际贸易学的意义

研究国际贸易学的意义：

- 1.是对外开放理论和实践的需要；
- 2.有助于建立我国自己的国际经济理论；
- 3.有助于学生更好地从事与国际贸易、国际金融和国际商法有关的工作。

核心概念

国际贸易学 古典贸易理论 新古典贸易理论 当代贸易理论
局部均衡分析 一般均衡分析 比较静态分析 贸易基础

思考题

1. 国际贸易学研究的对象是什么？
2. 国际贸易学研究的任务是什么？
3. 国际贸易学研究方法的特点是什么？
4. 试对国际贸易学的内容体系做出评价。

讨论题

你认为学习国际贸易学的意义是什么？

扩展阅读书目

1. [美]保罗·克鲁格曼，黄卫平翻译：《国际经济学：理论与政策》（第八版）（国际贸易部分），中国人民大学出版社，2011年2月版。
2. 海闻，P.林德特，王新奎著：《国际贸易》，上海人民出版社，2003年3月版。
3. 佟家栋，周申编著：《国际贸易学——理论与政策》（第二版），高等教育出版社，2007年12月版。
4. 李左东编著：《国际贸易理论、政策与实务》，高等教育出版社，2002年9月版。

第二章 古典的国际贸易理论

教学目的和教学要求: 本章作为国际贸易纯理论的重要组成部分, 主要阐述了古老的重商主义, 以及对国际贸易理论仍然具有里程碑意义的绝对利益论、比较利益论和穆勒的相互需求理论。通过本章学习要求学生掌握古典国际贸易理论的精髓, 并学会用数学模型将其表述出来。

学习重点和难点: 比较利益论是贯穿国际贸易理论的主线, 因此, 认真领会其理论精髓, 正确评价比较利益论, 并找出其不足之处, 同时将其思想用数学模型表述出来是我们学习的重点和难点, 也是我们进一步学习国际贸易理论的基础。

学时分配: 7 学时。

第一节 重商主义

一、重商主义产生的历史背景

重商主义产生的历史背景正是欧洲封建社会向资本主义社会过渡, 资本主义原始积累时期。

二、重商主义的基本观点

重商主义在当时的英国和法国得到了充分的发展, 其基本观点可以概括为:

1. 金银货币是财富的唯一形态。
2. 财富来源于流通领域。
3. 多卖少买, 保持贸易顺差, 是获得财富的基本原则。
4. 国家干预经济, 是保障财富增长的重要手段。

三、早期重商主义与晚期重商主义

1. 早期重商主义被称为“货币差额论”
2. 晚期重商主义被称为“贸易差额论”

四、重商主义的政策主张

国家干预经济, 并实行奖出限入, 扶持幼弱工业的政策。

五、简评

重商主义学说为资本主义生产方式的成长与确立创造了必要的前提。但是, 它对国际贸易关系的解释还是相当原始和粗陋的。

第二节 绝对利益论

一、国际分工和国际贸易

国际分工是国际贸易和世界市场的基础; 国际贸易的增长又推动着国际分工的发展。

二、绝对利益论

绝对利益论是古典主义经济学家亚当·斯密提出来的。所谓绝对利益也称绝对优势，是指如果各国都生产自己具有绝对优势的产品然后再相互交换，那么，每个国家都可以通过国际贸易使国民福利增加。

三、绝对优势贸易模型

1. 基本假设

像其他所有的经济分析一样，在研究国际贸易时，我们也常常将许多不存在直接关系和并不重要的变量假设为不变，并将不直接影响分析的其他条件尽可能的简化。

2. 生产、贸易模式和贸易所得

我们用劳动生产率或生产成本来衡量一国在某种商品生产上的绝对优势，可以得出各国应该专门生产并出口具有“绝对优势”的产品，同时都会获得贸易所得的结论。

四、简评

绝对利益论为科学的国际贸易理论的建立提供了一个良好的开端。但是它没能说明若一个国家在所有产品上都不占有绝对优势，是否还要参与国际分工这样一个具有普遍性的问题。

第三节 比较利益论

一、比较利益论的基本内容

比较利益论古典主义的另一位著名的经济学家大卫·李嘉图提出来的，该理论说明一个国家即使所有商品生产中都处于劣势，依然可以按照“两优择重，两劣择轻”的分工原则参与国际分工，从而使各国获得贸易利益。

二、比较优势贸易模型

1. 基本假设和生产贸易模式

比较优势模型的假设与绝对优势模型基本一样，但它强调两国之间生产技术存在相对差别而不是绝对差别，因此，我们使用相对劳动生产率和相对成本来衡量一国在某种商品生产上的比较优势。

2. 贸易影响与贸易所得

我们在此采用总体均衡分析和局部均衡分析方法来考察贸易影响和贸易所得。

三、对比较利益论的实证检验

对比较利益论的实证检验工作最早由麦克·道戈尔做出。麦克·道戈尔的检验表明，李嘉图的比较利益论比较符合国际贸易和国际分工结构的现实。同时，国际贸易现实中还有李嘉图所不能解释的现象。

四、简评

李嘉图的比较利益论是现代西方国际贸易、国际经济学的直接理论渊源，该理论的提出标志着西方国际贸易理论的形成。它的局限性主要表现在比较利益论是一个短期、静态的理论，而且没有说明国际交换价格是怎样决定的。

第四节 相互需求理论

一、相互需求理论的基本观点

约翰·穆勒从需求方面入手，认为国际交换价格实际上是由两国的相互需求强度决定的。因此，相互需求理论实质上是国际供求关系决定国际交换价格的理论。

二、相互需求理论的意义

1. 穆勒强调了相互需求因素在国际交换价格形成上的重要性及其对贸易条件的影响，因而是对李嘉图比较利益论的进一步补充。
2. 穆勒的供求均衡分析方法仍然是现代的国际经济学家在分析国际贸易时经常采用的方法。

第五节 机会成本与比较利益

一、不变的机会成本与比较利益

1. 如果两个国家各自选择机会成本相对低，因而具有比较优势的产品进行专业化生产，并进行国际贸易，则双方都可以得到好处。

2. 在经济学中，机会成本就是商品的相对价格。因此，可以通过机会成本将比较利益论和相互需求理论用数学模型表述出来。

二、递增的机会成本与比较利益

1. 在现实世界中，机会成本是递增的。
2. 递增机会成本下的贸易模型与机会成本不变的贸易模型的最大区别是，机会成本递增的情况下，两国都实行不完全的专业化生产。

三、提供曲线与贸易条件

1. 马歇尔的提供曲线是国际经济学、国际贸易学特殊的研究工具。
2. 一国出口商品价格和进口商品价格的比率被称为贸易条件。

核心概念：

重商主义 贸易差额论 货币差额论 国际分工 绝对利益 比较利益 贸易三角 生产成本
 相对成本 国际交换价格 机会成本 提供曲线 贸易条件 交换所得 配置所得

复习与思考题：

1. 试述重商主义的理论观点和政策主张，并说明重商主义的理论意义。
2. 试述亚当·斯密的绝对利益论的主要内容及其意义。
3. 试述李嘉图比较利益论的基本内容及其局限性。
4. 封闭条件下的均衡与开放条件下的均衡有哪些不同？
5. 提供曲线是如何推导的？

讨论题

你如何看待比较利益论在中国对外开放中的作用？

扩展阅读书目：

1. [英]亚当·斯密：《国民财富的性质和原因的研究》，商务印书馆。
2. [英]大卫·李嘉图：《政治经济学及赋税原理》，商务印书馆。
3. [英]托马斯·孟：《英国得自对外贸易的利益》，中译本，商务印书馆，1997年。
4. [美]克鲁格曼、奥伯斯法尔德：《国际经济学》第五版，第二章“劳动生产率和比较优势——李嘉图模型”；海闻等译，海闻校，中国人民大学出版社2002年版。
5. [美]罗塞·罗伯茨：《抉择——关于自由贸易与贸易保护主义的寓言》，刘琳娜、栾晔译，海闻校，北京大学出版社、中国人民大学出版社2002年版。
6. Maneschi, Andrea, 1998, *Comparative Advantage in International Trade: A Historical Perspective*, Edward Elgar, UK.
7. 海闻，P·林德特，王新奎：《国际贸易》，上海人民出版社，2003年3月版。
8. 宏结：《国际经济学》，第三章，国际交换价格的确定，北京师范大学出版社，2012年6月版。
9. 吴建伟：《国际贸易比较优势的定量分析》，上海三联书店，上海人民出版社，1997年版。
10. 王新奎：《国际贸易与国际投资中的利益分配》，上海三联书店，上海人民出版社，1995年版。

第三章 比较利益论——要素禀赋与国际贸易

教学目的和教学要求：赫-俄理论是现代国际贸易理论的主线，它用要素禀赋的差异进一步解释了产生比较利益的原因。通过本章的学习要求学生围绕着赫-俄理论这一主线，掌握 H-O 定理和 H-O-S 定理的内容和意义，理解里昂惕夫悖论及其解释，并注重理论问题和现实问题的结合。

学习重点和难点：赫-俄理论是国际贸易理论的重点，也是本章要求学生重点掌握的内容。本章的难点是 H-O 定理和 H-O-S 定理的证明。

学时分配：4 学时。

第一节 赫克歇尔-俄林模型

一、相关概念和基本假设

赫-俄理论有严格的假设条件，深刻理解这些假设条件，对于把握赫-俄理论的实质，特别是赫-俄理论的扩展意义重大。

二、H-O 定理的内容和意义

1. H-O 定理的内容

H-O 定理也称生产要素相对稀少定理，即不同的商品需要不同的生产要素比例，而不同的国家拥有的生产要素相对来说也是不同的，因此，各国都生产那些能够较密集地利用其较充裕的生产要素的商品时，必然会有比较利益产生。

2. H-O 定理的意义

(1) 它把各国之间相对要素的差异或要素禀赋独立出来，作为比较优势和国际贸易产生的基本原因或决定因素。

(2) H-O 定理还说明了国际贸易的流向。

(3) H-O 定理同样适用于国内贸易。

第二节 赫克歇尔-俄林-萨缪尔森定理

一、H-O-S 定理的内容

H-O-S 定理的内容是：自由贸易不仅会使商品价格均等化，而且会使生产要素价格均等化。

二、H-O-S 定理的意义

1. 国际贸易是要素国际流动的替代物。

2. 贸易可以对收入分配产生影响。

三、H-O-S 定理的图形及证明

艾奇沃斯——鲍利盒状图说明国际贸易可以使生产要素绝对价格和相对价格均等化。

四、要素价格均等化的限制条件

由于存在种种限制条件，要素价格均等化在现实中并不容易实现。

第三节 H-O 定理的实证——里昂别夫之谜

一、里昂别夫之谜的内容

1953年，美国经济学家里昂别夫利用投入-产出方法，计算美国进出口货物的 K/L 比例，以验证 H-O 定理，结果得出相反的结论，称为“里昂别夫悖论”。

二、对里昂别夫之谜的解释

1. 劳动生产率说
2. 人力资本说
3. 自然资源稀缺说
4. 贸易壁垒干扰说
6. 消费偏向说

核心概念

要素密集度 要素丰饶度 生产可能性边界 边际技术替代率
人力资本 H-O 定理 H-O-S 定理

复习与思考题

1. 阐述 H-O 定理及其意义。
2. H-O-S 定理的主要内容是什么？怎样理解？
3. 什么是“里昂别夫之谜”？“悖论”的出现是对赫-俄理论的否定吗？为什么？
4. 怎样理解要素禀赋论的假设条件？
5. 请举出要素禀赋论能够解释的国际贸易现象，并用相关理论加以分析。

扩展阅读书目

- 1.[瑞典] 伯蒂尔·俄林：《地区间贸易和国际贸易》，首都经济贸易大学出版社，2001年。
- 2.海闻，P·林德特，王新奎：《国际贸易》，上海人民出版社，2003年3月版。
- 3.宏结：《国际经济学》第四章，新古典贸易理论，北京师范大学出版社，2012年6月版。

第四章 产业内贸易与新贸易理论

教学目的和教学要求：伴随着国际分工由产业间分工发展为产业内的分工，作为国际分工表现形式的国际贸易也由产业间贸易向产业内贸易转化，由此孕育而生了新贸易理论，从而大大丰富了新贸易理论的内容。通过本章的学习，要求学生了解产业内贸易产生的原因和一般规律，掌握用于解释产业内贸易的新贸易理论模型，并能就传统贸易理论和新贸易理论进行对比。

学习重点和难点：本章的学习重点是新贸易理论模型；难点是新贸易理论的数学推导，以及新贸易理论与传统贸易理论的关系。

分配学时：4 学时。

第一节 产业内贸易

一、产业内贸易的概念

产业内贸易是 20 世纪 70 年代中期以来出现的一种新的国际贸易模式，它在经济全球化的新格局下日渐发展成为国际贸易的主导模式。所谓产业内贸易是指一个国家或地区在一段时间内，同一产业部门产品既进口又出口的现象。

二、产业贸易的分类

1. 根据贸易是发生在不同生产过程之间还是发生在同一生产过程的不同阶段之间，产业内贸易可以分为水平型产业内贸易和垂直型产业内贸易。

2. 美国学者格鲁贝尔和澳大利亚学者劳埃德（H•G•Grubeland P•J•Lloyd）将产业内贸易分为同质产品的产业内贸易和差异产品的产业内贸易两大类。

三、产业内贸易的测定

产业内贸易指数公式为：

四、产业内贸易产生的原因

1. 产业内的国际分工是产业内贸易发生的前提。
2. 产品的差异性是企业内国际贸易的基础。
3. 企业内规模收益递增是企业内贸易的主要利益来源。

五、产业内贸易发展的一般规律

1. 从要素禀赋角度看，两个国家的生产要素禀赋差异越小，其产业内贸易的比重就越大。
2. 从需求角度看，如果两个国家中的人均收入较高，并且两国的人均收入差异较小，则两国间的产业内贸易比重较大。
3. 从区位角度看，两国间相距较近，则产业内贸易的比重较大。
4. 从产业或产品角度看，具有异质性的产品、或者具有先进技术和工艺的产品，其产业内贸易的比重就较大；存在大量中间产品的产业，其产业内贸易的比重也很大。
5. 产业内贸易的模式是不确定的。
6. 产业内贸易的收入分配效果远小于产业间的贸易。

7. 通过产业内贸易，消费者能获得更多的差异性产品。

第二节 规模经济与国际贸易

一、规模经济的含义

H-O 定理的一个重要假设就是两国两种产品生产的规模收益是不变的，而现实是规模经济往往是递增的。所谓规模经济递增（increasing returns to scale）或规模经济（economies of scale）是指：产出水平增加比例高于生产要素增长比例的生产状况。

规模经济对每个企业来说可以是内部性的，也可以是外部性的。如果企业自身规模的扩大会使其平均成本下降，便存在内部规模经济；外部规模经济（internal scale economies）也称外在经济，是指当整个产业的产量扩大时，企业的平均成本下降。

产生外部规模经济的原因有产业聚集、专业化的服务和专业化的劳动力市场、知识外溢等，我们将在后面对外部规模经济产生的国际贸易进行探讨。

二、规模经济与国际贸易

新贸易理论认为，规模经济是现今国际贸易产生的一个重要因素，一国某种产品的价格优势或成本优势可以既不是由技术水平差异引起的，也不是由要素禀赋的不同所引起的，而是由生产该产品的生产规模所造成的。

