

# FIN2010 Financial Management

## Lecture 4: What is a Firm?



# Review – Lecture 3

- Calculate the PV and FV of annuities
  - Make sure you use the appropriate discount factor for each cash flow, and count the number of cash flows correctly
  - Know how to deal with irregular cash flow streams
  - (Know how to use the financial calculator)
- Amortization
  - Know how to calculate monthly payments of a loan
  - Know how to calculate the remaining balance
- NPV and IRR
  - NPV: PV of both investments and future cash flows of a project
  - IRR: implied interest rate that sets  $NPV=0$



# Agenda

- Organizational Forms of a Firm
  - Sole proprietorship
  - Partnership
  - Limited liability company (LLC)
  - Corporation
- Financial Decisions of a Corporation
- A Firm's Goals when Making Financial Decisions
- Agency Problems



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# Forms of Business Organization

- Sole proprietorship, partnership, LLC, and corporation
- They differ in many aspects:
  - Initial capital required for registration
  - Legal entity or not
    - Limited or unlimited liability
    - Tax
  - The control rights
  - Transferring ownership
  - Raising capital
  - ...
- One needs to consider the above factors when determining which business form to adopt.



# Sole Proprietorship

个体户

Our protagonist, Cuihua Wang, starts a pancake booth.



Sole proprietorship: the simplest form of business. Only one owner.

- The business and the owner are the same entity.



# Sole Proprietorship



## What is good about sole proprietorship?

- **Easy to start:** 0 requirement for initial capital; little paperwork.
- **Only pay personal income tax.** ← Still need to register your business
- **Full control** over the business.



## What are some potential problems?

- **Unlimited liability:** if a customer gets sick and sues you, you are solely responsible, and there is no upper limit on how much you need to compensate.
- **Limited resource** (capital, manpower, etc.).
  - In China, sole proprietorship can hire up to 7 employees.

# Partnership

# 合伙企业

Cuihua Wang meets Fugui Li. Now they sell pancakes and baozi.



Partnership = sole proprietorship with 2+ owners



# Partnership



## What is good about partnership?

- **More resource** (capital, manpower).
- Only need to pay personal income tax



## What are some potential problems?

- **Unlimited liability**
- **Fight over control rights**
  - Example: Cuihua wants to sell sweet tofu; Fugui wants to sell salty tofu.
- **Hard to raise capital**
  - Example: Sicong Wang is not going to invest, because if he invest 100,000, he may lose millions if customers get sick.



# Limited Partnership (LP)

## 有限合伙企业



Sicong Wang loves their Baozi and wants to invest. They form a limited partnership and now opens a restaurant.

In LP, there are two types of partners:

- General partner (GP) : at least one who bares unlimited liability and runs the business
- Limited partners (LP): other partners who bare limited liability and usually do not run the business
- The typical form that money mangers use, such as venture capital and private equity

# Corporation

# 股份有限公司



Their restaurant is so successful, and they start opening chains. Now they need additional capital, so they registered a corporation for their business.

- Corporation: a formal legal entity (法人), separate and distinct from its owners.

# Key Features of Corporations



## Biggest advantage: very easy to raise capital

- **Limited liability** for all investors.
- **Easy to transfer ownership**
  - Corporation: does not need other owners to agree
  - All other forms: majority must agree



## Downsides:

- **High initial capital:** private ¥ 10M, public ¥ 50M
- **Pays double tax**
  - Corporate tax: China: 25%; US: 21% after Trump, 35% before Trump
  - Owners get taxed again when receiving salary or payouts
- **Other Features**
  - **Separation** of ownership and management

# Corporation—Private and Public

Can be private or public

- Private: a firm held under private ownership.
- Public: stocks are traded in the exchanges. Public firms are subjected to stricter regulations and disclosure rules.

