EE481: Industrial Economics

SCP and NEIO

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Homework (Problem 1)

Due Date: Wednesday 17 Sep, before 2pm at the BE office.

Problem 1: Your mobile pricing plan. (write about 0.5 page)

1) Who is your mobile network provider?

2) What is your current mobile pricing plan? What is the actual amount you spent (on mobile services) last month?

3) Why are you using this pricing plan?

4) Now, go online and check out different pricing plans offered by AIS, DTAC and TrueMove. Do you think AIS, DTAC and TrueMove are adopting the best pricing strategies given that they take into account each others' pricing strategies (e.g. firms are in a Nash Equilibrium). Explain why or why not.

Homework (Problem 2 & 3)

** Adapted from Industrial Organization: A Strategic Approach by Church & Ware. Practice Question in Chapter 10. You can also try other problems as your practice for the midterm exam.

Problem 2: Suppose that demand is given by $P = 300 - Q$ and marginal cost equals 10. Firms are Cournot competitors and play a supergame. The collusive agreement being considered is for each to produce one-fourth of the monopoly output (there are 4 firms in this industry).

(a) What is the critical discount factor to sustain collusion using grim punishment strategies if detection of deviation requires 2 periods (so, the cheating firm enjoys high profit for 2 periods)?

(b) Do you think the value of the critical discount factor will be higher or lower if detection of deviation requires 3 periods? Explain.

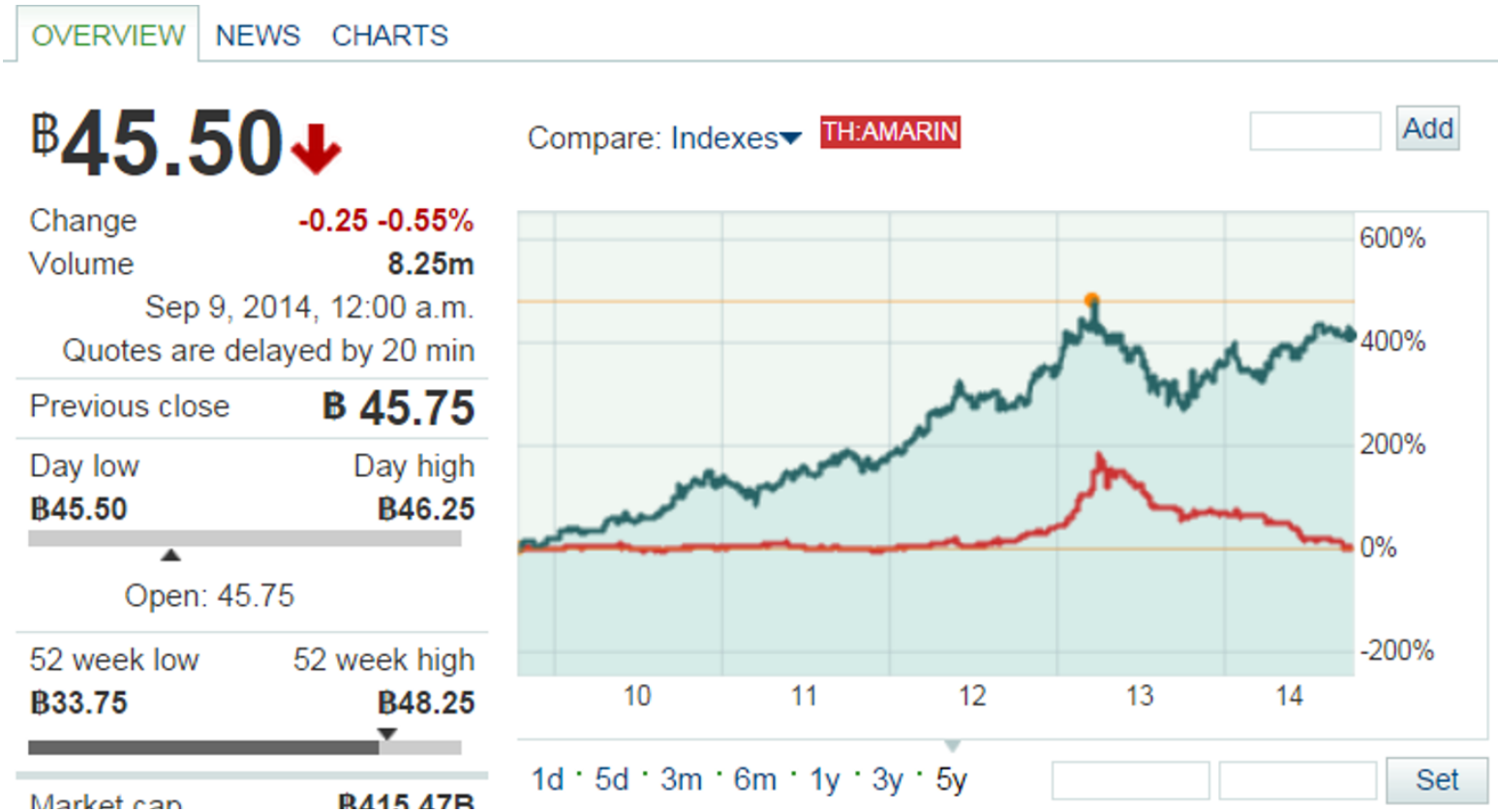
(b) Do you think the value of the critical discount factor will be higher or lower if the number of firms increases to 5? Explain.