三、规模经济、产品差异与国际分工

规模经济与人们对产品差异性的追求是相矛盾的，产业内国际分工的发展使这一矛盾的解决成为可能。

二战后，同行业生产专业化的主要形式有：不同型号、不同规格产品的专业化生产；零部件的专业化生产；不同工艺过程的专业化生产。

四、差异产品条件下的规模经济与国际贸易

建立在规模经济和差异产品基础上的国际分工必须有国际贸易作为补充，否则，这种建立在产品差异基础上的规模经济效果就难以实现。但是，这种国际贸易模式不同于传统意义上建立在技术差异和要素禀赋基础上的国际贸易。

五、外部规模经济与国际贸易

外部经济理论表明，在其他条件相同的情况下，行业规模大的国家将比行业规模小的国家在行业中更有效率，也就是说外部经济可以引起国家产业水平上的规模收益递增，外部规模经济和内部规模经济一样可以成为国际贸易产生的一个重要原因。

六、外部规模经济与学习曲线

行业的规模优势是一个历史积累的结果。成本取决于经验的积累，而经验一般用该行业迄今为止积累的产量来衡量的。因此，如果后起的国家在政府的适当保护下，经过一段时间的“学习”过程，通过边学边干“learning-by-doing”积累起一定的产量和经验，其平均成本就会下降，即产生学习效应，此时，后起的国家就具有了较先行国更低的成本优势。

第三节 重叠性需求国际贸易理论

一、收入水平与需求水平

经济学的一般原理告诉我们，一国的需求水平取决于人均收入，收入水平相近的国家，其需求水平比较相似。

二、代表性需求与规模经济

瑞典经济学家林德认为厂商为达到规模经济总是生产具有代表性需求的商品，但是厂商却难以满足消费者对不同档次产品的需求。

三、重叠性需求与国际贸易

林德认为一国的产品要成为潜在的出口产品首先必须是它的代表性需求的商品，并以此去交换别国的产品，从而满足国内不同档次产品的消费者。

四、重叠性需求国际贸易理论的意义

该理论从需求的角度解释了同行业内的贸易，以及发达国家之间更容易成为贸易伙伴的现象。

第四节 市场结构与产业内贸易

新贸易理论的最大贡献就是将产业组织理论和市场结构理论嫁接到新古典贸易理论之上，从而修正了完全竞争市场的假设前提，阐述了在不同的市场结构下，产业内贸易产生的原因。

一、完全竞争市场——新赫克歇尔-俄林模型

该模型通过对赫克歇尔—俄林模型的假定作些调整，在产品特性或差异与劳动和资本等要素的不同组合之间建立一种联系，就使赫克歇尔—俄林模型具有了广泛的解释力，也成为了对产业内贸易的一种理论解释。为区别于前述的要素禀赋理论，我们称之为新赫克歇尔—俄林模型（Neo-Hecksher-Ohlin Model）或新要素比例学说。该模型揭示了完全竞争市场下产业内贸易产生的原因。因此，新赫克歇尔—俄林模型对产业内贸易的解释是在对传统理论最小偏离下进行的。

二、垄断竞争市场——新张伯伦模型

1978年，克鲁格曼在其博士论文中首次将迪克西（Dixit）和斯蒂格利茨（Stiglitz）两人所共同提出的将差异产品和内部规模经济考虑在内的垄断竞争模型推广到开放条件下，从模型上证明了规模经济和差异产品是国际贸易中产业内贸易的原因。此垄断竞争模型又称为新张伯伦模型（Neo-Chamberlinian Models）。

三、双寡头垄断产业内贸易模型

模型假设开展贸易后，两国厂商均可自由进入另一国家的市场，因此，两国的国内市场就由原来的完全垄断市场变成了双寡头垄断市场。进而用古诺模型解释了在寡头垄断条件下，两国之间的同质产品发生了产业内贸易。

四、相互倾销与国际贸易

出口倾销策略包含着这样一层意思，即如果两个国家的两个垄断企业相互进行出口倾销，有可能导致国际贸易的发生并促进世界福利的增加。

核心概念

产业内贸易 产业间贸易 水平型产业内贸易 垂直型产业内贸易
规模经济 内部规模经济 外部规模经济 学习效应 重叠性需求 代表性需求 相互倾销 产业内贸易指数

复习与思考题

1. 同行业内贸易产生的原因是什么？
2. 简述重叠性需求理论。
3. 规模经济对国际贸易有什么意义？
4. 产业内贸易与产业间贸易的区别是什么？
5. 产业内贸易发展的一般规律是什么？

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- 2.尹翔硕编著：《国际贸易教程》（第二版），第6章，复旦大学出版社，2001年版。
- 3.赵春明：《国际经济学》，第六章，机械工业出版社，2007年1月
- 4.Brander, J.A. and Krugman, P.R. (1983), 'A "Reciprocal Dumping" Model in International Trade', *Journal of International Economics*, 15, 313-23.
- 5.Helpman, E. (1984), 'Increasing Returns, Imperfect Markets and Trade Theory', in Jones, R. and Kenen, P. (eds), *Handbook of International Economics*, Vol. I (Amsterdam: North-Holland), 325-15.
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第五章 动态国际贸易理论

教学目的和教学要求 前面几章主要阐述了静态的国际贸易理论，即不考虑技术的国际传播和经济增长对国际贸易的影响。实际上，这些因素都是要变化的，因而，比较优势不是固定不变的。通过本章的学习，要求学生运用比较静态的分析方法对国际贸易现象进行动态研究，掌握经济增长与国际贸易之间的关系、对外贸易乘数理论、国家竞争优势理论，特别要深刻理解产品生命周期理论的内涵。

学习的重点和难点 本章的学习重点是产品生命周期理论；难点是利用比较静态分析方法对经济增长与贸易条件和国民福利之间的关系进行分析。

学时分配：6 学时。

第一节 经济增长与国际贸易

一、生产要素的增长及其对生产的影响

1. 生产要素的增长将使生产可能性曲线依据要素增长比例的不同向外膨胀。
2. 雷布琴斯基定理。

二、技术进步及其对生产的影响

1. 技术进步的类型分为：中性技术进步、劳动节约型技术进步、资本节约型技术进步。
2. 所有技术进步都会使生产可能性曲线向外膨胀。

三、经济增长、贸易条件和国民福利

1. 增长与贸易：小国的情况

小国只是价格的接受者，它的贸易额的扩大不会影响贸易条件，其国民福利总体来说是增加的。

2. 增长与贸易：大国的情况

大国经济增长会影响贸易条件，甚至使贸易条件恶化，出现贫困化增长。因此，发展中国家要特别注意避免出现贫困化增长，而应该追求有益的增长。

第二节 产品生命周期理论

一、技术差距论

技术差距论是由美国经济学家波斯纳于 1961 年提出来的。这一理论以不同国家之间技术差异的存在作为对贸易发生原因的解釋，并提出了模仿时滞的概念。

二、产品生命周期模型的内容和意义

（一）理论内容

维农将市场学的产品生命周期模型引入到国际经济学，说明一个创新国的产品进入国际市场后很容易被其他国家仿制，从而使比较优势由创新国转移到模仿国。

（二）理论意义

1. 该理论是动态的贸易理论，说明比较优势不是固定不变的，它在一定程度上弥补了比较优势理论是静态研究的缺陷。
2. 根据比较优势的动态转移，发达国家和发展中国家应该采取不同的策略。

第三节 对外贸易乘数理论

一、对外贸易乘数理论的基本内容

对外贸易乘数理论是由英国经济学家凯恩斯提出来的。该理论从追求贸易顺差的思路和投资乘数原理出发，推导出一系列对外贸易乘数公式来分析贸易顺差对国民收入的影响，以期使对外贸易成为刺激经济增长和扩大就业的有效工具。由于这一理论具有明显的保护主义色彩，因此也被称为新重商主义。

二、对外贸易乘数的政策含义

该理论主张：当世界总进口额扩大，而国内需求不足时，可以通过扩大出口，并使扩大出口所增加的收入中有较多的部分用于购买本国产品的办法来刺激经济增长和增加就业。

第四节 国家竞争优势理论

国家竞争优势理论是由美国经济学家迈克尔·波特提出来的。他将企业竞争的思想引入到了国际贸易中，提出了国家竞争优势的概念，并认为“生产要素”“国内需求”“相关产业与支撑产业”“企业的战略、结构和竞争对手”四个基本要素是决定国家竞争优势的最重要的因素。由于这四个要素之间的关系像钻石一样，所以，该模型也被称为“钻石模型”。

一、钻石模型

1. 生产要素
2. 需求因素
3. 相关和支持产业
4. 企业战略、组织结构、竞争状态

二、优势产业阶段理论

1. 要素驱动阶段
2. 投资驱动阶段
3. 创新驱动阶段
4. 财富驱动阶段

核心概念

规模经济	中性经济增长	劳动节约型技术进步	边际进口倾向
贫困化增长	中性技术进步	资本节约型技术进步	比较静态分析
外贸乘数	钻石模型		

复习与思考题

1. 简述雷布琴斯基定理。(并请用图解说明)
2. 要素增长与生产可能性曲线有什么关系?
3. 什么是贫困化增长? 其产生的条件是什么?
4. 用产品生命周期理论阐述比较优势的动态转移。
5. 试述国际贸易乘数理论及其政策主张。

讨论题

加入 WTO 后, 中国如何利用国家竞争优势理论增强国际竞争力?

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第六章 国际贸易政策

教学目的和教学要求：从本章开始我们将不再拘泥于国际贸易纯理论的研究，而是要注重现实中国际贸易政策的研究。通过本章的学习，要求学生了解贸易政策的内容，掌握对贸易政策的经济分析和贸易保护主义的理论主张，并注重理论和现实问题的结合。

学习重点和难点：本章的学习重点是关税、进口配额、倾销、出口补贴的经济分析，以及保护幼年产业论的内容和意义；难点是关税的一般均衡分析和对关税有效保护率理论的理解。

分配学时：12 学分。

第一节 关税及其经济效应

一、关税及其种类

关税是一国贸易政策中最常使用的一种手段，按照划分的标准不同，它可以分为不同的种类。对于本课程来说，最需要学生掌握的是根据征收方法的不同，关税可分为从价税和从量税。

二、关税的局部均衡分析

一国征收关税以后，会产生保护效应、消费效应、贸易效应、财政效应、再分配效应和国际收支效应。

三、关税的一般均衡分析

1. 小国征收关税后贸易条件没有改变，只会使该国的贸易量减少。因此，小国征收关税只会使该国的福利水平下降。

2. 大国征收关税会减少贸易量，但会改善该国的贸易条件。该国福利实际上是增加还是减少，要依上述两种情况对净福利的影响而定。

四、最适当关税率与关税报复

1. 最适当关税率使该国净福利最大化。

2. 关税战将使贸易量大幅度减少，使所有国家最终丧失全部或大部分贸易利益，直至回到封闭状态。

五、关税结构与有效保护率理论

1. 关税结构不同，对最终产品的实际保护率是不一样的，由此提出有效保护率的概念。当对中间产品不征税时，有效保护率为最大值。

2. 发达国家根据有效保护率理论，采取累进制的关税结构，对发展中国家的发展造成很不利的影

第二节 非关税壁垒及其经济效应

一、进口配额与自动出口配额的经济效应

1. 进口配额与关税的经济效应是相似的；如果除价格以外的其它因素促使需求曲线上移，则进口配额的保护效应要大于关税的保护效应。

2. 进口配额的保护效应是确定的，它阻止了竞争，因而对贸易的扭曲也就更严重。

3. 自动出口配额是一种变相的数量限制，它的经济效应与进口配额有相似之处，但是形式和实施效果上有差异。

二、其他的非关税壁垒措施

其他的非关税壁垒措施还有：进口许可证、歧视性的政府采购、海关估价、贸易的技术性壁垒、绿色壁垒、外汇管制等。

第三节 鼓励出口的措施

一、出口补贴与反补贴税

1. 一国政府为了鼓励本国商品出口而对本国出口厂商给与的直接或间接补贴叫出口补贴。

2. 出口补贴使本国的消费者蒙受损失，而生产者获益，大量的补贴还会加重政府的财政负担，并且还有可能导致贸易条件的恶化。

3. 当进口国发现出口国有出口补贴，并造成进口国市场混乱时，便会征收反补贴税。

二、其他的鼓励出口措施

其他鼓励出口的措施还有出口信贷和出口信贷国家担保制。

第四节 倾销与反倾销

一、倾销及其经济效应

1. 倾销是一种价格歧视行为。实行长期倾销的厂商必须是大的垄断企业，国内和国外面临着不同的需求弹性，目的是为了追求利润最大化。

2. 在倾销是否为一种不正当竞争行为的问题上，经济学家和法学家有不同的看法。

二、倾销对各国经济的影响

1. 倾销会使进口国的同类产品遭到竞争，进而要求征收反倾销税。

2. 倾销会使出口国的消费者不得不承受很高的价格；出口厂商有可能遭到进口国的反倾销调查，产品被征收反倾销税。

3. 倾销也会使第三国的同类产品遭到竞争，因而要求对出口国提起反倾销调查。

三、反倾销措施与反倾销税

1. 征收反倾销税要求有对倾销事实、严重损害的认定，以及倾销与损害之间必须存在因果关

系。

2. 反倾销打着维护公平贸易的旗号，已经成为最有效的贸易保护的手段之一。

四、反倾销对中国经济的影响及对策

随着中国对外贸易量的增加，中国已经成为遭受反倾销诉讼最多的国家，我们必须从政府到企业，各个方面采取相应的策略以改变目前的处境。

第五节 国际卡特尔

一、国际卡特尔及其定价方法

为避免寡头之间的恶性竞争，20世纪70年代形成了通过限产、限量，使垄断利润达到最大化的垄断组织——国际卡特尔。

二、影响国际卡特尔定价水平的因素

影响国际卡特尔定价的因素有产品的需求弹性、市场占有率、产品替代性、供给弹性等多种因素。

三、国际卡特尔协议的不稳定性

由于按照协议产量生产，成员国并没有达到利润最大化，因此，总有违反协议、扩大产量的冲动，使对各方有益的协议不能得到很好的遵守。

第六节 贸易保护政策的理论辩解

一、贸易保护理论的分类

经济学家把贸易保护理论分为三类：错误的观点、含有合理因素的观点和非经济的观点。

二、保护幼年产业论的内容及其意义

1. 保护幼年产业论认为，发达国家和发展水平落后的国家自由贸易的进程应该不一样，允许落后国家通过贸易保护使其经济强大起来以后，再实行自由贸易。

2. 该理论并没有违背比较利益论，而且对发展中国家有重大的启示。

三、战略性贸易政策

战略性贸易政策是伴随着市场结构的变化而产生的。它是新贸易理论的自然结果。战略性贸易政策是，政府通过某种干预手段改变或维持不完全竞争企业的某种战略行为，使国际贸易朝着有利于本国获取最大限度利益的方向改进。

一般而言，战略性贸易政策包括三个主要内容：战略性进口政策、战略性出口政策以及用进口保护促进出口的政策。战略性贸易政策无论对经济发达国家，还是对某种程度的发展中国家都有重要的理论和现实意义。