## Private firms



## Public firms



# Limited Liability Company (LLC) 有限责任公司

- A hybrid form of business organizations that combines features of both a corporation and a partnership.
  - Legal entity **Corporate**
    - Limited liability **Corporate**
    - Double taxed in China **Corporate**
      - Individual taxes in some countries such as U.S. **Partnership**
  - Require relatively little capital to start (¥ 500k in China)
  - Possible to transfer ownership, but difficult (need majority to agree) **Partnership**
- Suited for small and medium sized firms (China: 2-50 owners)
  - Example:



Produces



# Comparison

	Initial Capital	Limited Liability	Tax	Management	Transfer Ownership	Raising Capitals
Sole Proprietorship	0	No	Individual income tax	Full control	N/A	Difficult
Partnership	0	No	Individual income tax	Shared by owners	Difficult	Difficult
LP, SOP	0	Mixed	Individual income tax	Shared by owners	Difficult	Relatively easy
LLC	500,000	Yes	Double taxes	Shared by owners	Difficult	Relatively easy
Corporation	Private: 10M Public: 50M	Yes	Double taxes	Separation of management and ownership	Easy	Easiest

[Chinese regulations on Partnership](#)

[Differences among LLP, LLC and Corporation](#)

[LLC vs. Corporation in China](#)





# The Most Suitable Business Form?

Note: not all business has to follow the path of

sole proprietorship → partnership → LP/SOP → LLC → Corporation

To meet the needs of the business, you can start at any point.

- Ms. Lai and her daughter plan to sell fruits in front of CUHK (SZ)
- Didi Chuxing Technology Co.
- A small group of programmers providing consulting and coding service
- A law firm



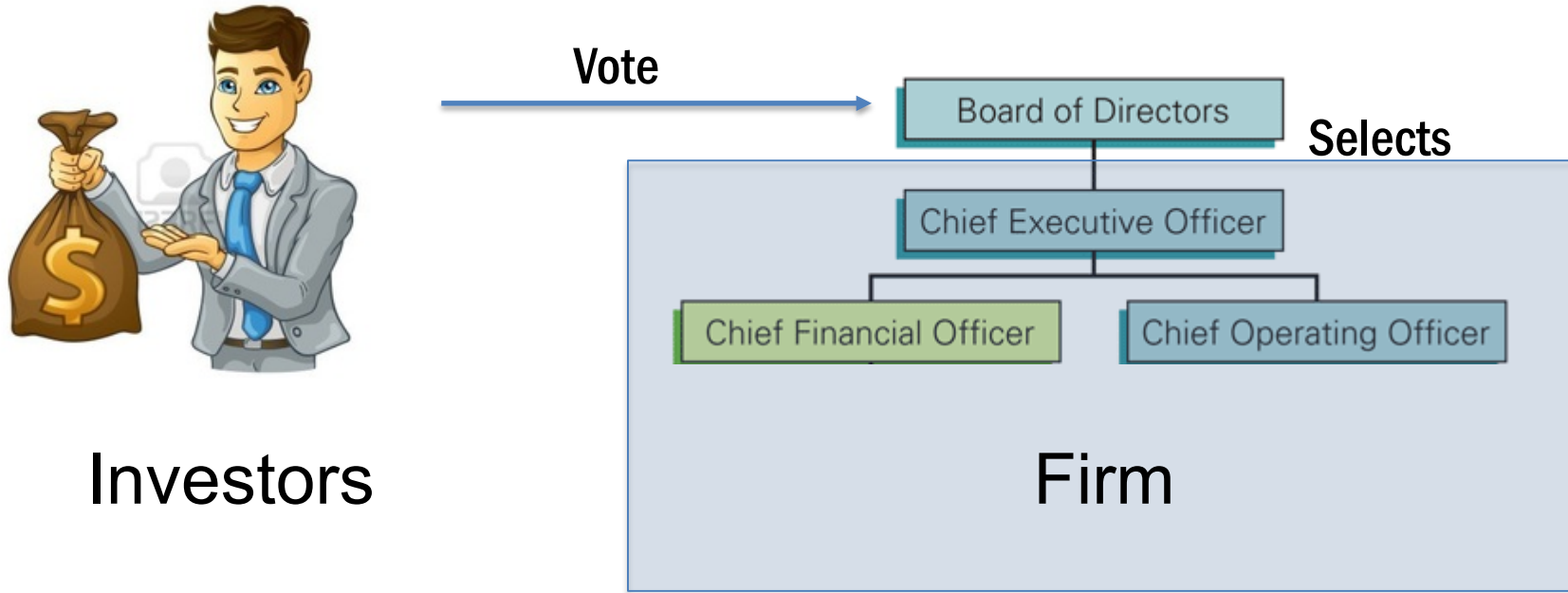


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# Management Structure



## Separation of ownership and management:

- Investors vote to form a board who represents the investor
- The board chooses a CEO and other top executives
- The CEO manages the firm

