

# Game theory

Business



The entries or the strategies in the pay off matrix usually indicate the order of preference of the companies i. e.

first Texaco then Exxon. If Texaco drills another well and Exxon does the same, both will earn returns of (4, 4). In this case, none of the company will be better off than the other. On the other hand, Texaco may decide to drill two wells while Exxon may decide to drill only one well. In this case, Texaco will be better off than Exxon since the Texaco will earn a return of \$6m while Exxon while only earn \$3. At that level, optimum strategy does not exist.

If Texaco decides to use a different strategy of drilling one well, Exxon will be better off. Therefore, if Texaco drills one well and Exxon drills two wells, they are going to receive (3, 6) returns. It is evident from this scenario that Exxon is better off than Texaco since it receives a return of \$6m while Texaco receives \$3m. Hence, the dominant strategy cannot survive. Finally, both companies will opt to drill one well each so that they remain at equilibrium. Both companies have observed each other strategies and; therefore, they will both decide to play row II column II (5, 5).

If both companies decide not to drill an additional well, the matrix obtained will represent the optimal strategy for both companies.