核心概念

关税 进口附加税 从价税 从量税 复合税 关税 选择税 反倾销税

反补贴税 最适当关税 关税报复 抑制性关税 有效保护率 进口许可证进口配额 自动出口配额 海关估价 政府采购 贸易的技术性壁垒 保障措施

出口信贷 买方信贷 卖方信贷 出口信贷国家担保制 外汇管制 倾销持续性倾销 出口补贴 国际卡特尔 战略性贸易政策

思考题

1. 关税局部均衡分析的经济效应是什么？
2. 关税一般均衡分析的经济效应是什么？
3. 试述关税结构与有效保护率理论。
4. 进口配额与关税的经济效应有什么联系和区别？
5. 自动出口配额及其经济效应是什么？
6. 出口补贴及其经济效应是什么？
7. 持续性倾销的实现条件是什么？倾销对各国经济的影响是什么？针对反倾销调查，应该采取怎样的对策？
8. 形成国际卡特尔的条件是什么？国际卡特尔定价应该考虑哪些因素？
9. 试用博弈论解释国际卡特尔协议不能稳定的原因。
10. 贸易保护政策的理论辩解主要有哪些？
11. 结合我国经济发展现状试述保护“幼年”产业论的合理性。
12. 战略性贸易政策的主要内容是什么？战略性贸易政策在发展中国家可以用吗？

讨论题

中国当前面临的主要贸易壁垒是哪些？应该采取什么样的措施减少贸易壁垒造成的损害？

扩展阅读书目：

1. [美]保罗·克鲁格曼：《战略性贸易政策与新国际经济学》，国际经济学译丛，中国人民大学出版社，2000年11月版。
2. [美]罗塞·罗伯茨：《抉择——关于自由贸易与贸易保护主义的寓言》，国际经济学译丛，中国人民大学出版社，2001年10月版。
3. [美]格林纳韦：《国际贸易前沿问题》，中国税务出版社，2000年1月版。
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6. 《2004年中华人民共和国海关进出口税则及外经贸法律法规》，经济科学出版社，2004年。
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第七章 关税同盟和区域经济一体化

教学目的和教学要求：在伴随着经济全球化的过程中，区域经济一体化成为引人注目的一个现象，关税同盟是区域经济一体化的典型形式。通过本章学习，要求学生掌握关税同盟理论的内容，并能结合所学理论分析区域经济集团化趋势与世界经济一体化之间的关系，了解欧共体、北美自由贸易区和亚太经合组织的性质、目标和发展过程。

学习重点和难点：本章的学习重点是关税同盟理论及其经济学分析；难点是形成贸易创造性关税同盟的条件。

分配学时：4 学时。

第一节 经济一体化及其组织形式

一、经济一体化

区分世界经济一体化和区域经济一体化的概念，本章所讲的经济一体化概念主要是区域经济一体化。

二、经济一体化的组织形式

按照一体化的进程来看，经济一体化的组织形式主要有：特惠贸易协定、自由贸易区、关税同盟、共同市场和经济同盟五种形式。

第二节 关税同盟的经济效应

一、关税同盟的静态经济效应

1. 关税同盟的静态经济效应主要有贸易创造和贸易转向。
2. 关税同盟的静态经济效应还有节约开支、贸易条件改善、在国际贸易谈判中处于更有利的地位等。
3. 导致福利增加的条件。

二、关税同盟的动态效应

关税同盟的动态效应是更重要的。这些动态效应包括：市场结构效应、规模经济效应、生产要素移动的经济效应和投资效应。

第三节 区域经济一体化的实践

一、欧洲经济一体化

1. 欧洲共同体（European Community，简称 EC）的产生和发展经历了漫长而曲折的过程。欧共体的最终目标不仅仅是经济上的联合，而是要建立一个在经济、政治、军事和外交上完全一致的统一体。

2. 欧共体的发展经历了三个阶段：建立关税同盟阶段、实现关税同盟和建立统一市场阶段、实行统一市场和建立经济政治共同体阶段。

3. 欧洲统一市场对欧洲经济和世界经济的影响的分析：商品市场统一的影响；劳动力和资本市场统一所产生的影响；欧洲统一货币“欧元”的影响和欧洲一体化所引发的欧洲经济变革。

二、北美自由贸易区

1. 在当代世界经济和贸易中，与欧洲共同体的建立具有同样重要意义的是北美地区自由贸易区（NAFTA）的发展。北美地区虽然只有 3 个国家，但是美国、加拿大和墨西哥之间的自由贸易使北美地区成为目前世界上最大的自由贸易区。

2. 北美自由贸易的产生和发展分成两个阶段：第一阶段是美加自由贸易；第二阶段是北美自由地区。

3. 北美自由贸易区对中国和亚洲其他发展中国家及美国都有特殊的影响，以下从两个方面来分析这些影响：

- (1) 对自由区内三国的影响。有“贸易创造”和“贸易转移”的双重结果。
- (2) 对非自由贸易区成员国的影响。对非贸易区成员国的影响主要是“贸易转移”。

三、亚太地区的经济贸易合作

1. 亚太经济合作组织（Asia—Pacific Economic Cooperation，简称 APEC）是亚太地区贸易和投资自由化以及经济技术合作的国际组织。

2. 亚太经济合作组织的发展过程分成三个阶段：第一阶段，酝酿筹备阶段；第二阶段，规划行动阶段；第三阶段，调整及面向全球化阶段。

3. APEC 的根本目标是通过区域内各经济体的合作来促进各经济体的经济发展。具体的目标：该组织中的发达国家不迟于 2010 年，发展中国家和地区不迟于 2020 年实现自由、开放的贸易和投资。

核心概念

经济一体化 自由贸易区 关税同盟 共同市场 经济同盟 贸易创造 贸易转向 关税工厂 欧洲共同体 欧盟 马斯特里赫特条约 特惠贸易协定 北美自由贸易区 亚太经济合作组织

复习与思考题

1. 关税同盟的静态经济效应是什么？
2. 关税同盟的动态经济效应是什么？
3. 使关税同盟福利增加的条件是什么？
4. 试结合世界上目前存在的几大区域经济集团的兴起与发展史，谈谈区域经济一体化与世界经济一体化之间的关系。

讨论题

你认为中国在区域集团化趋势的大背景下应该采取什么对策？

扩展读书目：

1. 田青：《国际经济一体化理论与实证研究》，中国经济出版社，2005 年版。
2. 巴拉萨（Balassa, B.）：《经济一体化理论》，1962 年版。

3. 彼得·罗布森:《国际一体化经济学》,上海译文出版社,2001年版。
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7. Winters, Alan and Anthony Venables (edit),1990,*European Integration: Trade and Industry*, Cambridge University Press.
8. Globerman, Steven and Michael Walker (edit),1993, *Assessing NAFTA: A Trinational Analysis*, The Fraser Institute, Canada.

第八章 国际贸易体系

教学目的和教学要求：本章是第七章内容的引申，国际贸易体系是世界经济一体化的具体实践。通过本章的学习，要求学生掌握多边贸易协定和国际贸易组织的原则和宗旨，并能够对中国加入世界贸易组织的问题进行深入探讨。

学习重点和难点：本章的学习重点是世界贸易组织的宗旨、职能和基本原则；难点是对中国“入世”问题进行深入的理论分析。

分配学时：3 学分。

第一节 关贸总协定概况

一、关贸总协定的历史背景与成立过程

二战后，为了减少贸易壁垒对世界经济的损害，在英、美两国的倡导下开始进行多边贸易谈判，并准备建立一个国际贸易组织，并达成了《关税与贸易总协定临时适用议定书》，宣布在国际贸易组织宪章生效之前临时适用关贸总协定。

二、关贸总协定的多边贸易谈判及其成果

关贸总协定成立的 45 年时间内经过了 8 轮谈判，第 8 轮乌拉圭回合谈判的最大成果是创立了世界贸易组织并达成了范围广泛的一揽子协议。

第二节 世界贸易组织

一、世界贸易组织与关贸总协定的区别

世贸组织的建立结束了二战以来多边贸易体制缺少一个正式的、健全的、规范化组织机构保证的历史，它是对关贸总协定的进一步“扬弃”和发展。

二、世贸组织的宗旨和职能

1. 世贸组织的宗旨并不是推行自由贸易，而是提高生活水平，使各成员国经济持续发展，并确保发展中国家在国际贸易增长中获得与其经济发展水平相应的份额和利益。
2. 世贸组织有很多职能，特别值得注意的是它的特殊争端解决机制。

三、世贸组织的基本原则

世贸组织取代关贸总协定后，继承了关贸总协定的原则，并将这些原则扩大到其管辖的服务贸易、与贸易有关的知识产权以及与贸易有关的投资措施等新的领域中。

第三节 中国与世贸组织

一、中国“复关”与“入世”的谈判过程

1. 中国“复关”与“入世”的过程实际上中国接受市场经济是人类共同财富的过程。
2. 中国入世的历程分为四个阶段：酝酿和准备复关；审议中国经贸体制；复关/入世议定书内容的实质性谈判即双边市场准入谈判；中国入世法律文件的起草、审议和批准。

二、中国加入世界贸易组织后的权利和义务

“入世”可以使中国有更好的市场准入，促进我国出口的增加；但同时中国也必须承担削减关税、逐渐取消各种非关税壁垒、开放服务和农产品市场等义务。

三、中国加入世贸组织的机遇和挑战

“入世”促进了中国的改革开放，为中国国民经济的发展提供新的增长点，但同时由于发展水平还比较低，我国经济也将遭受较大的冲击。

1. 促进自由贸易，增加进出口总额。
2. 优化资源配置，调整经济结构。
3. 明确目标和路径，深化市场经济改革。

核心概念

关税与贸易总协定 世界贸易组织 最惠国待遇 国民待遇 特殊争端解决机制 经济全球化 贸易自由化 多边贸易谈判 多边协议 诸边协定 双边协议 乌拉圭回合谈判 服务贸易总协定 与贸易有关的知识产权协定

复习与思考题

1. 简述世贸组织与关贸总协定的区别。
2. 简述世界贸易组织的宗旨、职能和基本原则。

讨论题

1. “入世”对中国经济产生哪些影响？
2. 中国加入世界贸易组织后应该采取什么对策？

扩展阅读书目：

1. 石广生：《中国加入世界贸易组织知识读本》，人民出版社，2001年。
2. 石广生：《乌拉圭回合多边贸易谈判结果：法律文本》，人民出版社，2001年。
3. 王福明：《世界贸易组织运行机制与规则》，对外经济贸易大学出版社，2000年版。
4. 马晓野、尹利群等：《关税与贸易总协定资料汇典》，社会科学文献出版社，1992年版。
5. 伯纳德·霍克曼、迈克尔·考斯泰基著，刘平、洪晓东、许明德等译：《世界贸易体制的政治经济学——从关贸总协定到世界贸易组织》，法律出版社，1999年版。
6. 张向晨：《发展中国家与WTO的政治经济关系》，法律出版社，2002年版。
7. 联合国贸易和发展会议：《2002年贸易和发展报告：世界贸易中的发展中国家》，联合国，2002年版。

8. 对外经济与贸易合作部国际贸易关系司译：《世界贸易组织乌拉圭回合多边贸易谈判结果：法律文本》，北京：法律出版社，2000年版。

9. 国务院法制办公室：《中国加入世界贸易组织法律文件（中文本）》，北京：中国法制出版社，2002年版。

10. 程惠芳主编：《WTO与中国经济》，浙江大学出版社，2006年版。

11. [美] Kyle•Bagwell, Robert W•Staiger, 雷达译：《世界贸易体系经济学》，中国人民大学出版社，2005年10月版。

第九章 生产要素的国际移动与跨国公司

教学目的和教学要求：本章表面看来是独立成篇的，但是，由于生产要素的流动与贸易之间有一定的替代性，因此，一定意义上讲本章是国际贸易理论的继续。伴随着生产全球化，生产要素的流动与跨国公司在国际经济中地位的不断上升，对本章的学习也显得更加重要了。通过本章的学习，要求学生掌握生产要素流动和跨国公司的相关理论，并认识到要素的流动在国际经济发展中的重要作用。

学习重点和难点：本章学习重点是资本、劳动要素的移动的经济效应；难点是对跨国公司理论的理解以及国际贸易与国际投资之间的关系。

分配学时：6 学时。

第一节 劳动力的国际移动

一、劳动力国际迁移的原因和特点

劳动力国际迁移的原因是多方面的，特点主要是从要素价格低的国家流向要素价格高的国家。

二、劳动力国际移动的成本/收益

对劳动力国际移动的成本和收益分析，主要是从劳动力流入国和劳动力流出国，从私人和社会两个角度来考察的。

三、劳动力国际移动的经济效应

劳动力的流动可以产生劳动力市场效应、生产效应、再分配效应、国际贸易效应，从而使资源配置更合理。

第二节 资本的国际移动

一、资本国际移动的方式和原因

国际资本移动主要有两种基本方式：证券投资 and 直接投资。原因主要是在国外可以获得更高的收益，并使投资风险分散化。

二、资本国际移动的经济效应

资本国际移动的经济效应是：使世界总资本的利用效率提高；使世界总产量增加，国民福利水平提高；使两国的国民收入分配发生变化。

三、外资吸引能力的分析

一个国家吸引外资的能力不是无限的，它与由该国的物质技术基础决定的资本边际产值线有关。

第三节 对外直接投资与跨国公司

一、跨国公司的性质和经营特点

跨国公司也称多国公司，是对外直接投资的载体，具有全球战略目标和高度集中统一的最显著的特点。

二、跨国公司理论的主要流派

有关跨国公司的理论很多，主要有：垄断竞争理论、市场内部化理论、生产周期理论、区位理论、国际生产折衷理论、发展水平理论。

三、跨国公司的经济效应

跨国公司的经济效应主要表现在三个方面：即对世界经济总的影响；对投资国经济的影响；对东道国经济的影响。而且这些影响都表现为积极和消极作用两个方面。

第四节 国际要素流动和国际贸易的关系

一、要素流动与贸易的替代关系

1. 劳动力流动与劳动密集型商品贸易的替代关系

劳动力的自由流动会改变一国的资源配置。在资本不变的情况下，移民输送国由于劳动力的减少而使资本劳动力比率上升，资本变得相对充裕；而移民接受国的情况则相反，劳动力会由于外来移民变得相对充裕，这种资源配置的变化会对贸易产生一定的影响。

2. 资本流动与商品贸易的替代关系

罗伯特·蒙代尔在赫-俄理论的基础上得出国际贸易与要素流动之间是替代关系的结论。他进一步推断，对国际贸易的阻碍会促进要素的流动，而对要素流动的限制则会促进国际贸易。

二、要素流动与贸易的互补与促进作用

1. 技术不同时要素流动对国际贸易的促进作用

蒙代尔关于要素流动和商品贸易之间的替代关系主要是建立在赫-俄模型上的。马库森改变了赫-俄模型中两国技术相同的假设条件，结果发现国际贸易与要素流动之间不仅存在替代关系而且还存在互补关系。

2. 与技术关联的要素流动和国际贸易

现实中的国际资本流动的主要形式之一是外国直接投资（FDI）。资本的流动不仅仅是货币资金的流动，而是与具体的技术和产品相联系的。

核心概念

边际生产率 资本边际生产率 劳动边际生产率 跨国公司 直接投资 劳动力流动 智力外流 移民 外籍劳工 知识收益 拥挤成本 社会摩擦 货币资本流动 国际间接投资 国际证券投资 国际股票投资 国际债券投资 外国债券 欧洲债券 并购

复习与思考题

1. 试分析劳动力国际移动的成本与收益。
2. 试述劳动力国际移动的经济效应。
3. 国际资本移动的原因是什么？
4. 国际资本移动的经济效应是什么？
5. 对外资的吸引能力是无限的吗？
6. 对外直接投资通常采取哪三种形式？
7. 跨国公司理论主要有哪流派？其基本观点是什么？
8. 中国劳动力国际移动有哪些特点？对中国经济产生什么影响？
9. 你如何评价 FDI 对中国经济的影响？
10. 试用直接投资理论解释欧、美、日大型跨国公司在中国的直接投资。
11. 结合经济全球化的现实趋势讨论跨国公司对世界资源配置效率的影响。
12. 对我国的外商直接投资和对外贸易的关系作定量的模型分析。有条件时，可对某一具体行业或产品的直接投资、国际贸易和产品价格之间的关系作模型分析。