# JD.com, Inc. (JD)

## Owners

### Major Holders Breakdown

7.87%	% of Shares Held by All Insider
50.64%	% of Shares Held by Institutions
54.97%	% of Float Held by Institutions

855 Number of Institutions Holding Shares

Data source: <https://finance.yahoo.com/quote/JD/holders?p=JD>

### Top Institutional Holders

Holder	Shares	Date Reported	% Out	Value
Tiger Global Management, LLC	52,850,366	Sep 29, 2019	4.39%	1,490,908,824
Blackrock Inc.	43,414,961	Sep 29, 2019	3.61%	1,224,736,049
Invesco Ltd.	29,524,493	Sep 29, 2019	2.45%	832,885,947
Vanguard Group, Inc. (The)	28,885,415	Sep 29, 2019	2.40%	814,857,557
Viking Global Investors, L.P.	26,904,470	Sep 29, 2019	2.23%	758,975,098
Dodge & Cox Inc	20,891,777	Sep 29, 2019	1.74%	589,357,029
D1 Capital Partners, LP	19,724,079	Sep 29, 2019	1.64%	556,416,268
State Street Corporation	17,199,658	Dec 30, 2019	1.43%	605,943,951
FMR, LLC	17,073,961	Dec 30, 2019	1.42%	601,515,646
Hillhouse Capital Advisors Ltd.	16,119,769	Sep 29, 2019	1.34%	454,738,683

## Managers



# Financial Management Decisions?

- Financial management addresses the following three questions:
  - What long-term investments should the firm choose?  
**Capital budgeting**
  - How should the firm raise funds for the investments?  
**Capital structure**
  - How should short-term assets be managed and financed?  
**Working capital management**



# Balance Sheet of a Firm

- Total Value of Assets:

Current Assets

Long-term  
Assets

1 Tangible

2 Intangible

- Total Firm Value to Investors:

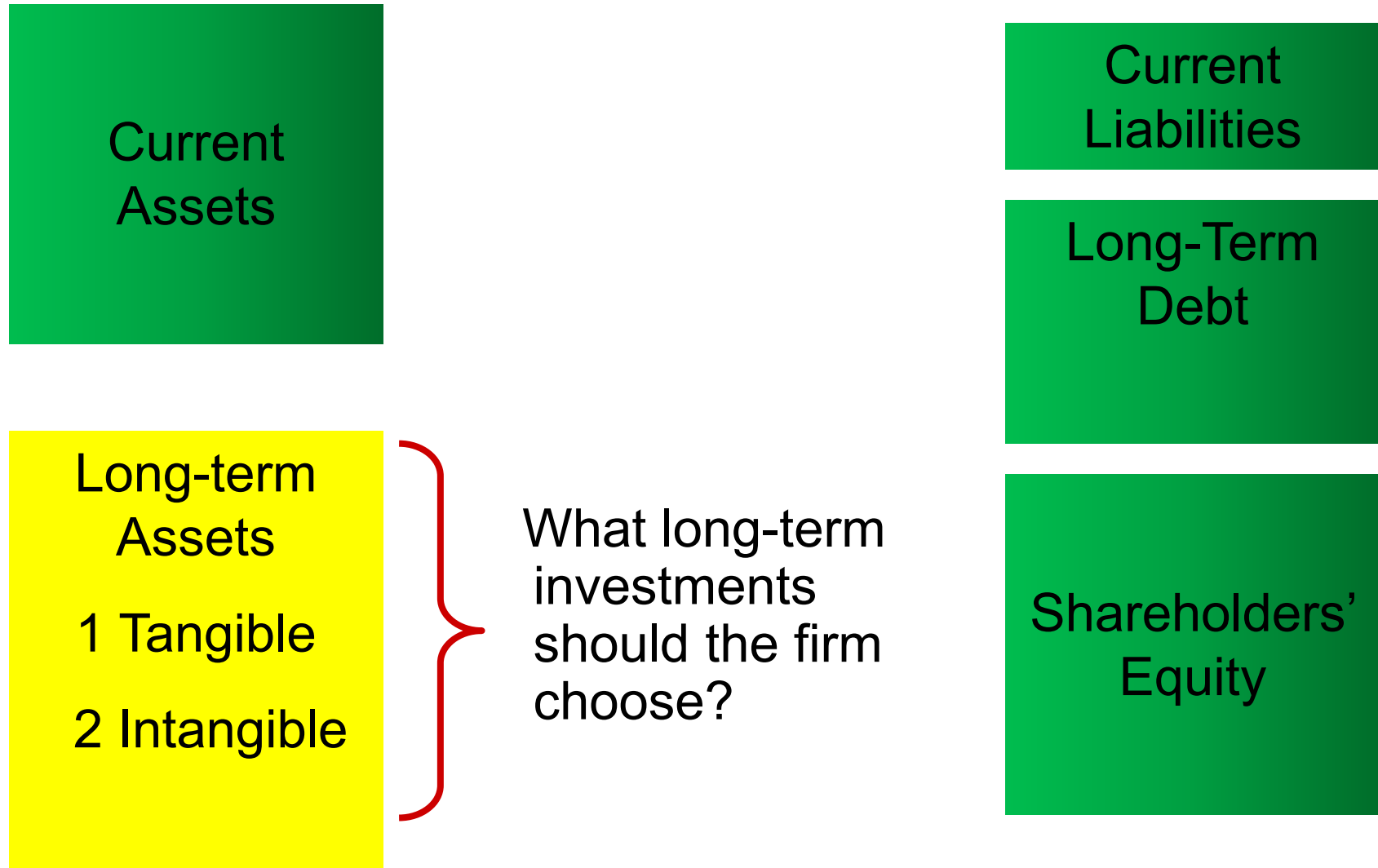
Current  
Liabilities

Long-Term Debt

Shareholders'  
Equity



# Decision #1: Capital Budgeting Decision

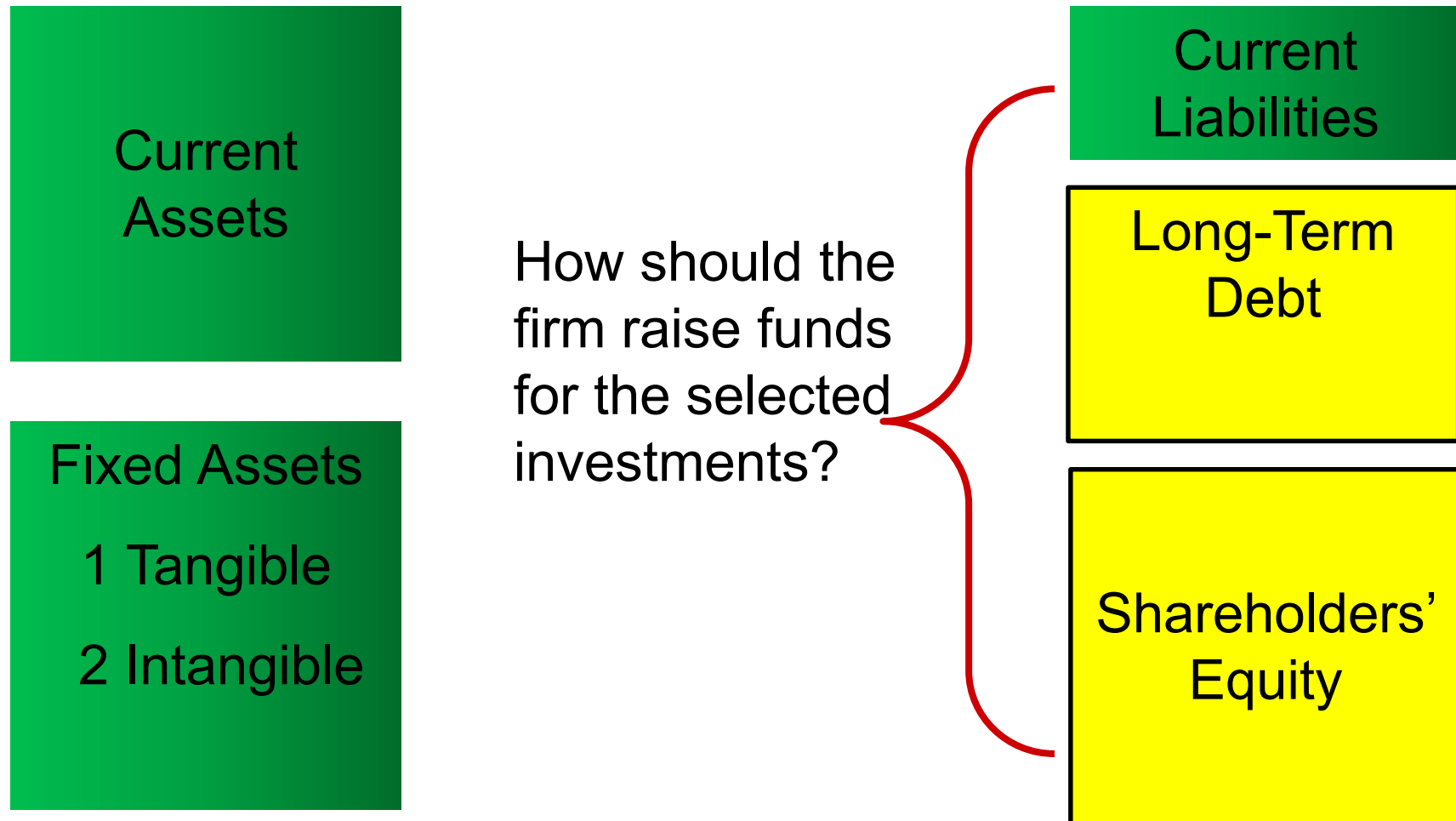


# Capital budgeting

- It involves identifying long-term investment opportunities in which the value of cash flow generated by the asset exceeds the cost of the asset.
- Examples:
  - Apple introduces iPhone XS
  - Li Ka-shing (李嘉诚) sold property investments in mainland China & Hong Kong, and