APPLIED ECONOMICS FOR MANAGERS SESSION 10—

I. GAME THEORY AND STRATEGIC INTERACTION

A. THE SETTING:

1. A FEW LARGE PLAYERS . . .

a. MUST BE LARGE SO THAT ONE PLAYER'S ACTIONS HAS IMPLICATIONS FOR ENVIRONMENT FACING OTHERS, E.G., MUST BE LARGE ENOUGH TO AFFECT THE MARKET

b. MUST BE FEW SO THAT SOURCE OF ACTION CAN BE IDENTIFIED LOOSELY AND STRATEGIC INTERACTION CAN BE CONSCIOUS

2. . . . WITH CONFLICTING GOALS

a. NON-COOPERATIVE

b. RIVALRY OR CONFLICT

B. EQUILIBRIUM CONCEPT FOR GAME SITUTATIONS

1. NASH

2. NO PLAYER HAS INCENTIVE TO CHANGE STRATEGIES GIVEN OTHER PLAYER CHOICES

C. LESSONS FROM GAME THEORY

1. THE RULES MATTER

a. CHOICE OF STRATEGIC VARIABLE

b. ORDER OF PLAY

c. INFORMATION

d. DURATION OF PLAY

2. BLUFFS AND CREDIBLE THREATS

II. OLIGOPOLY AND PUBLIC POLICY

A. COURNOT'S INSIGHT

1. NUMBERS MATTER
2. MORE FIRMS MAKE FOR A MORE COMPETITIVE OUTCOME
3. COLLUSION AND CARTELS

B. BERTRAND'S INSIGHT

1. PRICE COMPETITION IS FIERCE AND CAN DUPLICATE COMPETITIVE OUTCOME EVEN IF WITH ONLY 2 FIRMS
2. PRODUCT DIFFERENTIATION AND CAPACITY CONSTRAINTS

C. STACKELBERG'S INSIGHT

1. ORDER OF PLAY IS IMPORTANT
2. SUSTAINED DOMINANCE OF ONE FIRM

D. SEQUENTIAL GAMES

1. EXTENSIVE FORM/TREE DIAGRAMS
2. CREDIBILITY AND SUBGAME PERFECTION

E. REPEATED GAMES

1. FINITELY REPEATED GAMES: EXHAUSTIBLE RESOURCE
2. GAMES OF INDEFINITE DURATION

III. EXTERNALITIES

A. ECONOMIC EFFICIENCY: PRICE INDICATES TRUE VALUE *AND* TRUE COST AT THE MARGIN

B. EXTERNAL EFFECTS

1. COSTS IMPOSED ON PARTY NOT INVOLVED IN THE TRADE
   $\Rightarrow$ PRICE DOES NOT EQUAL TRUE MARGINAL COST
2. BENEFITS EXTEND TO PARTY NOT INVOLVED IN THE TRADE
   $\Rightarrow$ PRICE DOES NOT EQUAL TRUE MARGINAL VALUE
3. A COMMON TRAGEDY