讨论题

你如何评价中国引进外资的政策？

扩展阅读书目：

1. [日]小岛清：《对外贸易论》，南开大学出版社，1987 年。
2. 腾维藻、陈荫枋：《跨国公司概论》，人民出版社，1991 年。
3. N·胡德、S·杨：《跨国企业经济学》，经济科学出版社，1990 年。
4. 林康著：《跨国公司与跨国经营》，对外经济贸易大学出版社，2000 年版。
5. 肖卫国：《跨国公司海外直接投资研究：兼论加入 WTO 新形势下我国利用外商直接投资的战略调整》，武汉大学出版社，2002 年版。
6. 斯塔夫里阿诺斯：《全球通史：1500 年以后的世界》，吴象婴、梁赤明译，上海社会科学院出版社，1992 年版。
7. 对外贸易经济合作部国际经贸研究院跨国公司研究中心主编：《跨国公司在中国投资报告（2001）》。
8. 李荣林：《国际贸易与直接投资的替代性与互补性》，2001 年中国经济学年会国际经济学论文。

第十章 发展中国家的贸易政策与工业化

教学目的和教学要求：中国作为世界上最大的发展中国家，深入研究发展中国家的贸易政策和工业化的道路，从中吸取经验和教训具有重要的理论和现实意义。通过本章学习要求学生了解发展中国家及其经济贸易现状，掌握发展中国家对外贸易战略的特点。

学习重点和难点：本章的重点和难点是发展中国家贸易战略的选择。

分配学时：3 学时。

第一节 发展中国家及其经济贸易现状

一、发展中国家的概念

发展中国家是那些经济发展水平和产业结构都有待进一步升级的国家和地区。衡量发展中国家的方法有三种：人均国民生产总值标准、生活质量标准和购买力评价标准。

二、发展中国家经济贸易发展的现状

发展中国家的发展水平和发展速度并不均齐。有的发展很快，有的还有负增长；有的国家和地区已经接近或达到发达国家的收入水平，而有一些国家和地区还处在非常贫困的状态。

第二节 扩大初级产品出口与稳定初级产品价格

一、初级产品的出口与价格水平

发展中国家初期的经济发展需要借助自然资源的出口，以获得经济发展所需要的资金。因此，保证原材料价格的稳定是非常重要的。

二、稳定初级产品价格

为保证原材料价格的基本稳定，需要价格的干预机制及相应的干预机构，以便通过将市场价格维持在目标价格的水平，达到稳定市场价格的目的。价格干预的核心问题是谁出钱的问题。

第三节 发展中国家贸易与发展战略

一、进口替代工业化战略

进口替代战略是指通过发展本国的工业，实现用本国生产的产品逐步代替进口和满足国内需求，以期节约外汇，积累经济发展所需资金的战略。

采取进口替代战略的理论基础是阿根廷经济学家劳尔·普雷维什的“中心-外围”论，实践中的理由是二元经济结构。当然，采取进口替代战略能否成功还要结合本国的具体条件。

二、出口导向战略

出口导向战略是指发展中国通过促进本国产品的出口，积累发展资金和促进经济发展的战略。

出口导向战略是建立在比较利益理论基础上的。现实中采取出口导向战略的国家往往比较小，劳动力比较便宜，而且国内自然资源比较稀缺。当然，一国无论采取何种贸易发展战略都要与本国的具体经济发展实际密切相关。

第四节 世界银行的经验性总结

世界银行的专家根据各国经济发展所采取的不同战略，将 41 个国家和地区分成四种类型，以期考察一国对外开放的程度，进而是贸易自由化的程度与经济的关系。世界银行总结的经济发展战略的四种类型是：坚定外向型战略、一般外向型战略、一般内向型战略和坚定内向型战略。在众多战略中，世界银行推荐了出口导向型战略。

一、坚定外向型战略

采取坚定外向型战略的国家在对外贸易政策上，表现为对商品的进口和出口采取中性的贸易政策，既不过分鼓励出口，也不严厉地限制进口，如香港地区、韩国、新加坡等。

二、一般外向型战略

采取一般外向型经济发展战略的国家偏重于进口替代，但对本国市场的实际保护率较低，一般实行两种汇率。

三、一般内向型战略

采取这种发展战略的国家带有明显的进口替代倾向，对本国市场的平均保护率比较高，本国货币的对外价值偏高。

四、坚定内向型战略

采取此种战略的国家坚决实行进口替代，强调发展本国工业，对本国市场有较高的实际保护率，保护的商品范围很广，普遍实现直接的贸易限制和许可证制度，高估本国货币对外价值。

五、发展中国家贸易自由化过程

世界银行向各发展中国家推荐坚定外向型的经济发展战略，并主张贸易自由化是各国推行外向型经济战略的首要工作。

六、对世界银行建议的评价

1987 年世界银行发展报告正式地权威性地肯定了外向型发展战略要优于内向型进口替代战略，倡导发展中国家的贸易政策回归到以比较利益原理为基础的贸易自由化上，并主张它们的经济参与国际分工和国际市场，以较为开放自由的贸易政策，来促进工业化和经济发展的实现。作为从经验总结中得出的政策建议，其合理性是显而易见的。但是，这种归纳总结的研究方法本身就可能存在以偏概全的弊端。因此，发展中国家不能完全按照世界银行推荐的模式去选择自己的战略，而应该结合本国的实际情况。事实上，我们认为一条多元化和灵活的发展战略路径，对发展中国家是更为适宜的。

核心概念

发展中国家	进口替代战略	出口导向战略	坚定外向型战略
二元经济结构	一般外向型战略	一般内向型战略	坚定内向型战略

思考题

1. 发展中国家是指哪些类型的国家?
2. 发展中国家面临的主要问题是什么?
3. 如何稳定初级产品价格?
4. 进口替代战略适用于哪些国家?
5. 出口导向战略适用于哪些国家?

讨论题

你如何看待世界银行对发展中国家战略选择的结论?

扩展阅读书目:

1. [阿根廷]劳尔·普雷维是:《外围资本主义——危机与改造》,商务印书馆,1990年版。
2. 王韶玲:《入世与中国外经贸发展战略调整》,北京:经济日报出版社,2002年版。
3. 张二震等:《贸易投资一体化与中国的战略》,北京:人民出版社,2004年版。
4. 刘力:《内撑外开:发展中大国的贸易战略》,大连:东北财经大学出版社,1999年版。
5. 王允贵:《WTO与中国贸易发展战略》,北京:经济管理出版社,2001年版。

第十一章 中国对外经济的改革和发展

教学目的和教学要求：中国对外贸易的发展经历了一个从非独立向独立自主转变的过程。通过本章学习要求学生了解中国外贸发展的过程，掌握中国现阶段的外贸政策，并能对中国外贸政策的效果进行评价。

学习重点和难点：本章的学习重点和难点是中国外资政策及其评价。

分配学时：3 学时。

第一节 中国外贸和外资体制改革

一、外贸体制改革综述

中国外贸体制的改革与发展从主要目标和改革性质上可分为四个阶段：以调动外贸部门经营积极性为目标的改革（1979-1987），以建立对外贸易承包经营责任制和自负盈亏为中心的改革（1988-1993），以与国际市场接轨为导向的外贸体制改革（1994-2001），以 WTO 规则为基础的对外经济贸易体制的全面改革（2001 以后）。

二、外贸政策的变化和调整

1. 中国关税改革的过程。包括修订关税政策、关税法，建立保税区等。
2. 配额和许可证制度改革。包括进出口许可证、进出口配额等措施。
3. 出口退税机制。出口退税制度不断修订，不断提高出口退税率。

三、外贸经营体制和外汇体制的改革

1. 放开外贸经营权。外贸经营权的改革是在宏观管理和微观经营两个层面上逐步推进的。
2. 国际贸易中的外汇管理。现行外汇管理办法主要是数量控制和分类管理。

四、中国外资政策的变化

1. 允许外商投资。
2. 以优惠政策吸引外商投资。
3. 以市场与产业吸引外资。
4. 以 WTO 规则为基础开放外商投资。

第二节 中国外贸和外资的发展

一、中国外贸发展的总体情况

1. 对外贸易总量迅速增加。
2. 外贸依存度明显上升。
3. 中国对外贸易额占世界贸易额的比重和世界排名有较大提高。

二、对外贸易的地区分布

1. 中国与美国之间的经贸关系。经济互补性很强，发展经贸合作潜力很大。
2. 中国与日本之间的经贸关系。经济互补性强，贸易额很大。
3. 中国与欧洲各国之间的经贸关系。经济互补性较强。
4. 中国与亚洲一些主要国家和地区的经贸关系。经济互补性较强，经济竞争性大于互补性。

三、对外贸易的产业结构

中国出口产品的结构发生了很大变化，外贸出口结构伴随着要素禀赋结构的转变而改善。

四、外资的发展情况

1. 投资规模。
2. 外商直接投资的地区结构。
3. 外商直接投资的来源地结构。
4. 产业结构。

第三节 中国的对外贸易政策

一、中国的关税政策

（一）新中国建立后的关税政策

1950年1月，政务院通过了《关于关税政策和海关工作的决定》，宣布了中国独立自主的保护关税政策。但是，在计划经济体制下，由于所有商品的进口都是在国家计划安排下进行的，因此，关税调节价格的作用难以独立发挥出来的。

（二）改革开放以后的关税政策

改革开放以后，在质的方面，中国的关税政策在逐步起到调节进口商品供求的作用，并且逐步发挥了保护本国相应产业发展的功能；在量的方面，服从于中国对外开放的发展，中国的进口关税也经历了一个由较高水平向较低水平转变的过程。

二、中国的非关税政策

中国传统的非关税壁垒包括进口许可证、进口配额和其他一些进口管制措施，特殊的非关税政策是中央政府、各部委、国营企业、贸易公司协商的结果。

第四节 中国对外贸易政策的效果

一、中国对外贸易政策的目标

中国对外贸易政策经历了由从属于计划经济到作为市场经济中调节商品进出口的重要政策杠杆的转变。这种转变意味着，要根据国家经济建设的目标来制定对外贸易政策的目标，并且为了完成外贸政策的目标而选择适当的对外贸易政策措施。

二、中国对外贸易政策保护程度

中国对外贸易政策效果包括财政效果、保护本国工业的效果和经济发展的效果三个方面。

（一）关税的保护效果

总的来说，随着中国对外开放程度的提高，关税的平均水平是在下降的。但是考察关税的实际保护作用的并不是名义关税，而是关税的有效保护率。从中国有效保护率的实证分析看，中国的有效保护率设置正趋于科学化，但是不合理的设置也还是存在的。

由于高关税导致走私猖獗，所以，中国的实际关税税率并没有名义关税率高，因此，从名义上看，中国是一个高关税，从而是一个高保护程度的国家，但无论是政府还是企业，我们都没有获得这样高度保护的利益。所以，如何有效地平衡我们的引进外资与商品流动政策是我们增强发展中大国开放政策科学性的重要课题。

（二）对外贸易政策的财政效果

征收的进口关税本身就是一种政府的财政收入，客观上也会产生收入的分配效应。

新中国成立后，我国进口关税收入的绝对量呈增长之势。特别是改革开放以来，这种关税收入量的明显增加主要是对外开放所引致的国际贸易量的增加带来的。但是关税收入在我国财政收入中所占的份额是相当小的，而且随着改革开放的发展，关税在政府税收中的比重趋于下降。因此，在中国关税设置的主要目的不是财政性的。

核心概念

外贸体制改革	对外贸易承包经营责任制	外贸经营权	外汇管理
外资政策	过渡性的年度审议	贸易保护效应	财政效应
贸易壁垒	名义汇率	有效保护率	实际关税率

复习与思考题

1. 决定一国对外贸易产业结构的主要因素是什么？
2. 对中国的出口结构和进口结构的变化进行分析并预测其未来的发展方向。
3. 有人认为中国入世的一个重要的好处在于，其他国家会取消对中国的纺织品配额，中国能从扩大纺织品出口中获利，试运用学过的方法分析这一观点。
4. 如何看待改革开放以前的对外贸易政策。

讨论题

如何看待我国对外贸易政策的效果？

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《中国对外贸易研究》教学大纲

宏结 刘毅 编写

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中国对外贸易研究

课程编码：406020172

英文名称：Study of Chinese Foreign Trade

授课对象：国际商务专业本科生

开课部门：中国政法大学商学院

周学时： 2

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前 言

课程性质

“中国对外贸易”是国家教委规定的国际经济贸易类专业必修的专业课，考虑到该课程理论与实践相结合的特点，该课程改造为我校商学院国际商务专业的研讨课程课。总学时为 36 学时。

编写目的

本大纲概括了中国对外贸易课程的基本内容，是教师进行本课程教学工作的指南，任课教师必须依据本大纲内容为学生授课。本大纲也使學生能够对本课程的教学内容和教学安排有一个大致的了解，以便于更好地学习本课程。

课程简介

“中国对外贸易”是中国实行改革开放后新建立起来的我国特有的学科，该学科对中国对外贸易的发展进行理论指导和实践总结，是理论与实践相结合的综合性专业基础学科。“中国对外贸易”作为部门经济学科，既要分析研究中国对外贸易的有关理论，又要分析研究中国对外贸易的方针、政策和实际问题，这门学科的性质，决定了它的重要性，也决定了它的难度。

自改革开放以来，中国的对外贸易迅猛发展。加入 WTO 后，中国已经成为世界排名第二的贸易大国，中国的对外贸易政策、体制、法规也都进行了一系列的调整，这些变化客观上使这门学科重要性加强了。作为国际商务、国际经济贸易专业的学生，全面了解中国对外贸易的现状，并学会用理论去分析现实的问题是十分重要的，这不仅有助于学生理论水平的提高，而且也有利于学生更好地从事对外经贸工作。

本课程具有理论和实践相结合的特点。在学习过程中，教师和学生要追踪现实的中国对外贸易问题，培养学生用经济学理论分析现实的中国经济问题是本课程教学的主要目的。

第一章 中国对外贸易的地位

教学目的和教学要求: 通过本章学习, 要求学生掌握建国后中国对外贸易总体格局的发展过程, 及对外贸易与中国经济增长之间的关系, 了解我国与世界贸易强国的差距和发展策略。

学习重点和难点: 本章学习的重点是掌握对外贸易与中国经济增长之间的关系

学时分配: 2 学时。

第一节 中国对外贸易的总体格局

一、中国对外贸易规模

建国后, 尤其是改革开放后, 中国对外贸易规模增长迅速, 中国已经成为世界第一大货物贸易出口国, 第二大货物贸易进口国, 近期有可能成为第一大贸易国。

二、中国对外贸易商品结构

伴随着贸易规模不断扩大的同时, 中国对外贸易商品结构逐步优化升级, 工业制成品比重已经大大超过初级产品。

三、中国对外贸易市场结构

目前, 中国对外贸易已经形成多元化、有重点的市场结构。欧盟、美国、日本、中国香港、东盟等成为中国主要贸易伙伴。

四、中国对外贸易地区结构

对外贸易地区结构, 是指一定时期内一个国家内部的不同省市或地域在一国对外贸易中所占有的地位。目前, 东部地区在中国对外贸易中占有绝对比重, 且地区结构的不平衡在加剧。

