

# Economics research proposal example

[Business](#), [Company](#)



## **Economics experiment**

In this research paper, we will study the behavior of the two firms operating under oligopoly market. In other words, our research will be based on the Game Theory so as to examine the strategic behavior of the firms in an oligopoly market which we call Prisoner's Dilemma. This economic research will help us in understanding the behavior of the firms competing under oligopoly conditions.

Question: Since we all know that oligopoly market structure operates with a small number of sellers who are highly interdependent on their competitor's pricing policy and most importantly each of the firms can earn higher profits if they cheats on the mutual agreement to share a restricted output quantity. Thus, my research will be to study the behavior of firms under oligopoly and how they cheat on their agreement to share a restricted output.

- Each firm honors the agreement
- Both the firm cheats
- Firm A honors the agreement while the Firm B cheats
- Firm B honor the agreement while Firm A cheats

## **Now we will research the implication of each of these outcomes:**

If each firm honors the agreement: If both the firms will honor the agreement, in that case, the total economic profit will be maximized, but each of the firm will share equal profits. Let us try to understand this outcome using a diagram of each firms and the industry itself:

## **MCindustry**

MC

## **ATC Pm**

Qm/2 Quantity Qm Quantityindustry

If one firm cheats and other honors the agreement: In this case, if any one of the firm cheats on the agreement by increasing the output above its agreed upon share, the total economic profit to the industry will be less than that under the collusion agreement. However, the economic profit to the cheating firm will be greater than it would have realized when both the firms honored the agreement. On the other hand, the firm that honors the agreement will now be producing the agreed upon quantity at the same average total cost, but selling at a lower price than expected. This firm may believe that the market demand has fallen and that the equilibrium price for the agreed upon total output, has fallen. Hence, the firm that will honor the agreement will experience an economic loss but the firm that will cheat on the agreement will be able to realize an economic profit by selling more at a lower price, but at a lower average total cost.

If both the firms cheat: Now, this is the last option with each firm and it will be interesting as what would be the result here. If each of the firm violates the agreement, and thus increase their respective output to the point where price equals marginal cost and average total cost, this will help them to maximize their profit potential. Hence, the game ends will the solution that both the firms will cheat. Please check the following argument once more to understand as why we reached to that conclusion:

- If Firm B honors the agreement: Firm A will earn an economic profit if it

honors the agreement, but an even greater economic profit if it cheats. Thus, the best strategy- Firm A cheat.

- Similarly, if Firm B Cheats: In this case, Firm A will face an economic loss if it honors the agreement, but it will earn economic profit if it cheats. Thus, the best strategy: Firm A should also cheat.

Hence, the best optimum economic decision for both the firm will be to cheat. In other words, as per the game theory literature, they should arrive at the Nash Equilibrium.

Some of the factors that may limit the generalizability of the experiment will be specific change in the market conditions that may not allow the colluding firms to cheat. For Instance, at times when the cheating is easy to detect, when there are fewer oligopoly firms in the market, etc. the firms may not indulge them into cheating at all. Under these circumstances, introducing the firms to the prisoner's dilemma will be of no use and my experiment may not produce any desired result. Another important point to note that the experiment on each of the participant firm was conducted in isolation and assuming that each firm has no loyalty to each other, otherwise as a collective or group game discussion will act as a confounding variable where each firm may not agree to cheat at all and I may not reach my experiment results.