Summary

- The SCP framework can be used to analyze firms' performance.
- SCP analyzes 1) Industry Structure 2) Firms' Conducts 3) Firms' Performance.
- Some measures of structure and performance will be discussed in this class.
  - measures of structure: HHI, CR4, etc.
  - measures of performance: price-cost margin, Tobin's Q
- Market power = ability to charge price above cost (has positive margin).
- Market power comes from high concentration, low price-elasticity, ability to collude.

Some Questions

How can CP ALL's stock price increased faster than that of Eastern Printing?



source: http://www.marketwatch.com

- May be because their market structures are different (processed food industry in Thailand is more concentrated than the printing industry)?

Some Questions

The Smartphone companies (Apple vs.Samsung vs. Nasdaq).

Before the Bell

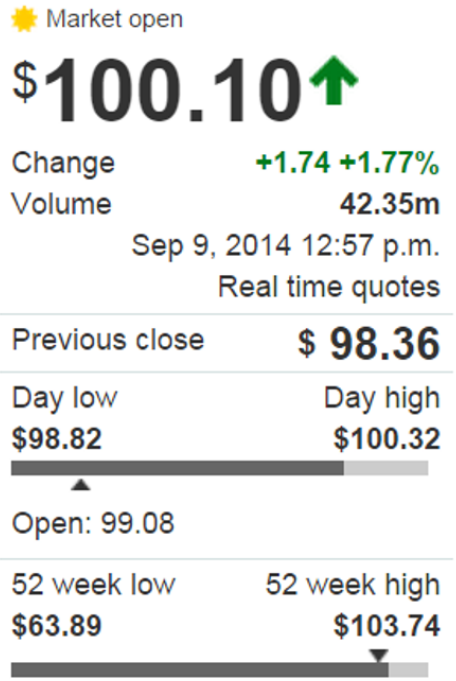
$99.08

Change	+0.72 +0.73%
Volume	458,898
	Sep 9, 2014 8:19 a.m.
	Real time quotes
Previous close	$ 98.36
Change	-0.61 -0.62%
Day low	Day high
$98.05	$99.31
	Open: 99.30
52 week low	52 week high
$63.89	$103.74

source: http://www.marketwatch.com

Some Questions

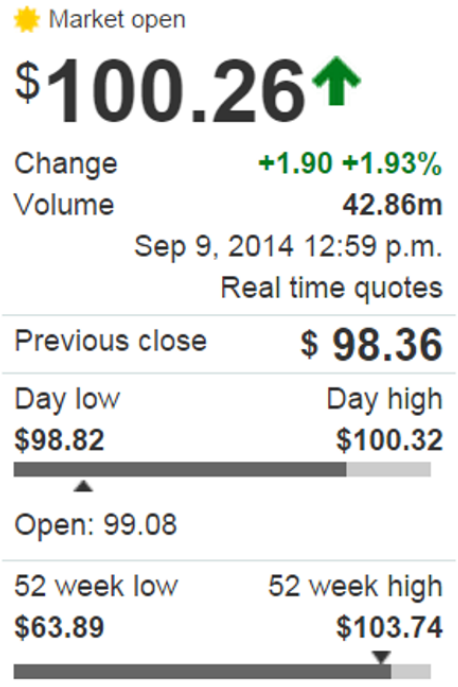
How can Apple and Samsung grow faster than Blackberry and Nokia?