bought UK phone giant O2 for \$15 billion (“sell China, buy Europe” strategy)
  - Singapore's Oversea-Chinese Banking Corp (OCBC)'s acquiring Hong Kong's Wing Hang Bank



# Decision #2: Capital Structure Decision





# Capital Structure

- The mix of long-term debt and equity that the firm uses to finance its operation.

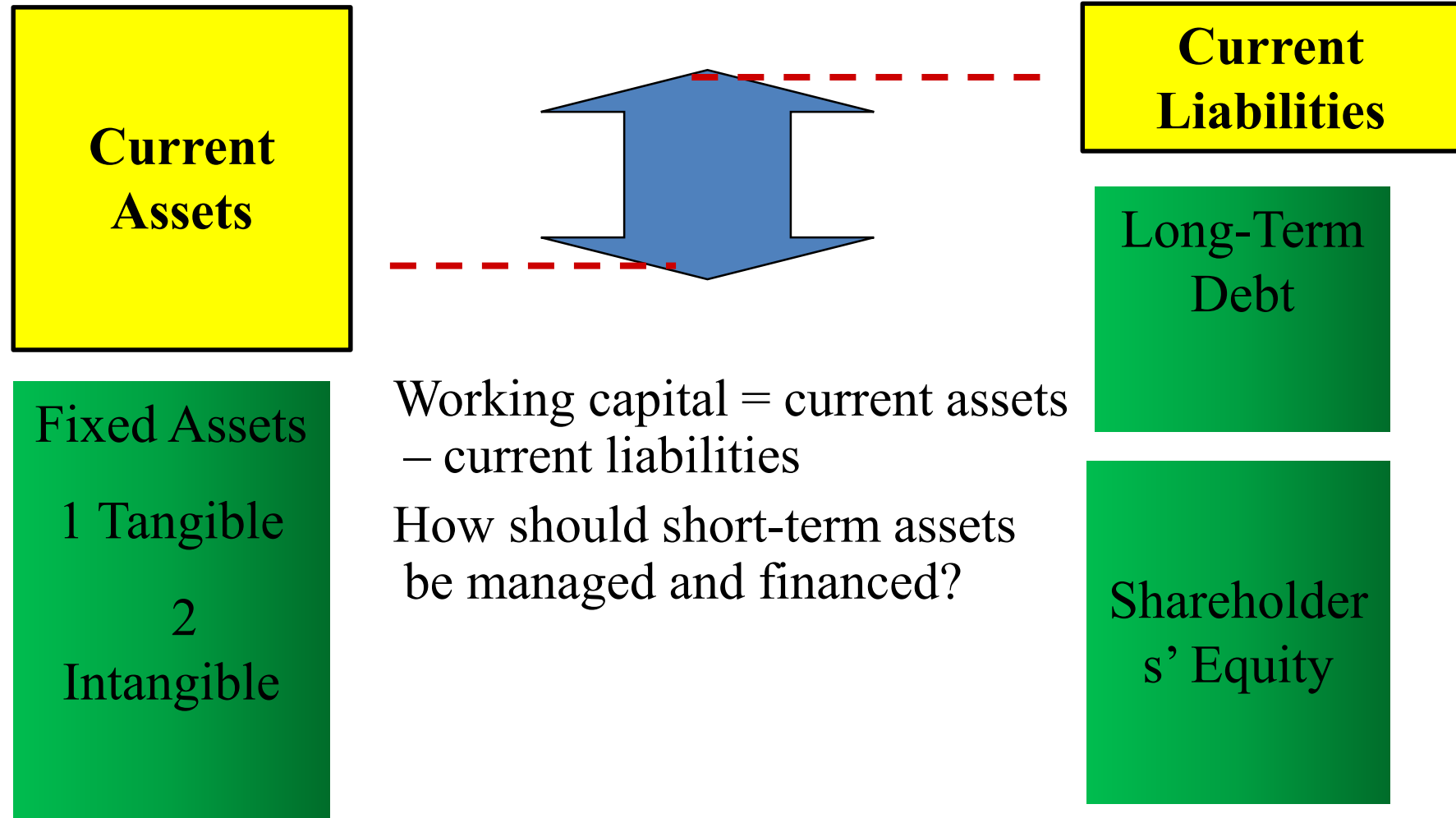
- Equity comes in the form of  $\text{Stocks (e.g. 60\%)}$
- Debt comes in the form of  $\text{Bonds or loans (e.g. 40\%)}$