五、中国对外贸易方式

中国的对外贸易方式主要以加工贸易和一般贸易为主, 其他贸易方式整体上处于从属地位。

第二节 对外贸易与中国经济增长

一、经济增长的定义

经济增长在物质形态上是指一个国家在一定时间内生产的产品劳务总量的增加, 在价值形态上是指一定时间内国民收入的增加。

二、对外贸易与经济增长关系的理论分析

(一) 贸易的静态利益与经济增长

生产方面, 细化的专业分工使生产成本降低, 企业供给增加; 消费方面, 消费数量和种类增加。

(二) 贸易的动态利益与经济增长

对外贸易通过技术进步、产业结构升级、及制度创新促进经济增长。

三、对外贸易促进中国经济增长的实证检验

借助外贸依存度和外贸贡献度这两个指标，实证研究证明对外贸易的确促进了中国经济增长。

第三节 中国从贸易大国向贸易强国的转变

一、中国已经是名副其实的贸易大国

1. 进出口贸易总额跻身于世界前列；
2. 中国经济开放度逐步提高；
3. 吸引外资能力居世界前列。

二、世界贸易强国的基本特征

1. 经济高度发达，是名副其实的经济大国。
2. 货物贸易规模大，服务贸易发达，对世界贸易影响力强。
3. 在国际分工中具有明显的比较优势和竞争优势。
4. 全面融入世界经济，对外开放程度大。

三、中国与世界贸易强国的差距

1. 贸易发展不平衡，服务贸易相对落后。
2. 货物贸易结构不合理，贸易条件恶化。
3. 吸引直接投资多，对外直接投资少。
4. 行业开放不平衡，程度依然偏低。

四、实现由贸易大国向贸易强国的转变

1. 大力发展服务业，提升服务贸易的国际竞争力。
2. 实施科技兴贸战略，提高出口商品的国际竞争力。
3. 推进对外直接投资，实现“对外投资”和“引进外资”的协调发展。
4. 全面稳健地融入全球经济，提高对外开放水平。

核心概念：

对外贸易商品结构	对外贸易市场结构	对外贸易地区结构
对外贸易规模	经济增长	外贸依存度
外贸贡献度	出口贡献度	进口贡献度
贸易强国		

思考题：

1. 从对外贸易规模、对外贸易商品结构、对外贸易市场结构、对外贸易地区结构以及对外贸易方式五个方面论述中国对外贸易总体格局。
2. 区别贸易静态利益与贸易动态利益的不同及其对经济增长的影响。
3. 什么是外贸依存度和外贸贡献度？利用这两个指标，以中国为例分析对外贸易对经济增长的促进作用。
4. 为什么说中国已经成为世界贸易大国，但却不是世界贸易强国？

5. 中国从贸易大国转变为贸易强国，需要采取何种政策和措施？

扩展阅读书目：

1. 林毅夫，李永军：《对外贸易与经济增长关系的再考察》，北京大学中国经济研究中心讨论稿系列，NO.C2001008。
2. 江小娟等：《中国对外经贸理论前沿III》，社会科学文献出版社，P291。
3. 李丽君：《中国对外直接投资探析》，《经济师》，2004年第2期。
4. 尹翔硕：《中国外贸结构调整的实证分析》，太原：山西经济出版社，2003。
5. 沈玉良：《中国加工贸易模式研究》，北京：人民出版社，2007。

第二章 中国对外贸易的理论依据

教学目的和教学要求：本章主要阐述了古典贸易理论、新古典贸易理论和新贸易理论及其在中国的适用性。通过本章学习要求学生掌握古典贸易理论、新古典贸易理论、新贸易理论的代表理论和学说，学会用数学模型表达相关理论，并探讨各贸易理论在中国的适用性。

学习重点和难点：认真领会比较优势理论、要素禀赋学说、产品生命周期学说、产业内贸易等理论的精髓，同时将相关的思想用数学模型表述出来是我们学习的重点和难点。

学时分配：3 学时。

第一节 国际贸易理论

一、古典贸易理论

（一）绝对优势理论

亚当·斯密的绝对利益论是指如果各国都生产自己具有绝对优势的产品然后再相互交换，那么，每个国家都可以通过国际贸易使国民福利增加。

（二）比较优势论

大卫·李嘉图的比较利益论说明一个国家即使在所有商品生产中都处于劣势，依然可以按照“两优择重，两劣择轻”的分工原则参与国际分工，从而使各国获得贸易利益。

（三）要素禀赋论

瑞典经济学家赫克歇尔和俄林提出 H-O 定理和 H-O-S 定理。

1. H-O 定理的内容

H-O 定理认为各国都生产那些能够较密集地利用其较充裕的生产要素的商品时，必然会有比较利益产生。

2. H-O-S 定理的内容

H-O-S 定理认为自由贸易不仅会使商品价格均等化，而且会使生产要素价格均等化。

二、新古典贸易理论

（一）技术差距论

技术差距论又称创新与模仿理论，是美国经济学家波斯纳提出来的。该理论认为：不同国家之间技术差距的存在是引起国际贸易发生的原因。创新国的技术逐渐被模仿国掌握，技术差距消失。

（二）产品生命周期学说

产品生命周期说是由美国经济学家弗农提出来的。该理论认为：一个创新国的产品进入国际市场后很容易被其他国家仿制，从而使比较优势由创新国转移到模仿国。

三、新贸易理论

古典和新古典贸易理论都是以完全竞争市场为理论前提的，二战以后，国际贸易学界越来越注意到现实中的市场结构是不完全竞争市场，于是，国际贸易理论进入了以不完全竞争市场为理论前提的新贸易理论发展阶段。新贸易理论以产业内贸易理论和国家竞争优势理论为代表。

（一）产业内贸易理论

二战后，国际贸易出现了一系列的新变化，这其中最大变化就是发达国家之间大量增加的产业

内贸易，而传统的贸易理论难以对这种现象做出合理的解释，于是产业内贸易理论孕育而生，产业内贸易理论主要包括了：

1. 规模经济贸易理论

该理论从供给的角度，用规模报酬递增的思想解释了产业内贸易产生的原因。

2. 偏好相似说

该理论从需求的角度着眼，解释了产业内贸易产生的原因，并由此推论，两国经济发展程度愈相近，需求偏好愈相近，相互需求愈大，贸易可能性愈大。

(二) 国家竞争优势论

国家竞争优势理论是由美国经济学家迈克尔·波特提出来的，他将企业竞争的思想引入到了国际贸易中，提出了国家竞争优势的概念，并认为“生产要素”、“国内需求”、“相关产业与支撑产业”、“企业的战略、结构和竞争对手”四个基本要素是决定国家竞争优势的最重要的因素，由于这四个要素之间的关系像钻石一样，所以，该模型也称为“钻石模型”。

第二节 国际贸易理论在中国的适用性

单一的国际贸易理论难以解释全部国际贸易现象，因此，在解释当今复杂的国际贸易现象时，必须针对特定情况选用特定理论。

一、比较优势理论与中国对外贸易

中国比较优势的动态化趋势日益显现，正逐步从自然资源密集型产品走向劳动力密集型产品，再走向资本和技术密集型产品。

二、中国产业内贸易发展的实证分析

中国产业内贸易总体发展迅猛，但不平衡，且远落后于发达国家。

三、竞争优势理论与中国对外贸易

1. 竞争优势理论是比较优势理论的革命性发展。
2. 比较优势理论在目前中国的不适应性。
3. 中国对外贸易战略的转变：从比较优势导向到竞争优势导向。

核心概念：

绝对优势理论 比较优势理论 要素禀赋 要素价格均等化 技术差距论
产品生命周期 产业内贸易理论 规模经济贸易理论 国家竞争优势理论 G-L 指数 比较优势陷阱

思考题：

1. 古典贸易理论和新古典贸易理论的主要内容是什么？
2. 简述比较优势论对中国对外贸易发展的影响。
3. 产业内贸易理论的主要内容是什么？简述中国产业内贸易的发展情况。
4. 按照迈克尔·波特的国家竞争优势论，一国的竞争优势由哪些因素决定？比较优势与国家竞争优势的关系如何？
5. 目前中国为什么要实现并如何实现中国外贸发展战略从比较优势导向转变为竞争优势导

向?

扩展阅读书目:

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第三章 中国对外贸易战略

教学目的和教学要求：通过本章的学习，要求学生掌握对外贸易战略的内涵、中国对外贸易战略的演变过程以及新时期中国对外贸易战略的调整的主要内容，对当前对外贸易战略选择的问题有所了解，并且能提出自己的看法和主张。

学习重点和难点：本章的学习重点和难点是新时期中国对外贸易战略的选择。

学时分配：3 学时。

第一节 对外贸易战略的内涵

一、对外贸易战略的概念与特征

对外贸易战略是根据一国总的经济发展战略的要求，结合国内外的实际环境，对通过参与国际分工与合作实现国内资源的有效配置的方式、对外贸易的发展目标和实现手段等所做的全局性战略规划，具有全局性、整体性和稳定性的特征。

二、对外贸易战略的分类

（一）进口替代战略

进口替代战略又称为内向型的发展战略，主要是通过建立和发展本国的工业，实现对进口工业制成品的替代，以达到削减进口、节约外汇、发展本国工业和减少对国外经济依附等目的。

（二）出口导向战略

出口导向战略又称外向型的发展战略，主要是通过扩大制成品的出口，加强工业基础，以促进整个经济的工业化。

（三）混合发展战略

该战略主要是对进口替代战略和出口导向战略的结合。

第二节 中国对外贸易战略的演变

一、制定中国对外贸易战略的原则

1. 自由贸易与保护贸易良好结合。
2. 进口替代和出口导向良好结合。
3. 国内市场和国际市场良好结合。

二、中国对外贸易总体战略

根据建国以来中国对外贸易发展的实践和国际经济学界对对外贸易战略的分类，中国的对外贸易战略大致经历了以下几个阶段：

1. 改革开放前的进口替代战略。
2. 有限开放时期的混合发展战略。
3. 全面开放时期的“大经贸”战略。

三、中国对外贸易基础战略

根据中国的国情，中国对外贸易基础战略主要包括：

1. 对外贸易商品战略。
2. 以质取胜战略。
3. 科技兴贸战略。
4. 出口市场多元化战略。

第三节 新时期中国对外贸易战略的调整

新时期，在选择中国对外贸易战略时，必须兼顾中国的大国经济特征以及国际、国内环境的限制，实行全方位、多层次、宽领域的可持续发展的综合对外贸易战略。

一、中国的大国经济特征

中国对外贸易战略的制定必须综合考虑中国独特的大国经济特征：

1. 人口多，市场大；
2. 地域辽阔，资源丰富，工业体系较完善；
3. 体制因素影响大；
4. 经济迅速发展，资金技术短缺；
5. 区域经济发展不平衡，收入差距大。

二、中国对外贸易战略选择的争论

关于中国对外贸易战略的争论从改革开放以来就有，中国学术界主要形成了四种观点：

1. 主张实行进口替代战略；
2. 主张实行出口导向战略；
3. 主张实行混合型战略；
4. 主张实行内撑外开战略。

内撑外开战略指以国际比较优势为依据，以国内市场为依托，以适度保护为辅助，全面对外开放的贸易战略。

三、新时期中国对外贸易战略的选择

新时期中国对外贸易战略的选择必须以科学发展观为指导，考虑中国的大国经济特征和国际、国内限制。

核心概念：

对外贸易战略	进口替代战略	出口导向战略	混合发展战略
总体战略	基础战略	以质取胜战略	出口市场多元化战略
科技兴贸战略	“大经贸”战略	科学发展观	内撑外开战略

思考题：

1. 如何理解对外贸易战略的概念及特征？
2. 如何对对外贸易战略进行分类？可以分为哪几类？

3. 结合你的研究，对中国对外贸易战略进行评述。

4. 结合中国的具体国情，在借鉴各国经验的基础上，你认为中国在新时期要实现贸易大国向贸易强国的转变应该实行哪种贸易战略？从理论和实践两方面进行讨论。

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3. 刘力：《内撑外开：发展中大国的贸易战略》，大连：东北财经大学出版社，1999。
4. 王允贵：《WTO 与中国贸易发展战略》，北京：经济管理出版社，2001 。
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7. 何亚东：《我国对外贸易战略的历史沿革与内涵调整》，国际贸易，2008（2）。

第四章 中国对外贸易体制

教学目的和教学要求：对外贸易体制是对外贸易的组织形式、机构设置、管理权限、经营分工和利益分配等方面的制度，具体包括宏观管理体制与微观经营体制。通过本章的学习，要求学生了解中国对外贸易体制的历史沿革，掌握对外贸易宏观管理体制及经营体制。

学习重点和难点：本章的学习重点是对外贸易宏观管理体制及经营体制。

学时分配：2 学时。

第一节 对外贸易体制的改革

对外贸易体制和经济体制一样，属于上层建筑范畴，由经济基础决定并为其服务。因此，中国对外贸易体制的变化与经济体制的改革是密切相关的。

一、改革开放前的对外贸易体制

改革开放前的对外贸易体制是高度集中的对外贸易体制，这个体制在一定时期内对国民经济的发展起到了积极的推动作用，但是随着改革开放政策的推行，其弊端也逐渐显现出来。

二、对外贸易体制改革的探索

1979-1993 年，针对原有外贸体制的弊端，中国进行了一系列的对外贸易体制改革，主要是分三个阶段进行，有计划地逐步下放权力。

三、对外贸易体制改革的深化

在前期改革的基础之上，“八五”和“九五”期间，中国从外贸管理体制、外贸经营体制和外贸协调体制三个方面进行了中国外贸体制的深化改革。

1. 深化外贸管理体制改革：强化经济手段、加强立法手段、改革行政手段、
2. 深化制外贸经营体制改革：建立现代企业制度、实行企业股份制改革、转换企业经营机制、大型外贸企业走实业化集团化国际化道路。
3. 深化外贸协调体制改革：进出口商会。

四、“入世”后的对外贸易体制改革

1. 转变政府职能：积极推进依法行政，改革公共服务，提高行政效率。
2. 清理、修改和制定各种外贸法律法规：要求既符合多边贸易规则又符合中国国情。
3. 深化国有外贸企业改革：整体改制、优化股权结构，强化信用体系建设、加大有效监管、促进资产增值保值、提高经济效益。

第二节 对外贸易宏观管理体制

新中国建立后，中国先后建立了对外贸易的行政管理机构和全国性的外贸银行自律管理机构，形成了中国对外贸易的宏观管理体系。

一、对外贸易宏观管理的必要性

尽管中国的改革目标是建立社会主义市场经济，但是，中国仍要加强对外贸易的宏观管理，其目的是维护中国的政治和经济利益；加强国际竞争力，更快更广泛地参与国际竞争；促进中国社会主义市场经济的建立；加速经济贸易长期稳定地发展。

二、对外贸易管理机构及职能

在社会主义市场经济体制下，对外贸易的宏观管理采取以法律手段为依据，以经济调控手段为主，辅之以必要的行政手段的模式。这些行政管理机构主要包括：(1)国家发展和改革委员会；(2)商务部；(3)海关总署；(4)国家质量监督检验检疫总局；(5)国家外汇管理局；(6)国家税务总局；(7)国家工商行政管理总局；(8)国家知识产权局。

第三节 对外贸易经营体制

随着中国“入世”，2004年7月1日实施的新《外贸法》在对外贸易经营体制方面采取了一系列的改革措施，主要涉及以下几方面的内容。

一、对外贸易经营者的资格管理

1. 对外贸易经营资格的管理。

只要依法获得从业手续，并在商务部或其委托机构办理了货物进出口或技术进出口的备案登记，任何企业、组织和个人都可从事对外贸易经营活动，标志着对外贸易经营体制的重大改革。