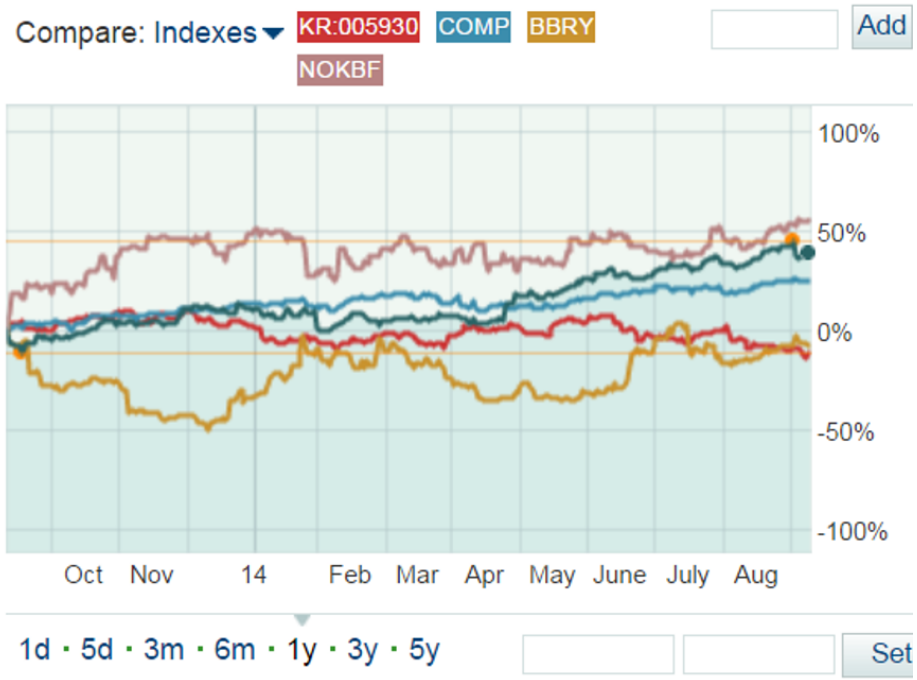


source: http://www.marketwatch.com

Some Questions

But... if we only consider the performances in the past year:





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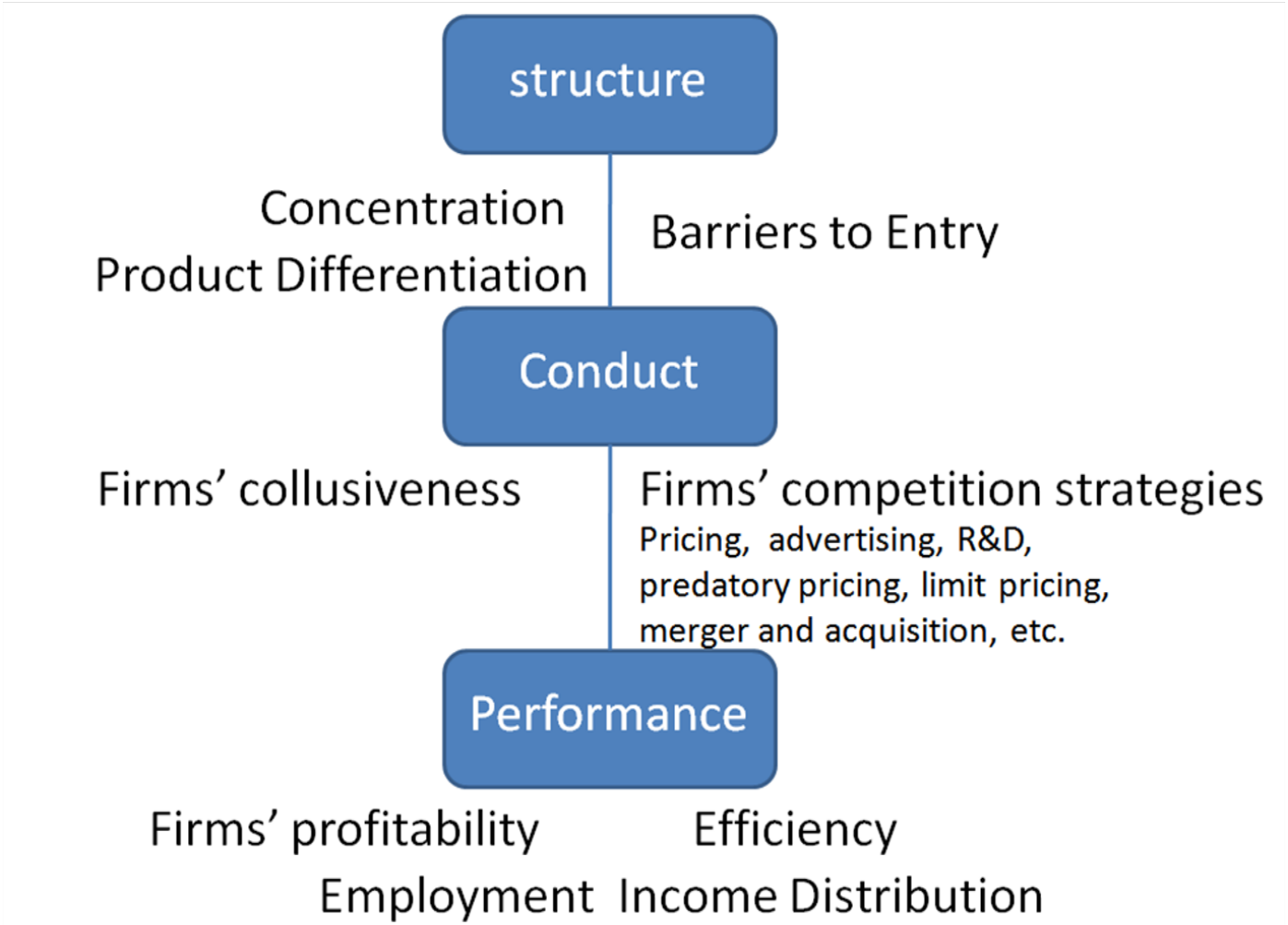
- What happened? How can we explain what's going on in this industry?

Structure Conduct Performance (SCP)



Measures of Market Structure

1. Industry Concentration (number of firms)
2. Barriers to Entry (is it easy to enter?)
3. Product Differentiation (are all products the same?)
4. Unionization (do the workers form a strong labor union?)
5. etc.

These factors determine the basis (potential competitiveness) of the industry.

Concentration

- Industry Concentration - the higher the number of firms, the less industry concentration (production activity is not concentrated within just a few firms)

1. **Herfindahl-Hirschman Index**

2. **Concentration ratio (CR4 and CR8)**

Lower market concentration -> likely to be more competitive.

Barriers to Entry

- Barriers to entry may also determine industry performance
  -
  - Product Differentiation
  - Absolute Cost Advantage
  - Government Regulations

  Lower barrier to entry -> likely to be more competitive.

Unionization

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- This increase marginal cost and may increase price.
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- Unionization may discourage entries.

Strong labor union -> likely to be less competitive.

Example of Market Structure Analysis

Market Conditions	Industry 1	Industry 2	Industry 3
Seller Concentration (CR4)	100%	$> 95\%$	98.5%
Buyer Concentration (CR4)	0.0001%		0.0001%
Homogenous Product	no		almost
Barriers to Entry			
Large Plant Scales		yes	yes
Large Investment Costs		yes	yes
Government License	no	no	yes

Conduct (what firms do)

- Collusion
-
- Quality Choice
-
- R&D
- Predatory Pricing, Limit Pricing
- Merger and Acquisition
- Franchise

(Most of these conducts will be discussed in later on in this class.)

