OLIGOPOLY MARKET I

DEFINITION

Oligopoly is a market structure where **differentiated** or **homogeneous** product is exchanged between **a few (more than one) sellers** and **many buyers.**

Duopoly Market - Oligopoly market where there are **two sellers.**

ASSUMPTIONS

- **A FEW SELLERS** : NO RIGID RULE ABOUT THE EXACT NUMBER. BUT THE NUMBER IS SUCH THAT THE ACTIVITIES OF ONE SELLER CAN INFLUENCE THE DECISION OF OTHER SELLERS.
- **HOMOGENEOUS OR DIFFERENTIATED PRODUCT** : IF EACH SELLER SELLES HOMOGENEOUS PRODUCT ---- PURE OLIGOPOLY

  IF EACH SELLER SELLS DIFFERENTIATED PRODUCT ---- DIFFERENTIATED OLIGOPOLY
- **INTERDEPENDENCE AMONG THE SELLERS** : THIS IS THE CRUCIAL DIFFERENCE BETWEEN MONOPOLISTIC COMPETITION AND OLIGOPOLY. THE BEHAVIOUR OF ONE SELLER IS DEPENDENT ON THE BEHAVIOUR OF OTHER SELLERS REGARDING ECONOMIC DECISIONS OF THE OLIGOPOLY MARKET.
- **DETERMINATION OF OUTPUT AND PRICE** : THIS BECOMES DIFFICULT BECAUSE OF INTERDEPENDENCE. SPECIFIC ASSUMPTIONS HAVE TO BE MADE REGARDING BEHAVIOUR OF SELLERS FOR DETERMINING THE OUTPUT AND PRICE.
- **NO FREE ENTRY AND EXIT OF FIRMS** : VARIOUS RULES PREVENT THIS.
- **ABSENCE OF SPECIFIC DEMAND CURVE**: THIS IS SO BECAUSE OF INTERDEPENCE OF DECISIONS.

COURNOT MODEL

- **NON- COLLUSIVE MODEL- NO UNDER4STANDING AMONGST THE SELLERS REGARDING PRICE AND /OUTPUT**
- **DUOPOLY MODEL. MODEL EXPLAINS HOW TWO SELLERS ATTAIN EQUILIBRIUM**
- **MODEL INTRODUCED BY AUGUSTIN COURNOT IN 1838**
- **OLDEST MODEL OF OLIGOPOLY**

ASSUMPTIONS

- **TWO SELLERS IN THE ECONOMY , SELLER 1 & SELLER 2**
- **MANY BUYERS**
- **SELL HOMOGENEOUS PRODUCT – THEY BOTTLE NATURALLY AVAILABLE SPRING WATER AND SELL**
- **COST OF PRODUCTION IS ZERO SINCE THE PRODUCT IS NATURALLY AVAILABLE. MC=0**
- **OBJECTIVE OF EACH FIRM IS PROFIT MAXIMIZATION**
- **EACH SELLER ASSUMES THAT THE DECISION OF IT'S COMPETITOR REMAINS UNCHANGED – MYOPIC BEHAVIOUR.**

- **BOTH SELLERS SELL AT SAME PRICE**
- **EACH FIRM HAS COMPLETE KNOWLEDGE ABOUT THE DOWNWARD SLOPING MARKET DEMAND CURVE**
- **EACH FIRM DECIDES ABOUT THE PRODUCTION LEVEL INDEPENDENTLY**
- **EACH SELLER WANTS TO MAXIMISE PROFIT.**

EQUILIBRIUM

RE ACTION CURVES. ASSUMING THAT SELLER 2 DOES NOT CHANGE IT'S DECISION ABOUT THE LEVEL OF OUTPUT, SELLER 1 DECIDES HOW MUCH IT WILL PRODUCE IN ORDER TO MAXIMISE IT'S PROFIT FOR EACH LEVEL OF OUTPUT OF SELLER 2. THIS IS SELLER 1'S REACTION CURVE.

SELLER 2 BEHAVES LIKEWISE AND WE GET SELLER 2'S REACTION CURVE

CONSIDER FIG 1. DD' IS THE MARKET DEMAND CURVE MR IS THE MARGINAL REVENUE. ASSUME SELLER 2 SELLS ZERO OUTPUT. SELLER1 SUPPLIES TO THE ENTIRE DEMAND i.e. OD'. SINCE MC =0, MC=MR TAKES PLACE AT Q'. AT THIS POINT e=1. OQ' IS HALF OF MARKET DEMAND OF OD'.

For SELLER 2 THE RELEVANT MARKET DEMAND CURVE IS ED', THE RELEVANT MR CURVE IS MR' SELLER 2 SUPPLIES HALF OF THE REMAINING DEMAND i.e. HALF OF HALF OF MARKET DEMAND i.e. ,ONE FOURTH OF MARKET DEMAND AND SO ON.

Example of deriving seller 1's re action curve

Seller I's assumption abt seller 2's prodn	Rest of the market facing seller1	Seller1"s profit maximising output
0	100	50
25 50 75 100	75 50 25 0	37.5 25 12.5 0

- SIMILARLY ONE CAN DERIVE REACTION CURVE OF SELLER 2
- CONSIDER FIG 2
- AB IS SELLER 1'S REACTION CURVE
- CD IS SELLER 2'S REACTION CURVE
- SELLER 2'S PRODN SELLER 1'S PRODN
- 0 (ZERO) OB
- ON OM
- ON1 OM1
- HENCE AS SELLER 2'S PRODN INCREASES SELLER 1 REDUCES ITS PROFIT MAX OUTPUT
- THUS REACTION CURVE OF SEELER 1 SHOWS THE PROFIT MAX LEVELS OF PRODN OF SELLER 1 FOR DIFFERENT LEVELS OF PRODN OF SELLER 2 AND VICE VERSA
- EQUILIBRIUM IS ARRIVED AT THE POINT OF INTERSECTION OF THE TWO REACTION CURVES i.e. AT PT E. SELLER 1 PRODUCES OM2 AND SELLER 2 PRODUCES ON2.. BOTH ACHIEVE MAX PROFIT . SO NONE WILL CHANGE THEIR DECISION. E IS A PT OF STABLE EQUILIBRIUM. EACH PRODUCES ONE THIRD OF THE MARKET , TOGETHER THEY PRODUCE TWO THIRD OF THE MARKET. INDIVIDUAL PROFIT MAXIMISED, INDUSTRY PROFIT NOT MAXIMISED. FOR INDUSTRY PROFIT TO BE MAXIMISED TWO FIRMS TOGETHER SHOULD SUPPLY HALF OF THE MARKET.

- **LIMITATIONS**
- SELLERS SELLING HOMOGENEOUS PRODUCT IS NOT REALISTIC
- ZERO COST OF PRODN IS UNREALISTIC
- ASSUMTION THAT COMPETITOR DOES NOT CHANGE DECISION IS UNREALISTIC
- INDUSTRY PROFIT IS NOT MAXIMISED
- MODEL IGNORES CO OPERATION AMONGST FIRMS
- FOCUS IS ON AMOUNT OF PRODUCTION. HENCE PRICE COMPETITION IS IGNORED.