2. 对外贸易经营范围的管理。

3. 对外贸易经营者备案登记管理。

二、进出口货物国营贸易管理制度

三、进出口货物指定经营管理制度

核心概念：

对外贸易体制	对外贸易体制改革	国营贸易管理	指定经营管理
外贸经营者	外贸经营者资格		

思考题：

1. 阐述中国对外贸易体制的演变过程。
2. 说明对外贸易宏观管理的必要性。
3. 简述中国对外贸易宏观管理机构及其职能。

扩展阅读书目：

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2. 魏龙：《中国对外贸易论》，武汉：武汉理工大学出版社，2002。
3. 廖庆薪等：《现代中国对外贸易概论》，广州：中山大学出版社，2000。
4. “中国对外贸易体制改革的进程、效果与国际比较”课题组：《中国外贸体制改革的进程、效果与国际比较》，北京：对外经济贸易大学出版社，2007年。
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第五章 中国对外贸易法律制度

教学目的和教学要求：对外贸易法律制度是我国进行对外贸易的基本准则，尤其是在中国加入世贸组织后，它已经成为连接世贸组织规则和中国“入世”承诺在中国得以实施的主要纽带。通过本章学习，要求学生了解中国对外贸易的法律体系，掌握并会应用中国对外贸易法和贸易救济措施。

学习重点和难点：本章学习的重点和难点是掌握应用贸易救济措施。

分配学时：3学时。

第一节 中国对外贸易的法律体系

一、对外贸易法律制度概述

对外贸易法律制度，是指一国对其外贸活动进行行政管理和服务的所有法律规范的总称。它具有与其他部门法不同的特征，兼有公法和私法，国内法和国际法的特征。随着国际贸易范围的扩大，对外贸易法律制度调整范围也日益扩大，不仅包括货物贸易，而且包括服务贸易和技术贸易，以及与直接投资相关的生产要素的跨国流动。

二、中国对外贸易的法律渊源

1. 国内法渊源：宪法、法律、行政法规
2. 国际法渊源：《世界贸易组织协定》、《中国加入世界贸易组织协定书》、其他国际公约、多边或双边的经济贸易协定、中国承认的国际贸易惯例。

三、中国对外贸易法律制度的发展与完善

通过废、改、立，中国已初步建立起既符合社会主义市场经济的需要，又符合世贸组织规则要求的，统一、完备、透明的对外经贸法律体系。

四、中国对外贸易法律制度框架

按照不同的标准，可以对中国对外贸易法律制度进行不同的分类。

1. 按照立法机关的不同：《外贸法》、外贸行政法规、外贸部门规章。
2. 按照法律所管辖的领域：货物贸易法律体系、技术贸易法律法规、服务贸易法律法规。

第二节 中国对外贸易法

一、《外贸法》修订的意义

新修订的《外贸法》，确立了新时期中国对外贸易改革发展的基本法律框架，具有重要的意义。表现在：

1. 履行了中国加入世贸组织的承诺，树立了中国作为负责任大国的对外形象。
2. 为国内企业防范和对抗国外贸易保护主义提供法律基础。
3. 为中国外贸持续、健康、协调发展提供基本的法律制度保障。
4. 确立了新时期中国外贸改革发展的基本法律框架。

二、《外贸法》的主要内容及基本原则

《外贸法》的基本原则包括：（1）国家实行统一的对外贸易制度原则；（2）货物与技术自由进出口原则；（3）发展国际服务贸易的原则；（4）保护与外贸有关的知识产权的原则；（5）及实行公平贸易的原则等等。

第三节 中国对外贸易救济措施

贸易救济措施是指对进口产品的反倾销、反补贴和保障措施，在中国简称为“两反一保”。它们实施的目的是维护世界贸易组织的贸易自由化和公平竞争原则。目前，中国已经建立起符合世贸组织规则要求的完善的贸易救济制度。

一、反倾销

1. 采取反倾销措施三个基本条件：国外进口产品存在倾销、国内相关产业受到损害、倾销和损害之间具有因果关系。
2. 反倾销申诉的基本程序。

二、反补贴

1. 进口产品适用反补贴措施的条件：进口产品存在补贴、补贴必须具有专向性、受补贴的进口产品对国内产业造成实质损害或损害威胁或对建立国内产业造成实质阻碍、补贴产品和产业损害之间存在因果关系。
2. 反补贴的基本程序。
3. 反补贴措施的种类与实施：采取临时措施、补救承诺、反补贴税。

三、保障措施

1. 保障措施实施的条件：进口产品数量增加、进口产品数量增加对国内产业造成了损害、进口产品数量增加与国内产业的损害之间存在因果关系。
2. 保障措施实施程序。
3. 保障措施的期限。

核心概念：

贸易救济措施 正常价格 反倾销 补贴 反补贴 保障措施

思考题：

1. 简述中国的对外贸易法律体系。
2. 简述新《外贸法》的主要特点和主要内容。
3. 如何避免外国对中国产品采取贸易救济措施？
5. 简述反倾销申诉的基本程序，并结合中国的实际说明中国如何应对日益增加的对华反倾销诉讼。
6. 采取保障措施的条件是什么？它与反倾销的关系是怎样的？
7. 中国如何应对入世过渡期的特别保障措施？

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4. 赵春明主编:《非关税壁垒的应对及运用——“入世”后中国企业的策略选择》,人民出版社,2001年12月版。
5. 沈四宝:《中国对外贸易法律制度》,《公共商务信息导报》,2004-1-9。
6. 沈四宝等:《颁布新〈对外贸易法〉的重大意义和作用》,《公共商务信息导报》,2004-4-16。
7. 宏结:《实施贸易保障措施的动因及经济影响研究》,北京:中国社会出版社,2009年。
8. 全国人大常委会:《中华人民共和国对外贸易法》,2004。

第六章 中国的关税制度

教学目的和教学要求：关税是各国保护国内市场的重要工具，关税制度是一国对外贸易制度中的重要内容。通过本章的学习，要求学生了解中国关税制度的改革，掌握中国关税税则、海关估价制度及原产地制度的基本内容，学会关税的计算。

学习重点和难点：本章学习的重点和难点是对中国的海关税则、海关估价和原产地制度的理解。
分配学时：2 学时。

第一节 中国关税制度的演变

1949-1979 年间，中国实行的是高关税保护政策。改革开放后，中国从实际情况出发，进一步在合理空间降低名义关税，尤其是 1992 年后，中国开始自主地大幅度降低关税。加入 WTO 后，中国严格遵守承诺，不断调低关税。

第二节 中国的海关税则与海关估价

一、海关税则制度概述

海关税则主要由两部分构成：关税税率表和适用关税税率表的说明与规则。其中，关税税率表分为商品分类目录和税率栏目两部分。

二、中国现行的海关税则制度

中国税则制度实行自主协定的复式税则，进出口税则合一，但进出口税率分列。

1. 进口税率

进口税则实行复式税则。进口关税设置最惠国税率、协定税率、特惠税率、普通税率、关税配额税率等税率。

2. 出口关税税率

出口税则列在进口税则之后，实行单式税则制，不分消费国家和地区，只列出有税商品的名称和编码及其出口关税税率。

三、海关估价

1. 进口货物的完税价格

海关应在最大限度内以进口货物的成交价格作为货物的完税价格；买卖双方之间有特殊关系可以申报价格。

2. 出口货物的完税价格

出口货物的完税价格有海关以该货物的成交价格以及该货物运至中华人民共和国境内输出地点装载前的运输及其相关费用、保险费为基础审查确定。

第三节 中国进出口税费的征收

一、进出口关税的计算

1. 进口关税的计算

基本公式=完税价格×进口关税税率

以 CIF 成交的进口货物，如果申报价格符合规定的“成交价格”条件，则可直接计算出税款；以 FOB 和 CFR 条件成交的进口货物，在计算税款时应先把进口货物的申报价格折算成 CIF 价，然后再按上述程序计算税款。

2. 出口关税的计算

基本公式=完税价格×出口关税税率

完税价格=FOB 价格÷（1+出口关税税率）

出口货物以 FOB 条件成交的，可按上述两个公式直接计算出税款；如出口货物以其他贸易术语成交，需先将货价折算成 FOB 价，再计算税款。

二、进口环节税的计算

1. 消费税

从价征收的消费税：

组成计税价格=（关税完税价格+关税税额）÷（1-消费税税率）

应纳税额=组成计税价格×消费税税率

从量计征的消费税：应纳税额=单位税额×进口数量

2. 增值税

组成计税价格=关税完税价格+关税税额+消费税税额

应纳税额=组成计税价格×增值税税率

三、关税的退补与减免

1. 关税的退补包括补征、追征和退税。

2. 关税减免指按有关规定对进出境物品减征或免征关税。

第四节 中国的原产地制度

一、原产地规则概述

1. 原产地规则，是指任一国家、国家集团或地区为确定货物原产地而实施的法律、规章和普遍适用的行政命令。

2. 原产地规则的种类：非优惠性原产地规则和优惠原产地规则。

3. 原产地标准：完全原产产品；含有进口成分的产品：“实质性改变原则”

4. 常见原产地证明书的种类。

二、中国原产地制度

中国目前的原产地制度与世贸组织的《原产地规则协议》的规则一致，适用于实施最惠国待遇、反倾销和反补贴、保障措施、原产地标记管理、国别数量限制、关税配额等非优惠性贸易措施以及

进行政府采购、贸易统计等活动对进出口货物原产地的确定。优惠的原产地规则主要有 CEPA、《曼谷协定》以及中国—东盟自由贸易区等。

核心概念：

海关税则 海关估价 成交价格 优惠原产地规则 非优惠原产地规则 实质性改变标准

思考题

1. 什么是海关估价？中国海关估价的原则及标准是什么？
2. 什么是原产地规则？
3. 简述中国非优惠原产地规则。
4. 简述中国现行关税政策。
5. 试分析中国“入世”后的关税减让承诺对中国经济产生了哪些影响？

扩展阅读书目：

1. 何晓兵：《中国关税实务》，北京：中国对外经济贸易出版社，2002。
2. 《2004年中华人民共和国海关进出口税则及外贸法律法规》，北京：经济科学出版社，2004。
3. 朱院程，汤建军：《国际贸易理论中的贸易税收政策》，北方经济，2007（21）。
4. 张炳达：《海关实务》，上海：上海财经大学出版社，2007年。

第七章 中国对外贸易管理制度

教学目的和教学要求：对外贸易管理制度是指一国在发展对外贸易时，为了维护本国的经济利益和政治利益，适应国际间贸易关系的发展变化，逐渐形成的一套管理对外贸易的制度。通过本章的学习，要求学生了解中国货物进出口管理制度、中国商品进出口检验制度和外汇管理制度。

学习重点和难点：本章学习的重点和难点是正确理解和灵活运用中国货物进出口管理制度、中国商品进出口检验制度和外汇管理制度的各种相关规定，更好地从事国际贸易的实际工作。

分配学时：3 学时

第一节 中国货物进出口管理制度

一、货物进出口管理立法

《中华人民共和国对外贸易法》、《中华人民共和国货物进出口管理条例》及其配套规章是中国实施货物进出口管理的主要依据。

二、进出口货物分类

根据对进出口货物的管制程度，可将进出口货物分为限制进出口货物、禁止进出口货物、自由进出口货物以及特殊进出口货物。

三、货物进出口管理的主要手段

尽管世界贸易组织规定了贸易自由化的原则和消除非关税壁垒的措施，但仍允许对少数商品可以实行进出口许可证管理和配额管理。

第二节 中国商品进出口检验制度

进出口商品检验工作是对外贸易的一个重要组成部分。为了做好商检工作，中国不仅建立、完善了商品检验的立法体系，而且强化了商品检验的行政管理。

一、进出口商品检验立法

中国根据国际经济通行规则，颁布了《商检法》等相应的法律、法规和规章，基本形成了比较完善的进出口商品检验法律体系。

二、中国商品进出口检验行政管理

我国依法加强了在“进出口商品检验体制、进出口商品检验工作以及复验、行政复议、行政诉讼制度”等方面的行政管理。

第三节 中国外汇管理制度

建国以来，中国外汇管理体制大体经历了三个阶段：

一、计划经济时期的中国外汇管理体制

在计划经济体制下，国家确立了高度集中、严格行政管理为主的外汇管理体制，这种体制一直持续到 1979 年。

二、经济转轨时期的中国外汇管理体制

1978 年改革开放以来，中国外汇管理体制改革沿着逐步缩小指令性计划，培育市场机制的方向，有序地由高度集中的外汇管理体制向与社会主义市场经济相适应的外汇管理体制转变。

三、1994 年以后的中国外汇管理体制

1994 年以后初步建立了以“汇率并轨制度，银行结、售、付汇制和外汇帐户管理制度”为主要内容的现行外汇管理体制。

核心概念：

对外贸易管理制度	进出口许可证管理	进出口货物配额管理	
进出口商品检验	外汇	外汇管理	结汇制度
售汇制度	付汇制度		

思考题

1. 根据《中华人民共和国对外贸易法》对进出口货物的管制程度，简述进出口货物的分类以及禁止和限制进出口货物的商品范围。
2. 中国对限制进出口和自由进出口的货物分别采取了何种主要管理手段？
3. 什么是进出口商品检验？简述进出口商品检验的依据、分类以及检验工作的主要内容。
4. 简述中国外汇管理制度历史沿革的主要内容。

扩展读书目：

1. 王雅范等：《走向人民币可兑换：中国渐进主义的实践》，北京：经济科学出版社，2002。
2. 曾涛：《中国结售汇制度的发展》，《中国外汇管理》，1999 年第 10 期。
3. 施王利娅等：《WTO 与中国外汇监管》，《中国外汇管理》，1999 年第 11 期。
4. 张辉：《外汇制度与国际贸易政策研究》，北京：中国金融出版社，2008。

第八章 中国的海关管理制度

教学目的和教学要求：在中国对外贸易中，海关作为国家行政管理机关在监督与管理对外贸易方面发挥着重要的作用。本章主要介绍中国的海关管理制度，包括报关制度、通关制度以及对进出口货物及运输工具的监督等，要求学生能够了解并应用。

学习重点和难点：本章学习的重点和难点是报关制度、通关制度以及对进出口货物及运输工具的监督。

分配学时：3 学时

第一节 中国海关概述

一、海关的性质和职责

海关是代表国家在进出境活动中行使监管职能的行政管理和执法机关，肩负着监管进出境的运输工具、货物、行李物品、邮递物品和其他物品，征收关税和其他税费，查缉走私，并编制海关统计和办理其他海关业务等神圣职责。

二、中国海关的权力

海关依法享有以下权力：许可审批权、税费征收及减免权、行政强制权、行政处罚权、佩戴和使用武器权以及其他行政处理权。

三、中国海关机构及其现状

1. 中国海关分为海关总署、直属海关和隶属海关三级。全国海关接受海关总署的统一领导。
2. 中国的关境小于国境。
3. 中国的海关制度正向着管理系统信息化和高效化、业务制度规范化、管理思想现代化以及依法治关的方向发展。

第二节 中国海关报关制度

一、报关与报关对象

1. 报关是指进出口货物的收发货人或其代理人、进出境运输工具负责人、进出境物品的所有人向海关办理有关货物、运输工具、物品进出境手续的全过程。
2. 报关的对象：进出境运输工具、进出境货物、进出境物品。

二、报关企业

报关企业主要分为：自理报关企业；专业报关企业；代理报关企业。

三、报关注册登记

1. 报关注册登记的范围和条件：进出口货物收发货人和提供社会化报关纳税服务的报关企业。
2. 报关注册登记的基本条件：拥有固定的服务场所和提供服务的必要设施、拥有一定数量的