$$\frac{\text{Stocks (e.g. 60\%)} + \text{Bonds or loans (e.g. 40\%)}}{\text{Assets}}$$

- The choice of the weights depends on pros and cons of these financing tools. Will discuss the pros and cons in later lectures.



# Decision #3: Working Capital management



# Working Capital management

- It involves managing the firm's short-term assets and liabilities
- Current assets
  - Cash
  - Accounts receivable
  - Inventory
  - Prepaid assets
- Current liabilities
  - Accounts payable
  - Notes payable
  - Interest payable
  - Taxes payable



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# Financial Management Goals

- What do investors want?
  - Maximize return
  - Which means they want the management team to maximize firm value
- What should be the CEO's goal?
  - Primary goal: maximize stock price or shareholders' wealth
- Alternative but not desirable goals:
  - Avoid bankruptcy
  - Minimize cost
  - Maintain steady growth



# Financial Management Goals and CSR

- The goal of maximizing value and corporate social responsibility (CSR)
  - Often, a corporation's decisions that increase the value of the firm's equity benefit society as a whole.
  - As long as nobody else is made worse off by a corporation's decisions, increasing the value of the firm's equity is good for society
- It becomes a problem when increasing the value of the firm's equity comes at the expense of others.



# Financial Management Goals and CSR

## Death of Wei Zexi

From Wikipedia, the free encyclopedia

**Wei Zexi** (Chinese: 魏则西; pinyin: *Wèi Zéxī*,<sup>[1]</sup> 1994 – April 12, 2016) was a 21-year old Chinese college student from Shaanxi who died after receiving DC-CIK, an experimental treatment for [synovial sarcoma](#) at the Second Hospital of the Beijing Armed Police Corps, which he learned of from a promoted result on the Chinese search engine [Baidu](#).

Wei's death led to an investigation by the [Cyberspace Administration of China](#), prompting Chinese regulators to impose new restrictions on Baidu advertisements. State media outlets broadly condemned the role of the hospital and Baidu in his death, and users online denounced Baidu's advertising practices. Baidu shares fell almost 14 percent in the days following reports of his death.

