

# EE481: Industrial Economics

## Overview

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# Contact Information

## Before Midterm

- My office: Room 525, Economics Department
- Email: wanwiphang@econ.tu.ac.th
- Office hours: Wednesday (11 am - 12noon) or by appointments (email me)

## After Midterm

- Dr.Pornthep Benyaapikul
- Office: Room 510, Economics Department
- Email: pornthep@econ.tu.ac.th

# Textbooks

- Textbooks

- Carlton, D.W. and J.M. Perloff, *Modern Industrial Organization*, 4th Edition, Pearson Addison-Wesley Press, 2005. (Maintext, abbreviation = CP)
- Rasmusen, E., *Games & Information*, 3rd. Edition, Backwell, 2001.
- Church, J. and R. Ware, *Industrial Organization: A Strategic Approach*, International Edition, McGraw-Hill Press, 2000. (Supplement text, CW)
- Tirole, J., *Industrial Organization*, The MIT Press, 1989.

## Other Readings

- Harvard Business Review (<http://hbr.org/>)
- The Economist (<http://www.economist.com/>)
- Prachachat Online (<http://www.prachachat.net/>)
- Bangkokbiznews (<http://www.bangkokbiznews.com/home/>)

# Grading

- 10% Homework and Pop quizzes
- 5% Group Presentation at the end of the term (5-6 people, on a case study)
- 40% Midterm Exam
- 45% Final Exam

# The Works

- Late homework = 50% of the earned points
- Presentation = a group of 5-6 students present their solution to a case study. The presentation takes at most 15 minutes. Overtime is punished by 2 minutes = 1%.
- Pop quizzes = every time students talk while I teach. Otherwise, the 5% is yours for free.

# The Purpose of this Course

- The purpose of this course is **NOT** to teach you how to do business.
- This course will teach you how to apply economics theory to explain firms behaviors.
- This course will enable you to view business situations from the society's perspective using economics tools.
- Most importantly: “What matters is how much you learn, not how much I teach.”

# Explain the pricing of Thai Airways and Nok Air

- Price starts from 955 THB/trip.
- Book from 14-19 Aug 2015, Travel between 1-30 Sep 2015.




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- Book 14-19 Aug 2015, Travel between 24 Aug 2015 and 31 Jan 2016!



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## Explain the pricing of Thai Airways and Nok Air

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- Why such a harsh competition?

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 Travel 11 Aug 2015 - 31 Jan 2016  
 Terms and conditions apply.

**BOOK NOW**

# What is Industrial Organization?

- “The Study of the structure of firms and markets and of their interactions” (Carlton and Perloff, 2005)
  - For example: a study of how **convenient store chains** in Thailand **compete** in the **grocery market**.
    - firms -> convenient store chains
    - market -> grocery market
    - interactions -> how firms compete, strategies they use
  - Or .. a study of how **car companies** set price of their products.

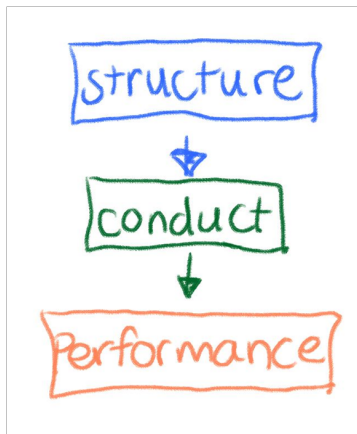
# Major tools used in this course

- 1 Structure-Conduct-Performance (SCP)
- 2 Game Theory
- 3 Price Theory
- 4 Transaction Costs Theory

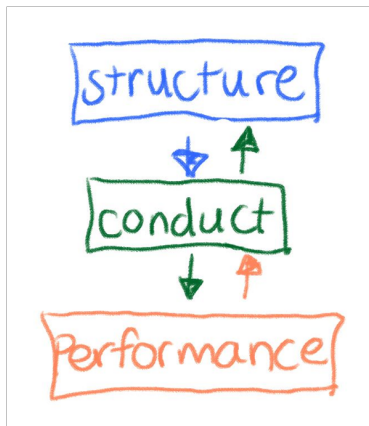
# Structure-Conduct-Performance

- Structure = Factors that determines competitiveness of the market, i.e. number of firms, barriers to entry, etc.
- Conduct = behavior of firms, i.e. whether they are collusive, type of competition strategies used, etc.
- Performance = Competition outcomes, i.e. whether firms can deliver the most efficient outcome or the highest benefits to the consumers.

# Structure-Conduct-Performance



# Structure-Conduct-Performance



# What will you learn in this course?

- 1 Learn how to analyze the **market structure** of an industry
  - Monopoly, duopoly, oligopoly, perfect competition
  - Barriers to entry
  - Product differentiation
  - Vertical integration
- 2 Learn about different competition strategies (**conducts**) firms adopt to compete
  - Collusion, Merger, Advertising, R&D, Pricing behavior, etc.
- 3 Learn how we can assess firms' **performance** from the society's point of view
  - Price, Production Efficiency, Equity, etc.
- 4 Learn what the government can do in order to promote for more desirable outcomes (**performance**).
  - Anti-trust policy, Government Regulation

## Questions we will explore (for example)

- Why do firms offer price match deals?
- Why do firms sometimes sell their products in bundles?
- Why do firms form a cartel?
- Why do manufacturers set price for their retailers?

# The Objective of a Firm

What do you think is the main objective of a firm?