注册资金、拥有一定数量的报关从业人员。

3. 报关注册登记的程序：申请、海关审查、颁发证明。

四、报关员

参加报关员资格全国统一考试并合格者方能获得“报关员资格证书”

第三节 中国海关通关制度

通关是货物进出口的关键环节，其基本程序依次为：进出口货物方的有关人士填写进（出）口货物报关单并向海关申报有关单证；海关依法审查申报的内容是否属实、单证单货是否相符；对经查验合格者，海关予以正常放行、担保放行或信任放行。

第四节 海关对进出境货物及其运输工具的监管

一、进出境运输工具及其海关监管概述

海关所监管的进出境运输工具是指用以载运人员、物资、物品进出境的各种船舶、车辆、航空器和驮畜。海关不仅对运输工具本身具有监管权，同时也对其所载货物和物品实施监管。

二、对暂时进境货物的监管

1. 暂时进境货物是指为了特定的目的暂时进境，有条件地暂时免纳进口关税并免进口许可证，在特定的时期内除因使用中正常的损耗外按原状复运出口的货物。
2. 暂时进境货物应该接受监管，主要监管规定为：申报环节、提供担保、放行。

三、对集装箱运输货物的监管

海关对国际集装箱运输货物业务的监管主要包括：

1. 对国际集装箱核发牌照制度；
2. 进出口集装箱箱体的报关；
3. 对进出口集装箱所载货物的监管。

四、对进出境旅客行李物品的监管

红绿通道通关制度是进出境旅客在海关规定的范围内自行申报并选择通道（红色的“申报通道”和绿色的“无申报通道”）办理通关手续的一种验放制度，该制度大大提高了海关通关业务的效率。

五、对进出境邮递物品的监管

海关依法对除信件以外的进出境邮递物品实施监管权，归纳起来主要有以下几点：

1. 进出境邮递物品必须在设有海关的地点进境或出境，并按规定向海关申报，经海关查验、按章征税或免税放行后邮局才可投寄。
2. 进出境个人邮递物品应以自用、合理数量为限。
3. 特殊物品的特别监管

第五节 海关对新型贸易方式进出境货物的监管

一、对外商投资企业进出口货物的监管

对外资投资企业的监管主要包括以下几方面的内容：

1. 登记备案；
2. 申请免税证明；
3. 对进出口货物的监管；
4. 对保税区外商投资企业进口货物和转口贸易货物的监管；
5. 抵押、破产与清算。

二、对保税区货物的监管

1. 保税区类型包括：贸易型保税区、工业型保税区、综合型保税区。
2. 中国保税区的功能各有侧重，但又有共性。

三、对加工贸易货物的监管

加工贸易包括来料加工和进料加工。中国的加工贸易额连续多年快速增长，为了促进其健康发展，海关依法对加工贸易货物进行规范有效的监管。监管内容概括起来主要有 12 点。

核心概念：

报关 通关 正常放行 担保放行 信任放行 暂时进境物品
红绿通道通关制度 加工贸易货物 保税区与非保税区

思考题：

1. 中国海关的性质和基本职责是什么？机构设置有哪些特点？
2. 中国的报关注册登记制度包括哪些内容？比较分析三大类报关企业在报关业务上的区别。
3. 进出口货物通关的基本程序是什么？列举海关放行的主要方式。
4. 海关对进出境旅客行李物品监管的基本内容是什么？何为“红绿通道通关制度”。
5. 海关如何对保税区内的外商投资企业进出口货物进行监管？

扩展读书目：

1. 姚梅琳：《中国海关史话》，北京：中国海关出版社，2005。
2. 霍红：《报关实务》，北京：中国物资出版社，2004。
3. 邵铁民：《进出口货物海关通关实务》，上海：上海财经大学出版社，2003。
4. 黄熠：《海关通关管理》，北京：中国海关出版社，2002。
5. 朱新瑞：《中国海关监管与征收》，上海：上海财经大学出版社，2007 年。

第九章 中国的贸易促进制度

教学目的和教学要求：推动中国出口贸易成长，需要解决的问题很多，制定和实施有效的出口促进政策是不可缺少的一个方面。通过本章学习，要求学生了解中国的出口促进政策和措施。

学习重点和难点：本章学习的重点和难点是中国的出口信贷制度、出口信用保险制度和中国的出口退税制度。

分配学时：3 学时

第一节 中国的出口信贷制度

一、出口信贷

（一）出口信贷的种类

1. 卖方信贷：为解决由于采用延期付款方式造成出口商制造出口设备的前期资金短缺的需要，由出口商所在国的银行把款项贷给出口商。

2. 买方信贷：为解决进口商暂时无力支付而又必须支付给出口商的资金需要，出口商所在地的银行贷款给买方或买方所在国的银行，由买方用这笔贷款以现汇的形式向出口商支付货款。

3. 买方信贷和卖方信贷比较：这两种出口信贷的基本原理和目的都是一样的，即由银行提供信贷，为进口商提供融资便利，从而支持本国的出口商发展出口、开拓国际市场。但这两种方式涉及不同的借款人，在操作程序、融资成本等方面也存在差别。

二、福费庭业务

1. 福费庭是指在延期付款的大型设备贸易中，出口商先征得银行同意，把经过进口商承兑的远期汇票无追索权地卖给出口商所在地的银行，提前取得现款的一种资金融通方式。

2. 福费庭业务的特点及对相关各方的好处。

3. 中国的福费庭业务及发展前景。

三、国际保理业务

1. 国际保理业务是国际贸易中在承兑交单、赊销方式下，保理公司对出口商应收账款进行核准或购买，从而使出口商获得出口后收回货款的保证。

2. 国际保理业务有别于汇款、托收和信用证三大传统国际结算手段，其对出口商和进口商都有独特的应用优势。

3. 国际保理业务的当事人有出口商、进口商、出口保理商以及进口保理商。

4. 国际保理业务的一般业务程序。

5. 国际保理业务在中国发展的现状及存在的问题：出口企业忽视保理业务的应用；保理业务法规建设滞后；缺乏高素质专业人才。

第二节 中国的出口信用保险制度

一、出口信用保险的概念

出口信用保险是在出口贸易或相关经济活动中发生的,是保险人与被保险人签订的一种保险协议。根据该保险协议,被保险人向保险人缴纳保险费,保险人赔偿保险协议项下被保险人向国外买方提供商品或劳务后因国外买方不付款引起的经济损失。出口信用保险是国家为促进本国出口贸易而建立的非营利性保险制度。

二、出口信用保险的作用

1. 扩大出口,增强出口企业的竞争力;
2. 推动出口市场多元化;
3. 扶持本国高新技术产品出口,推动产业结构升级;
4. 增强国家抵御海外经济危机的能力。

三、出口信用保险的种类

1. 依据交易中信用放账期限的不同:短期出口信用保险、中长期出口信用保险
2. 根据保险范围的不同:只保商业风险、只保政治风险和既保商业风险又保政治风险的出口信用保险。
3. 根据保险时段的不同:出运前出口信用保险、出运后出口信用保险。

四、出口信用保险办理程序

申请投保、申请限额、申报出口、交纳保险费、填报可损、索赔损失、权益转让。

五、中国出口信用保险的状况

中国出口信用保险经过十几年的发展,已成为支持出口贸易和对外经济技术合作政策的重要组成部分,但发展相对缓慢。

第三节 中国的出口退税制度

一、出口货物退(免)税的概念与原则

1. 出口货物退(免)税,是指国际贸易中货物输出国对输出境外的货物免征其在本国境内消费时应缴纳的税金或退还其按本国税法规定已缴纳的税金。这是国际贸易中通常采用的、并为各国所接受的一种税收措施,目的在于鼓励各国出口货物进行公平竞争。

2. 出口退税的原则包括:公平税负原则;属地管理原则;“零税率”原则;宏观调控原则。

二、中国出口退税制度及其变革

从2004年1月起,实行“新账不欠,老账要还”的基本原则。同时建立中央和地方共同负担出口退税的新机制,以2003年出口退税实退指标为基数,对超基数部分的应退税额,由中央和地方按75:25的比例分摊。

三、中国出口退税的程序要求

1. 出口货物准予退（免）税的范围；
2. 申请办理出口退税登记的条件；
3. 出口退税附送材料；
4. 办理出口退税所需凭证。

第四节 中国的出口促进组织

中国的贸易促进组织主要有中国国际贸易促进会和中国进出口商会。多年来，促进了中国企业与外国经济界、贸易界建立和扩大业务联系，为中国的商品、技术、资金、劳务进入国际市场提供了服务。

核心概念：

出口信贷 出口买方信贷 出口卖方信贷 保理业务
福费庭业务 出口信用保险 出口退税

思考题：

1. 中国出口买方信贷和卖方信贷的基本程序是什么？
2. 保理业务与福费庭业务的区别？
3. 简述中国出口信用保险的种类，如何发挥出口信用保险在中国出口贸易中的作用？
4. 谈谈中国出口退税制度存在的问题及改进办法。
5. 在新的历史时期，如何更好地发挥贸易促进组织的作用？

扩展读书目：

1. 刘舒年：《国际信贷》，西南财经大学出版社，2001。
2. 刘剑文：《出口退税制度研究》，北京大学出版社，2004。
3. 裴长洪，高培勇：《出口退税与中国对外贸易》，北京：社会科学文献出版社，2008年。

第十章 中国服务贸易

教学目的和教学要求：二战后，服务贸易在世界贸易中的比重日益上升，服务贸易的水平已经成为衡量一国现代化水平的一个重要标志。通过本章的学习，要求学生了解世界服务贸易的概况，掌握中国服务贸易的发展状况和中国实现服务贸易强国的对策。

学习重点和难点：本章学习的重点是中国服务贸易的发展状况和中国实现服务贸易强国的对策，难点是中国服务贸易的实证分析。

分配学时：3 学时

第一节 世界服务贸易的概况

一、世界服务贸易的发展

（一）世界服务贸易发展的原因

随着社会生产力和科学技术的发展，人类进入了知识经济时代，这一时代的重要特征之一就是资本和劳动从物质生产部门向服务领域的转移加速，从而使社会分工更加深化，也使服务贸易得以迅速发展。

（二）世界服务贸易的发展趋势和特征

1. 世界服务贸易发展迅速，速度和总量都持续增长；
2. 领域不断拓宽，新兴服务贸易发展尤为迅速；
3. 发展不平衡，发达国家在世界服务贸易中占有绝对优势；
4. 世界服务贸易自由化不断推进，但保护主义依然盛行。

二、服务贸易壁垒与服务贸易自由化

（一）服务贸易壁垒

1. 服务贸易壁垒的特点

- （1）以国内法律法规和规章制度为主而不是以关税为主；
- （2）以对人的资格与活动的限制为主而不是以对商品的数量、质量等为主；除了商业贸易的利益外，还强调国家的安全与主权利益等作为政策目标；
- （3）灵活隐蔽、选择性强，而不是固定公开、统一透明的。

2. 服务壁垒的主要形式

服务壁垒种类繁多，形式各异，很难作精确的分类，目前比较普遍接受的形式为：

- （1）按照乌拉圭回合谈判采纳的方案分类，把服务贸易壁垒分为市场准入壁垒和国民待遇壁垒；
- （2）把服务贸易方式与影响服务提供和消费的壁垒结合起来，可以将其分为四种形式：即服务产品移动壁垒、人员流动壁垒、资本流动壁垒和开业权壁垒。

（二）服务贸易自由化

服务贸易自由化已被纳入世界贸易组织的管辖和监督范围。《服务贸易总协定》是历史上第一部管理全球服务贸易的、具有法律约束力的多边协议。其主要原则是：最惠国待遇原则、透明度原则、发展中国家更多参与原则、市场准入原则、国民待遇原则、逐步自由化原则、例外原则。

第二节 中国服务贸易的发展

一、中国服务贸易发展概况

中国服务贸易一方面自改革开放以来的确获得了迅速发展；另一方面，服务贸易与总体贸易发展和经济增长具有很强的不对称性。具体表现在：

1. 服务贸易发展速度较快，但规模相对较小；
2. 服务贸易结构有所改善，但仍不平衡；
3. 服务贸易从顺差到逆差，行业结构情况有所改善，中国新兴服务业有了较大的发展。

二、中国服务业开放承诺

中国加入 WTO 后，将逐步兑现在金融业、电信业、旅游业、专业服务业、批发零售业、运输业方面的承诺。从总体水平上看，中国服务业的承诺与转型国家相似，明显高于发展中国家，而低于发达国家。

第三节 中国实现服务贸易强国的对策

一、中国与世界服务贸易强国的差距

1. 中国服务贸易国际竞争力理论分析

反映产业国际竞争力的指标：市场占有率、进出口行业结构、比较优势指数和显性比较优势指数。

2. 中国服务贸易国际竞争力实证分析

与世界服务贸易强国相比，中国服务业发展存在的主要问题是：服务贸易国际竞争力弱；服务业贸易开放度低。

二、中国实现服务贸易强国的对策

1. 提升服务贸易的国际竞争力

大力发展服务业；优化服务产业结构，促进服务业产业升级；发挥比较优势，创造新的竞争优势；多方式、多层次发展服务出口贸易；增强服务业企业国际竞争力；加大教育力度，大力开发人力资本；加强政府对服务企业的扶持。

2. 扩大服务业对外开放度

解放思想，树立“大经贸”观念和全面开放的意识；统筹规划，分行业分地区有选择地渐进有序地对外开放。

核心概念：

服务贸易 市场准入壁垒 国民待遇壁垒 服务产品移动壁垒

人员流动壁垒 资本流动壁垒 开业权壁垒 最惠国待遇原则

国民待遇原则 服务贸易结构 比较优势指数 显性比较优势指数 服务业的贸易开放度

思考题：

1. “二战”后世界服务贸易迅速发展的原因何在？有何发展特征和趋势？
2. 相对货物贸易壁垒，服务贸易壁垒有何特点？其主要表现形式是什么？
3. 《服务贸易总协定》的主要原则是什么？
4. 中国服务贸易发展现状有何特点？
5. 与世界服务贸易强国相比，中国服务贸易的差距何在？中国为实现服务贸易强国应采取的对策有哪些？
6. 中国对服务业开放由哪些承诺？

扩展阅读书目：

1. 罗余才，刘军编：《国际服务贸易》，中国财政经济出版社，1999 版。
2. 陶明，吴申元等编：《服务贸易学》，山西经济出版社，2001 年版。
3. 龙永图主编：《入世与服务贸易业市场开放》，中国对外经济贸易出版社，2000 年版。
4. 李芳：《中国服务贸易竞争力研究》，武汉：武汉大学出版社，2012 年。
5. 于方新：《中国服务贸易研究报告》，北京：经济管理出版社，2011 年。
6. 冯宗宪：《国际服务贸易》，西安：西安交通大学出版社，2008 年。

第十一章 中国技术贸易

教学目的和教学要求：科技竞争力的较量成为经济竞争的重要决定因素，因而发展技术贸易成为国际贸易的重要组成部分。通过本章的学习，要求学生掌握相关概念和开展国际技术贸易的主要方式，了解中国技术进出口贸易的各发展阶段及中国技术进出口管理制度。

学习重点和难点：本章学习的重点和难点是中国国际技术贸易的主要方式以及中国技术进出口管理制度。

分配学时：3 学时

第一节 技术贸易概述

一、与国际技术贸易有关的几个相关概念

与国际技术贸易有关的重要概念是国际技术转让。所谓国际技术转让是指跨越国境的技术转让行为，有广义和狭义之分。广义的国际技术转让是指技术在不同机构之间或同一机构内部任何形式的空间转让，包括非商业性的技术转让和商业性的技术转让；狭义的国际技术转让主要是指商业性的技术转让。