### Baidu CEO gets water poured on his head at company AI event



By Sherisse Pham, CNN Business  
Updated 1507 GMT (2307 HKT) July 3, 2019



#### TOP STORIES

- Mitt Romney is now the #1 new old GOP
  - How to move a massive chain making seven cuts
- Recommended by

On May 3rd, 2015, stock price of Baidu decreased by 7.92% (¥ 34.9 billion).

**Corporate social responsibility matters!**



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# Agency Problem



Investors



Manager

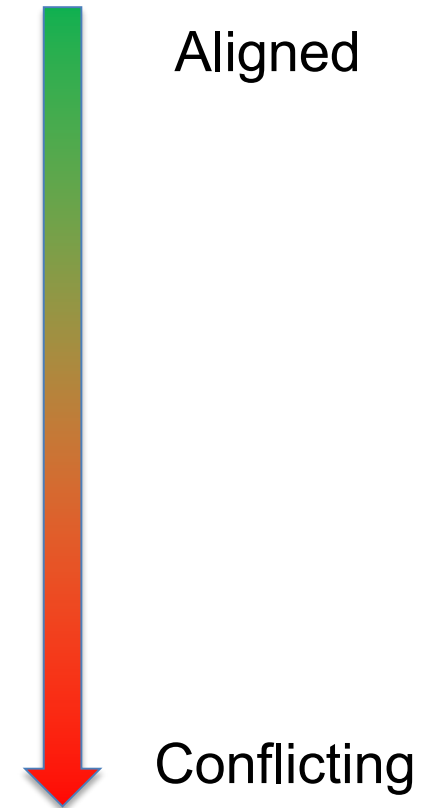


Firm

- Principal: the owner
- Agent: who is delegated the tasks of management
- Agency relationship
  - The relationship exists when a principal hires an agent to represent his/her interests
  - For example: stockholders (principals) hire managers (agents) to run the company
- Agency Problem: the principal and the agent might have different objectives!

# What does the CEO want?

- Supposedly: maximize shareholders' value
- Reality: maximize his/her own value
  - Manage the firm well and get rewarded
  - Make the firm bigger (empire building)
    - Larger firms typically pay more to CEOs
  - Build reputation, e.g.,
    - Make firms bigger and be known for being able to manage large firms
    - Pursue charity so that he/she can be known as philanthropist.
  - Personal enjoyment
    - Buying private airplane, golf club members
  - Embezzlement

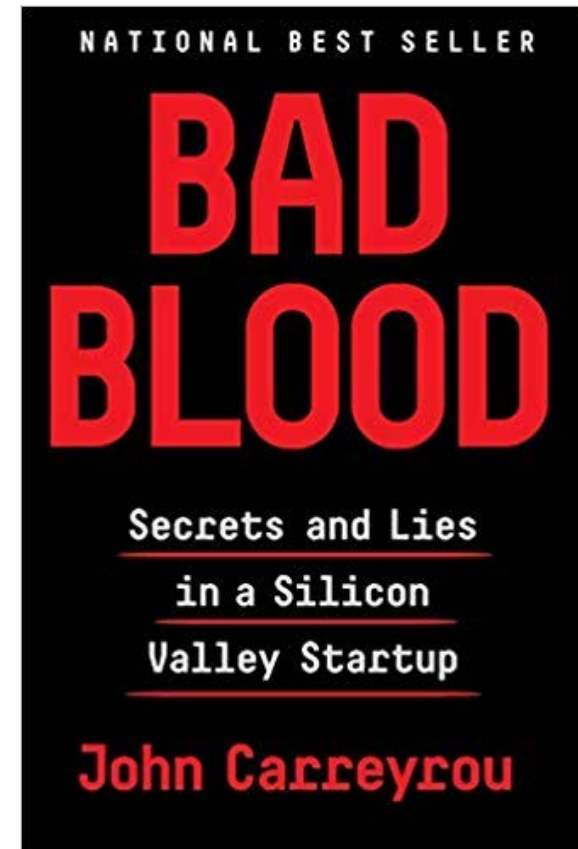


# Agency Costs

- Costs due to the conflict of interest between shareholders and management
- Direct costs:
  - Corporate expenditure that benefits management but costs shareholders, e.g. country club membership or private jet
  - Costs to monitor management actions, e.g. auditor costs
- Indirect costs:
  - Loss of firm value caused by the sub-optimal decisions made by the managers.
  - E.g.: Taking a risky R&D (研发) project is *risky* but beneficial for the firm in the long run, but the CEO may not take the project for fear of losing job if project fails.