# The Objective of a Firm

- Firm = an organization that transforms inputs into outputs
- Neo-Classical Theory of the Firm (**we use this theory in this course**)
  - Most firms maximize profits
  - Firms utilize its resources in the most efficient way
- There are some other theories of the firm, for example, managerial and behavioral theories. We don't use them in this course.

# Ownership and Control

Who owns firms?

# Ownership and Control

## Three Basic Forms of Ownership

- 1 Sole proprietorships - owned by 1 owner
- 2 Partnerships - owned by multiple owners
- 3 Corporations - companies whose capital is divided into shares. A corporation raises funds through two channels
  - 1 from shareholders (equity owners)
  - 2 from debt holders (banks, people who buy the company's corporate bonds)

## Separate Ownership and Control

If the owners are not the ones who run everything,  
how do you think the owners should control their firm?

# Separate Ownership and Control

- Managers (employees) may not have an incentive to maximize the owners' (shareholders') profits.
- The owners have to find ways to make the managers maximize their owners' interests.

## How?

- Use performance-related benefits (compensation depends on company's performance).
  - profits
  - ranking
  - revenue
  - etc.

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# How do firms grow?



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# Size of Firms, Mergers and Acquisitions

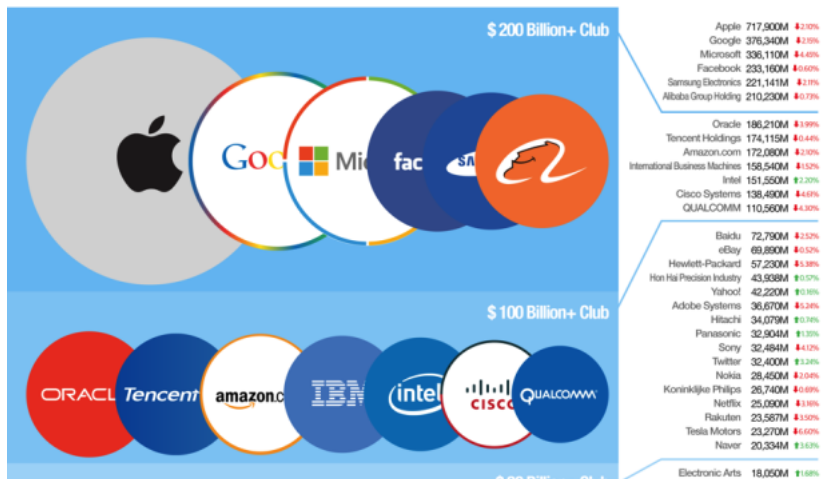
- Smaller firms are easier to administer but larger firms can 1) do more activities and 2) experience economy of scale/scope.
- How do firms increase their size?
  - Keep accumulating assets and invest
  - Vertical Merger
  - Horizontal Merger
  - Conglomerate Merger

# Why do firms grow?

WEEKLY

March 27, 2015

## Market Capitalizations of Leading Tech Companies



# How do you define market?

# Types of Costs (you should know about this already)

- Firms minimize costs in order to operate efficiently. However, what kind of cost it minimizes? Some important types of costs:
  - 1 Fixed Costs ( $F$ )
  - 2 Variable Costs ( $VC$ )
  - 3 Total Costs ( $C = F + VC$ ) or ( $TC = F + VC$ )
  - 4 Average Cost ( $AC = \frac{C(q)}{q}$ ) or ( $ATC = \frac{TC(q)}{q}$ )
  - 5 Average Variable Cost ( $AVC = \frac{VC(q)}{q}$ )
  - 6 Average Fixed Cost ( $AFC = \frac{F}{q}$ )

## Types of Costs (Fill in the Blank)

Output	$F$	$AFC$	$VC$	$AVC$	$TC$	$ATC$	$MC$
0	100	-	0	-	100	-	-
1	100	100	10		110		10
2	100		19	9.5	119	59.5	
3	100	33.3	25	8.3	125	41.7	6
4	100		32		132	33	
5	100		40	8.0		28	8
6	100	16.7	49	8.6	149	24.8	
7	100	14.2	60	9.1		22.9	11
8	100	12.5	73	9.8	173	21.6	13
9	100	11.1	88	10.8	188	20.9	

# Short Run vs. Long Run

- Short Run - not enough time to change the factors of production or production technology.
- Long Run - long enough time to allow change in the factors of production or production technology.

# Economy of Scale

- Economies of scale (or increasing returns to scale) -  $AVC$  falls as output increases
- Constant returns to scale -  $AVC$  is constant
- Diseconomy of scale (or decreasing returns to scale) -  $AVC$  increases as output increases
- Minimum Efficient Scale (MES) - the minimum units of output required to produce in order to achieve the lowest long-run average cost.

# Indivisibilities Create Economies of Scale

- 1 Long-run fixed costs, Set-up costs
- 2 Specialized resources and the division of labor
- 3 Volumetric returns to scale
- 4 Economies of massed reserves

## Economy of Scope

- There are positive spillovers (cost-saving, cost-sharing) effects when 1 firm produces more than 1 type of products.

$$C(q_1, q_2) < C(q_1, 0) + C(0, q_2),$$

where  $C(\bullet)$  is the cost function,  $q_1$  is output of product 1,  $q_2$  is output of product 2.

# Reference and Further Reading I



Carlton, D.W. and J.M., Perloff.  
*Modern Industrial Organization*. 4th Edition.  
Pearson Addison Wesley Press, 2005.



Church, J. and R. Ware.  
*Industrial Organization: A Strategic Approach*. International Edition.  
McGraw-Hill Press, 2000.