二、中国开展国际技术贸易的方式

中国开展国际技术转让的方式主要有：工业产权的转让或者许可、专有技术的许可、技术服务、技术合同、计算机软件使用权的许可和设备租赁。

第二节 中国技术进出口贸易

一、中国的技术引进

中国的技术进口从 1950 年开始，至今已有 50 多年的历史，经历了改革开放前和开放后两个阶段。实践证明，技术引进是推动中国科技进步和经济发展的重要手段和途径。

二、中国的技术出口

1. 中国技术出口起步较晚，但目前增长较快。
2. 中国技术出口的政策导向是：发展重点产业和技术领域的产品出口；加强对出口产品的高新技术支持；利用高科技手段开展高新技术贸易；促进高新技术产品出口体制创新；加强技术贸易法律法规体系建设。

第三节 中国技术进出口管理

为了维护国家利益和进行宏观调控、促进技术进出口的健康发展、维护技术进出口的经营秩序、规范技术进出口经营行为，国家制定和颁布了一系列法律和配套规章，构成了中国技术贸易管理的完整体系。

一、中国对技术引进的管理

中国对技术引进的管理主要是通过以下方式进行的：

1. 技术引进的管理范围和审批机构；
2. 技术引进审批注册权限；
3. 技术引进合同的审批注册；
4. 对技术进口合同限制性条款的规定。

二、中国对技术出口的管理

中国对技术出口进行的管理主要是通过以下方式进行的：

1. 技术出口原则；
2. 技术出口管理机构；
3. 技术出口项目管制；
4. 技术出口审批；
5. 限制出口技术的审查管理；
6. 技术出口管制。

核心概念：

国际技术转让 非商业性国际技术转让 国际技术贸易 技术服务

思考题：

1. 中国开展国际技术贸易的主要方式有哪些？并简述其概念。
2. 如何看待中国 50 多年来的技术引进和 20 多年来的技术出口状况？
3. 中国对技术引进和技术出口进行管理的主要内容有哪些？

扩展读书目：

1. 陈春宝：《中国高新技术发展与外贸竞争力》，大连：东北财经大学出版社，1998。
2. 王玉清，赵承璧：《国际技术贸易》，北京：清华大学出版社，2007 年。
3. 国务院：《中华人民共和国技术进出口管理条例》，2001 年。

第十二章 中国对外贸易关系

教学目的和教学要求：积极发展中国与世界各国和地区的贸易关系，在经济上、政治上都具有重要的意义。本章在简单回顾中国对外贸易关系发展的基础上，分别介绍了中国的双边贸易关系、区域贸易关系和多边贸易关系。通过本章的学习，要求学生了解中国目前的对外贸易关系和前景。

学习重点和难点：本章的重点和难点是要求学生能够运用所学经济理论分析中国与各大国的贸易关系和前景。

分配学时：3 学时

第一节 中国对外贸易关系概述

一、中国对外贸易关系的发展演变

建国以来，中国对外贸易关系的发展大致经历了一下几个阶段：

1. 1949-1978 年中国的对外贸易；
2. 1978-2001 年中国的对外贸易关系；
3. 加入世贸组织后中国的对外贸易关系

二、中国对外贸易关系的基本政策和原则

1. 中国对外贸易关系的基本政策：本着“平等互利，共同发展”的原则，重点发展中美、中日、中欧、中俄大国贸易关系，同时也致力于发展同周边国家的经贸关系，积极参与区域与多边经济合作。

2. 中国对外经贸关系的主要原则：独立自主原则、平等互利原则、互惠对等原则、外贸外交互相配合的原则。

第二节 中国的双边贸易关系

目前中国的对外大国关系中，最重要的双边关系为：中美关系、中日关系、中欧关系和中俄关系。双边关系中的经贸关系在促进两国关系长期、稳定和健康发展中起着非常重要的作用。

一、中美贸易关系

1. 中美贸易关系状况

- (1) 双边商品贸易状况：中美贸易的商品结构保持极强的互补性。
- (2) 双边服务贸易状况：两国服务贸易所占比重远低于商品贸易。在服务贸易方面，美国占绝对优势。
- (3) 直接投资状况：美国对华直接投资的规模巨大且会继续大幅增加。

2. 中美经贸关系中存在的问题

- (1) 中美贸易关系中的政治因素：台湾问题、人权问题和劳工标准问题等；
- (2) 中美贸易逆差问题；
- (3) 关于知识产权问题；
- (4) 421 条款和反倾销问题。

(5) 美国对华出口管制问题

3. 中美经贸关系的前景

只有两国本着着眼未来、求同存异的原则，妥善处理出现的问题，中美经贸关系才能健康向前发展。

二、中日贸易关系

1. 中日贸易关系状况

(1) 双边贸易状况：中国对日出口产品结构不断优化；日本对华贸易依存度相对提高，中国对日贸易依存度相对下降。

(2) 直接投资状况：日本对华投资有规模增大、质量提高的趋势，但比较平稳和谨慎，潜力很大。

(3) 政府间资金合作状况：中日两国间的资金合作包括有偿资金合作（日元贷款）、无偿资金合作和技术合作。

2. 中日经贸关系中存在的问题

(1) 技术壁垒问题

(2) 贸易摩擦问题

3. 中日贸易发展前景

两国在服务信息领域的合作会进一步增加，中国将吸引更多日方的投资；贸易摩擦会增加，但只要以战略的眼光看问题，两国经贸关系就会稳定地发展。

三、中欧贸易关系

1. 中欧贸易关系状况

(1) 双边贸易状况：中欧贸易具有较强的互补性，合作潜力巨大。

(2) 直接投资状况：欧盟对华直接投资具有规模大、资本和技术含量高的特点，质量水平优于其他国家和地区。

(3) 技术合作与转让状况：欧盟成为中国累计第一大技术提供方。

2. 中欧经贸关系中存在的问题

(1) 反倾销和技术壁垒问题

(2) 普惠制变化问题

(3) 欧盟东扩问题

3. 中欧贸易发展前景

发展中欧贸易具有广泛的前景。

四、中俄贸易关系

1. 中俄经贸关系的状况

(1) 双边贸易状况：中国对俄罗斯的出口主要以日常消费品为主，贸易结构小幅改善；中国从俄罗斯的进口仍以资源和原材料等初级产品为主。

(2) 相互投资状况：中俄相互投资规模较小。

2. 中俄经贸关系中存在的重大问题

经贸关系滞后问题；商品结构问题；贸易逆差问题；投资规模问题；贸易秩序混乱问题；贸易服务体系不完善问题。

3. 中俄经贸关系的发展前景

合作潜力巨大，前景非常广阔。

第三节 中国的区域贸易关系

一、中国—东盟自由贸易区

1. 发展前景及意义

- (1) 有利于双方贸易规模的扩大和产业结构的升级；
- (2) 有利于双方相互投资和吸引更多的外商直接投资；
- (3) 有利于加强经济技术领域的合作。

2. 面临的问题

- (1) 领导权问题；
- (2) 东盟成员国的经济发展水平的差异和商品结构雷同问题；
- (3) 自由贸易机制选择问题。

二、内地与香港、澳门的紧密合作安排

1. 内地与香港的紧密合作安排

(1) 经贸关系发展状况：两地进出口商品的范围不断扩大，往来方式由单纯的商品交换发展到工业生产与贸易紧密结合。

(2) 《安排》(CEPA) 的总体目标：逐步减少或取消双方之间实质上所有货物贸易的关税和非关税壁垒；逐步实现服务贸易的自由化，减少或取消双方之间实质上所有歧视性措施，促进贸易投资便利化。

(3) 前景：形成香港、广州和深圳等地共同组成的“大珠三角”经济圈。

2. 内地与澳门的紧密合作安排

《安排》(CEPA) 的签订和实施促进了两地经贸活动的往来，有助于澳门龙头产业进一步发展；有利于澳门旅游、餐饮、制造业的恢复，有助于澳门产业结构的优化，同时发挥澳门作为连接国内与国外的“桥梁”的作用。

三、中国与亚太经合组织 (APEC)

1. APEC 主要特点：规模最大、独特的 APEC 模式、非歧视性、合作方式灵活。

2. 参与 APEC 进程对中国的意义：

有利于中国把握全球经济合作的最新发展态势，因势利导地对中国未来的改革开放进程作出规划；有利于中国和主要贸易和投资伙伴之间相互开放市场，促进贸易发展；有利于中国学习其他成员经济体的先进管理经验和科学技术。

第四节 中国与多边贸易体制的关系

一、世界贸易组织的主要职能

1. 负责多边贸易协议的实施、管理和运作；
2. 为各成员提供处理与各协定、协议有关事务的谈判场所，并提供实施谈判结果的框架；
3. 通过争端解决机制，解决成员之间可能产生的贸易争端；
4. 对各成员的贸易政策、法规进行定期评审；
5. 协调与国际货币基金组织和世界银行等国际经济组织的关系，以保障全球经济政策的一致

性;

6. 对发展中国家和最不发达国家提供技术援助及培训。

二、中国加入世贸组织的主要承诺

1. 降低关税水平;
2. 削减、消除非关税壁垒;
3. 逐步开放服务业;
4. 改革外贸经营权;
5. 出口补贴;
6. 接受特殊保障措施;
7. 过渡性审议机制。

核心概念:

世界贸易组织 亚太经合组织 CEPA 中国—东盟自由贸易区
中美贸易关系 中日贸易关系 中欧贸易关系

思考题:

1. 发展中美贸易关系的主要障碍是什么? 两国贸易发展前景如何?
2. 中欧经贸关系有哪些有利因素和不利因素?
3. 中国内地与香港、澳门发展经贸关系意义何在?
4. 中国如何在多边贸易体制中发挥更积极的作用?

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第十三章 中国对外贸易的相关问题

教学目的和教学要求：随着经济全球化的深入和中国对外贸易的发展，国际贸易中出现的一些新的热点问题，如环境保护问题、知识产权问题、技术贸易壁垒问题等，直接影响到中国对外贸易的发展。本章将分别介绍这些问题。通过本章的学习，要求学生掌握中国对外贸易中的知识产权问题、环境保护问题、技术壁垒问题及各相应对策。

学习重点和难点：本章学习的重点和难点是中国对外贸易中的知识产权保护问题、环境保护问题、技术壁垒问题的对策。

第一节 中国对外贸易中的知识产权保护问题

一、知识产权与国际贸易

知识产权是依法产生的民事权利。早在 100 多年前，世界上就已有了关于知识产权保护的国际公约，但是由于签字国很少，所以这些公约的效力很小。随着贸易自由化进程的加快，知识产权问题作为新的议题被列入到乌拉圭回合谈判中来，并签署了《与贸易有关的知识产权协议》。如何发挥这一协议的作用，同时避免知识产权成为贸易壁垒是摆在广大发展中国家面前的一大挑战。

二、国际知识产权壁垒对中国贸易竞争力的影响

1. 知识产权壁垒是在保护知识产权的名义，对含有知识产权的商品以及享有著作权的书籍、唱片、计算机软件等实行进口限制；或者凭借拥有的知识产权优势，实行“不公平贸易”。
2. 国外企业不愿将其技术转让给中国企业，并通过在中国申请专利，将其核心技术牢牢把握住，并将其作为壁垒使中国企业难以进入，从而保持它们的领先地位。中国企业只能在圈外有限的空间之内从事自己的技术创新。
3. 面对严峻挑战，中国政府和企业应正视与国外先进水平的差距，坚持走自己的路；强化知识产权意识，提高创新能力；熟悉国内外相关法规。

三、中国出口贸易的知识产权保护问题

1. 目前中国在知识产权法律建设、规则制定取得一定的成果，在执行 WTO 的规则方面也是令人满意的，但仍有不足之处，如法律执行能力尚显不足，司法救济措施不力等。
2. 我们既要保证自身的知识产权免遭侵害，又要避免陷入他国的知识产权纠纷，这就需要我们建立、健全进出口贸易中的知识产权管理制度和与国际接轨的法律法规并得以充分的贯彻执行。

第二节 中国对外贸易中的环境保护问题

一、国际贸易与环境保护问题

经济全球化和环境问题的全球化，都是人类经济社会发展历史过程中出现的必然趋势。在人类经济活动的低级阶段，环境问题仅是局部的点的问题。但在人类社会经历了将近三个世纪的工业化后，贸易与环境的关系问题日益成为世界各国关注的问题。

二、环境贸易壁垒对中国出口的影响

由于环境保护运动的兴起，国际贸易出现了以环境保护为借口而实行的贸易限制，被称为环境贸易壁垒或绿色壁垒。

1. 环境贸易壁垒的特点：名义上的合理性；不平衡性；保护方式的隐蔽性；保护内容的广泛性；双重性。

2. 环境贸易壁垒的表现形式：环境关税和市场准入；环境技术标准；环境标志；环保包装制度；卫生检疫制度；环境补贴。

3. 这些壁垒对中国对外贸易造成很大的影响，严重影响中国出口产品的市场准入和竞争力。受影响的行业主要集中在农产品、纺织业、机电产品等中国传统优势出口行业。

三、中国对外贸易发展对环境的影响

中国对外贸易的迅速发展也对环境产生一系列负面的影响，表现在：

1. 出口贸易带来的环境问题；
2. 进口贸易带来的环境问题；
3. 利用外资带来的环境问题。

四、中国对外贸易与环境协调发展的对策

1. 制定和完善贸易与环境协调发展的政策：
 - (1) 建立完善与环境保护有关的对外贸易法规体系；
 - (2) 建立贸易与环境有效协调的机制。
2. 建立起可持续发展的对外贸易战略：
 - (1) 建立可持续发展的进出口商品结构；
 - (2) 转变经营观念，开展绿色营销；
 - (3) 完善中国的环境标志制度；
 - (4) 积极推行 ISO14000 标准体系；
 - (5) 大力发展环保产业。
3. 积极参与贸易与环境问题谈判，加强国际合作。

第三节 中国对外贸易的技术壁垒问题

一、技术贸易壁垒的主要种类与特点

技术贸易壁垒是指一个国家或地区通过设立相关技术法规、合格评定程序、包装和标签要求、产品检疫检验制度，以及在信息技术、环境保护方面设置某种有利于自身的而国外暂时尚不具备的技术限制，从而起到保护本国产品免受或减轻外来冲击的措施。

1. 技术贸易壁垒的种类：技术标准与法规；合格评定程序；包装和标签要求；产品检疫、检验制度；信息技术壁垒；绿色技术壁垒。
2. 技术性贸易壁垒的特点：广泛性、系统性、合法性、双重性、隐蔽性和灵活性、争议性。

二、技术贸易壁垒对中国对外贸易的影响

1. 目前中国技术相对落后，这种以技术为支撑的贸易壁垒对中国对外贸易造成的冲击更为突出。
2. 受影响的行业主要集中在农产品、纺织业、机电产品等中国传统优势出口行业。

三、跨越技术贸易壁垒的对策

1. 技术引进；
2. 积极推进国外投资；
3. 完善中国技术贸易政策；

4. 完善技术标准和质量认证制度，促进我国产品质量的提高；
5. 加强国际合作。

核心概念：

知识产权贸易 TRIPs 绿色壁垒 国际质量认证体系
技术壁垒 外贸依存度 外贸扩散效应

思考题：

1. 中国在出口知识产权保护方面已经做了哪些努力？尚有哪些不足？
2. 中国对外贸易面临的非关税壁垒有哪些，同关税相比有哪些特点？
3. 谈谈运用技术引进跨越技术壁垒的应当注意的问题。
4. 外商投资企业主要的贸易方式是什么？你怎样认识这种方式对中国对外贸易的影响？

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