Fall 2008, Hitotsubashi University

Monetary Economics 1

(Corporate Finance)

LECTURE 1

Introduction

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PART 1

OVERVIEW OF THE COURSE

Two main issues in corporate finance

1. I have the money. What should I do with it? (First several lectures)

- The firm is facing an investment opportunity. Let's take the firm's financial structure as given. The firm should invest or not?
- Topics will include:
  - Present value principle.
  - Weighted Cost of Capital (WACC)
  - Real option (we will skip this topic).

Two main issues in corporate finance (continued)

2. I know what I want to do. How should finance my project? (five or six lectures)

- The firm has its business going on. What is the firm's best strategy to finance its business?
- Topics will include:
  - Optimal capital structure.
  - Financing strategy (equity vs debt issue).
  - Dividend policy (we do not cover this topic).

Five things you have to understand

1. Basic accounting.
2. Basic financial instruments of the business firms.
3. Principle of the valuation.
4. Incorporating "risk".
5. The effects of financial problems to the firm's management and organization.

Basic accounting

- Balance sheet
  - *Housekeeping Note* (家計簿) for the business firm.
  - We will discuss it using the example of Daikin's 2007 Annual Report .

Firm's financial instruments (1)

- Use cash in hand or getting money from outside.
  - Cash in hand: retained earnings
  - Outside money: equity; debt/borrowing
- Outside money: equity vs debt
- Debt: issuing bond vs bank borrowing

Business corporations in the capitalist economy

- Shareholders are the owners of the corporation.
- Reward for the shareholder.
  - Capital gain (increase of share price)
  - Dividend payment.
- Shareholders as "residual claimants"
  - Other claimants of the firm (stakeholders):
    - Workers, trading partners (account receivables), government (tax)
    - Debt holders.

Firm's financial instruments (2)

- Seniority among outside money
  - Ordinary debt/borrowing.
  - Subordinated debt/borrowing.
  - Preferred stocks
    - In most cases, no voting right.
  - Common stocks
- Limited liability of stock holders.

Valuation of an investment opportunity/project

- Present-value principle (PV)
  - One and only principle.
  - Evaluate expected future profits and losses by their money's worth today. Then, you sum up everything to get net present value (NPV) of the project.
  - Other methodologies are either short cuts (e.g. IRR) or technical sophistication (e.g. real option) of PV principle.

Valuation and risk

Example: R&D of new medicine

- Nature of the project's risk: Purely technical problem.
- Meaning of the project's risk for the entire corporation:
    - The firm's current business might slow down and may not be able to continue to finance R&D activities.
    - Business cycle and macroeconomic environment.
    - Multiple projects might fail simultaneously.
    - Rise of interest increases the cost of outside financing.
- Evaluation of the project's risk as an input for managerial and financial decision making.

Financial problem and governance of organization (1)

- Maximize profits = minimizing costs, including salaries for employees.
- Design of incentive mechanism such that the employees work efficiently.
    - Basic idea: Linking salaries to effort levels.
        - How should we measure individual effort level?
        - By measuring output?
        - How closely tied? How often ?
        - E.g.: bonus payment; employees shareholdings; stock options
    - Based on tenure or based on output?

Financial problem and governance of organization (2)

- Mechanism design such that the manager maximize profits.
  - Incentive mechanism for managers
  - Outside monitors: Auditors, banks, large shareholders.
  - Who monitors outside monitors? Conflict of interests?
  - US: Superpower CEO and a small number of outside directors
  - Japan: Governance by many inside directors
- Company system; spinoff of subsidiaries and etc.

PART 2

HEURISTIC INTRODUCTION TO ACCOUNTING

Financial statements

- Flow vs stock
  - Household: Income - spending (flow)
  - Wealth (stock)
- Corporation
  - Flow:
    - income statement: revenue and expenses throughout the year.
    - The statement of cash flow: lists underlying transactions that caused the cashflows.

Balance sheet (stock)

- A snapshot of what the firm owns and what the firm owes at the end of the year.
- *Assets (including cash)*
- *Liabilities*: Outside claims to the firm's assets, except shareholders.
- *Stockholders' equity (Capital)*
- *Equity* = Assets - Liabilities

Equity = Assets - Liabilities

A	**L**
• Assets	• Liabilities • Equity

Globalization of accounting standard

- Used to be: single firm
  → Today: consolidated
  – Group firm and subsidiaries
  – Potential assets and debts
- English or local language (about Japanese firms)
  – Most of major Japanese firms publish *Annual Reports* in English.