# Real Example-Agency Costs



- A firm called Theranos went from \$10 billion at its peak to \$0
- Video: [The Fall of Elizabeth Holmes](#), [Reporting on Theranos](#)

# Ways to Alleviate the Agency Problem

- Managerial compensation
  - Incentives can be used to align management and stockholder interests
  - Commonly used incentives include bonus, stocks, and options
- Monitoring
  - Board: can replace the CEO
  - Share holders: sell shares, use media, sue, vote
  - Lenders (banks, etc.): debt covenants, refuse to renew
- Outside control
  - Threat of takeover
  - Labor supply





# Real Example—compensation of Apple's CEO

## Executive Compensation Tables

### Summary Compensation Table – 2019, 2018, and 2017

The following table, footnotes, and related narrative show information regarding the total compensation of each named executive officer for 2019, 2018, and 2017, except in the case of Ms. Adams and Mr. Williams who were not named executive officers in 2017, and Ms. O'Brien who was not a named executive officer in 2018 or 2017.

Name and Principal Position (a)	Year (b)	Salary <sup>(1)</sup> (\$)(c)	Bonus (\$)(d)	Stock Awards <sup>(2)</sup> (\$)(e)	Non-Equity Incentive Plan Compensation <sup>(3)</sup> (\$)(f)	All Other Compensation (\$)(g)	Total (\$)(h)
Tim Cook Chief Executive Officer	2019	3,000,000	—	—	7,671,000	884,466 <sup>(4)</sup>	11,555,466
	2018	3,000,000	—	—	12,000,000	682,219	15,682,219
	2017	3,057,692	—	—	9,327,000	440,374	12,825,066

- (3) As described under “Executive Compensation – Compensation Discussion and Analysis,” the named executive officers’ annual cash incentives are based on the performance of Apple relative to pre-determined financial goals for the year and the performance of the individual named executive officer. The threshold, target, and maximum payout amounts for each named executive officer’s 2019 annual cash incentive opportunity are shown in the table entitled “Grants of Plan-Based Awards – 2019.” In 2019, Apple’s performance exceeded the target performance goals for both net sales and operating income, resulting in a total payout of 128% of the target payout opportunity for each named executive officer. The Compensation Committee determined that no downward adjustments would be made based on Apple’s or an individual’s performance and approved this payout amount for each named executive officer for 2019, except in the case of Ms. O’Brien and Ms. Ahrendts. Ms. O’Brien’s annual cash incentive payout for 2019 reflects an adjustment under our annual cash incentive program for named executive officers as a result for her mid-year promotion. Prior to Ms. O’Brien’s promotion on February 5, 2019, she participated in Apple’s other performance-based cash bonus programs offered to our Vice Presidents. Ms. Ahrendts was not entitled to any cash incentive payout for 2019 due to her departure from Apple.

# Real Example—Apple's CEO

## Stock Vested – 2019

The following table shows information regarding the vesting during 2019 of RSUs previously granted to the named executive officers. No options were exercised by any named executive officer during 2019.

Name (a)	Stock Awards	
	Number of Shares Acquired on Vesting (#)(b)	Value Realized on Vesting <sup>(1)</sup> (\$)(c)
Tim Cook	560,000	113,478,400



# Summary

- Organizational forms

	Initial Capital	Limited Liability	Tax	Management	Transfer Ownership	Raising Capitals
Sole Proprietorship	0	No	Individual	Full control	N/A	Difficult
Partnership	0	No	Individual	Shared	Difficult	Difficult
LP, SOP	0	Mixed	Individual	Shared	Difficult	Easier
LLC	500,000	Yes	Corporate	Shared	Difficult	Easier
Corporation	Private:10M Public: 50M	Yes	Corporate	Separation	Easy	Easiest

- Financial decisions of a firm
  - Capital budgeting, raising capital, short-term capital management
- Agency Problem
  - Conflicting objectives of the CEO and the shareholders





# Next Time—Raising Capital

- Debt and Equity
- Equity Financing
  - Venture Capital
  - Initial Public Offering
  - IPO Underpricing
  - Seasoned Equity Offering
- Debt Financing
  - Different types of debt
  - Credit Ratings

