

## Preparation in-class exam #2

### Topics 1-4: see review 1

#### Topic 5: Oligopolistic competition.

Firms have partial control over prices.

In simultaneous games, each firm maximizes its profit to determine its best response.

Equilibrium concept of simultaneous games: Nash equilibrium (the equilibrium value of firm 1 is the best response of firm 1 to the equilibrium value of firm 2 and vice versa.).

Depending on the type of competition, efficiency is restored (price competition with substitutable products) or not. Competition is always beneficial for welfare however.

#### Related issues

Sequential choices: use sequential models, solve by backward induction.

Last firm to move observes the move of the firm moving before

First firm anticipates the best response of the firm that moves second

Equilibrium concept: sub-game perfect equilibrium

Sequential moves can give a first mover advantage (quantity competition) or not (price competition)

Collusion: firms maximize their joint outcome (behave as a single firm, i.e. monopolist)

Other things equal, collusion is inefficient.

#### Topic 6: Barriers to entry

They can be structural or strategic. Situations where barriers are chosen strategically can be represented by games. Game theory concepts apply to determine how barriers are set by firms. Barriers help firm to retain profits.

#### Topic 7: Product differentiation

In the basic models, firms choose first and simultaneously the degree of differentiation. Second, firms choose price. It is a sequential game of two simultaneous games.

Last stage: as in topic 5.

First stage: decision anticipating decisions in second period

Differentiation is beneficial for firms: each firm can capture part of the market and increase its profit (compared to the case with no differentiation)

#### Topic 8: Vertical integration

Situations can be represented by games. Game theory concepts apply to determine whether vertical integration is beneficial for firms and for welfare.

In general, vertical integration has two major effects: the cost of producing the final output is smaller (efficiency gain, positive effect for firms and welfare) but it reduces competition in one market at least (negative effect for welfare).