# Study Guide Exam 2 Econ 250

This is a list of topics and types of problems that will be on the exam. It is not an extensive list, and everything we covered in class or problem sets is fair game on the exam. Use the book as an additional resource and be sure you are comfortable with how the problem sets work. Best of luck.

#### **1** Price Discrimination

Bundling - pure and mixed. Know when a bundle makes sense in pricing, as in our example in class. Durable goods depend on timing for PD. Versioning. Legality of PD in the US and the EU.

### Oligopoly

Comparison to monopoly, perfect comp. Bertrand competition - price drives quantity. Duopoly examples with homogenous products, Nash Equilibrium Best Response functions. More realistic models - what's unrealistic in Bertrand assumptions? Capacity constraints model, BR function, Nash equil. Cournot model - quantity chosen for the firm. Duopoly examples, making decisions based on residual demand and best response. How to solve best response for a firm, 1.) take the quantity of the other firm is given, 2.) maximize profit by acting as a monopoly with residual demand. 3.) If firms are identical, assume  $q_1 = q_2$ .

### Collusion

What happens if firms work together? Market power Cartels Secret Agreements Tacit Agreements Repeated Interactions and Collusion Homogenous duopoly example with repeating the game. No-deviation constraints Solving for the discount factor necessary to not deviate - includes interest rate, number of interactions, stability of the industry, growth rate of the industry. Why don't firms collude more? Price wars, secret price cuts, demand fluctuations, asymmetric shocks. Factors that facilitate collusion - market structure, multimarket contact. Public Policy about collusion.

#### Market Structure and Market Power

Concentration and Market Power Theory Measuring market power -  $\frac{P-MC}{P}$  not sufficient for asymmetric firms. Lerner Index, Herfindahl Index, modifying the Lerner Index. Structure Conduct Performance (SCP) Problems with SCP- simultaneity Difficulty of interpretation - collusion hypothesis, efficiency hypothesis. How to measure all of this empirically.

### **Product Differentiation**

Switching costs Differentiation Horizontal and vertical diff Characteristics Approach - more realistic, easier to estimate. Hotelling model generally. Hotelling - pricing ideas. Hotelling - product positioning. Direct and Strategic effects of positioning. How direct and strategic affect pricing, positioning. Imperfect information and its impact on pricing. Search costs, switching costs. Price Dispersion from these. Tourists-locals model.

### Advertising

Search goods and experience goods. Informative advertising and persuasive advertising Which goods are associated with which advertising. Signaling. General relationship between market structure and advertising amounts. Brand Equity When advertising softens price competition. Spurious product differentiation When advertising increases price competition.

### 2 Entry costs and market structure

What does the number of firms depend on? Why does doubling market size not double demand? What is the free-entry equilibrium? Increasing returns to scale. Minimum efficient scale and effect on number of firms. Scale economics and coefficient of scale. Market structure related to all of these, and fixed costs. Fixed costs as barrier to entry. Why simple models don't predict number of firms perfectly. Learning curve

Endogenous entry costs and how they change the analysis.

## 3 Innovation

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