Theories of Price Markups and Economics Profits

Predictions Based on Market Structure	$p - MC$	π_{SR}	π_{LR}
Competition	0	+ or -	0
Monopolistic competition	+	+ or -	0
Monopoly	+	+ or -	+ or 0
Oligopoly	+	+ or -	+ or 0

- Market power = ability to charge price above marginal cost.
- π_{SR} is
- π_{LR} reflects whether there is free-entry, not market power.
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Measurements of Market Performace

- Rates of Return - how much is earned per 1 baht (dollar) of investment.
- Lerner's index (or adjusted price-cost margin - $\frac{P-MC}{P}$).
- Other measures such as Tobin's q ratio ($\frac{\text{Market Value}}{\text{Value based on replacement cost}}$)
- In industrial organization, we usually use price-cost margin.

Structure vs. Performance

- Industrial Organization researchers have not been able to find a universal pattern of how structure relates to performance.
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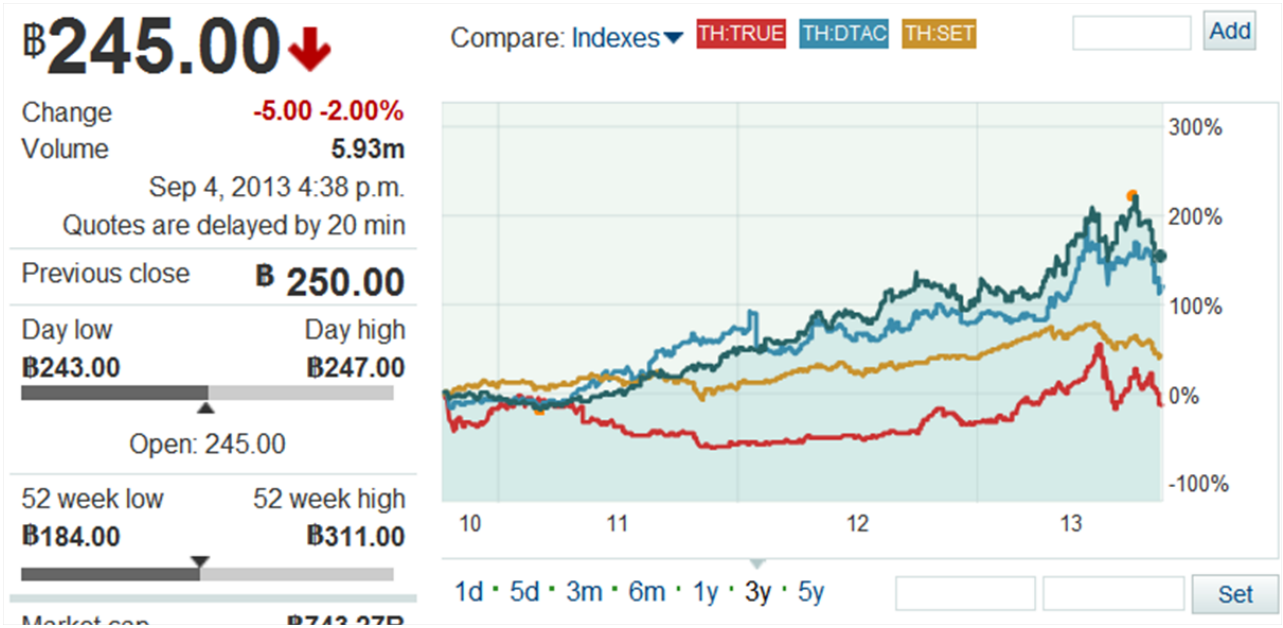
  - The relationship differs industry by industry.



source: http://www.marketwatch.com

NEIO

NEIO (New Industrial Industrial Organization)

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- Estimates degree of market power and sources of market power in each industry.
  - i.e. does not assume a stable relationship across industries between structural variables and performance
- Market power = ability to charge price higher than marginal cost.

Price-Cost Margins

Price-cost margin is usually used to measure the degree of market power:

$$\text{Price-Cost Margin} = P - MC$$

$$\text{Lerner's Index (or adjusted price-cost margin)} = \frac{P - MC}{P}$$

When MC is not available, people use AVC in practice.

Derivation of the Lerner's Index

The Market's Lerner's Index

The market's Lerner's index is practically the firms' weighted-average Lerner's index.

Market Power Comes from 3 Sources

From the market Lerner's Index, we can infer that market power comes from 3 sources.

1. High Market Concentration
2. Low Price elasticity of demand
3. Ability to Collude

Reference and Further Reading I

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