Example: Daikin's Annual Report 2007

Consolidated balance sheets (p.28&29)

- ASSETS (p.28)
  - Current assets **46.5%**
    - Cash and short-term securities
    - Receivables
    - Inventories
  - Property, plants, and equipment **20.4%**
  - Investments and other assets **33.1%**
    - Financial assets (group firm stocks) **100%**
    - Goodwill

Daikin's Annual Report 2007

- Liabilities (p.29)
  - Current liabilities **54.8%**
    - Short-term borrowings
    - Payables
  - Long-term liabilities **9.7%**
  - Equiy **35.5%**
    - Common stocks **100%**
    - Retained earnings
    - Capital surplus

Statement of Income (p.30)

- Income = Revenues – Expenses
- Details
  - – Net sales – Cost of Sales – Operation Costs = Operating Income
  - – Operating Income + Other Income = Income before Tax
    - Other income = interest income – interest payments + other financial adjustments
  - – Income before Tax – Corporate Tax = **Net income**
    - **Net Income** – Dividend Payments = Retained earnings

Consolidated Statements of Changes in Equity (p.31)

- *Balance at the beginning of the fiscal year*
- Within the year changes

  \+ Net income

  – Dividend payments and other payments to shareholders (such as share repurchases)
- *Balance at the end of the fiscal year*

Consolidated Statements of Cash Flows (p.32)

- Cash flows from operating activities
- Cash flows from investment activities
- Cash flows from financing activities

Stock at beginning of period

Flow

Stock at end of period

Statement of cash flow

CF from operations
CF from investments
+ CF from financing
Net increase of cash

Beginning balance sheet

Cash
+ Other assets
Assets (total)
− Liabilities
Equity

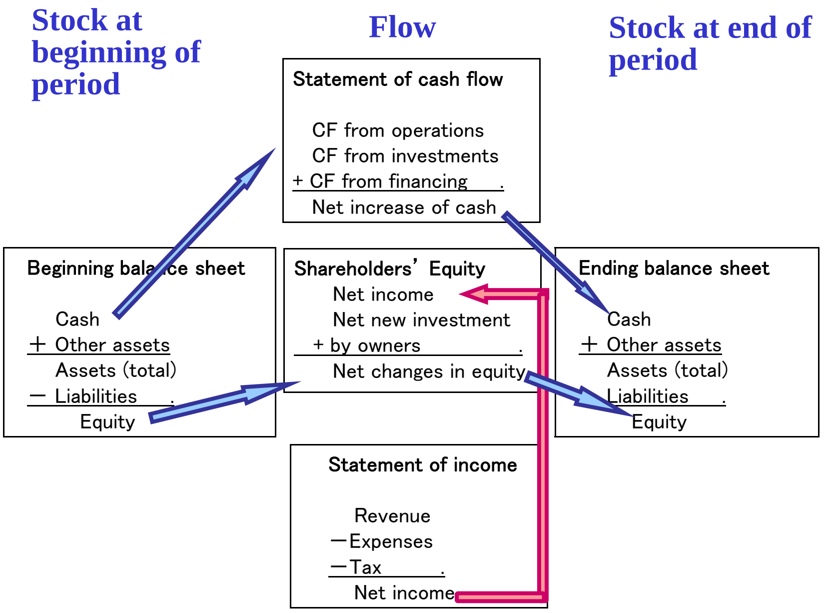
Shareholders' Equity
Net income
Net new investment
+ by owners
Net changes in equity

Ending balance sheet

Cash
+ Other assets
Assets (total)
− Liabilities
Equity

Statement of income

Revenue
−Expenses
−Tax
Net income



Market vs accounting valuation

- Shareholders' equity on balance sheet: *book value*
- "No of issued shares" times "stock price"
  = *market value*
- Market premium = market value – book value
  – "Unrecorded goodwill"?
- Book to market ratio
  – A measure of over pricing
  – Inverse of Tobin's q:
    a measure of investment opportunity

Metrics of financial performance

- Operating income margin：
  operating profits/net sales
- Net income margin：net income/net sales
- ROA（return on asset）：
  net income/total assets
- ROE（return on equity）：
  net income/total equity

- Metrics of leverage
  - Debt-equity ratio
  - Debt-total asset
  - Debt-long-term asset
- Market metrics
  - Price/earnings ratio
  - Book to market ratio
  - Dividend yield