Summary of the sensitivity analysis covered in class

Tornado Diagram



Question : What are the parameters that needs to be confirmed to ensure the profitability of this strategy ?

Answer : Whether the research will be a success or not.

Question : What is the greatest profit in the most optimistic conditions according to the Tornado diagram ?

Answer : Almost 22.5 million dollars in the case where the environmental compensation fees would be at its lower bound, i.e. null.

Question : Why isn't there any segment related to the market share in Phase 2 ?

Answer : The segment is not visible because it is of size zero [14.5, 14.5]. This is due to the fact that we assume that the research will be a success and consequently that the legislation limiting the CFC market share won't have any effect on the production and sale of the newly discovered CFC free product.

Spider Diagram



Question : What should be the size of the market in Phase 2 for the profits to be higher than 10 million dollars ?

Answer : The branch related to the market in Phase 2 indicates that if the parameter is reduced by less than 20%, then the profits will remain above 10 million dollars. Since the nominal value of this parameter is 28 tons, it means that it must remain above (100%-20%)\*28 = 22.4 tons.

Question : What value should the environmental compensation fees be for the profits to be superior to 20 million dollars ?

Answer : the branch "environmental compensation fees” indicates that the parameter must be reduced by more than 80% for the profits to fall above this target. It therefore follows that the parameter must be inferior to (100%-80%)\*0.75 = 0.15 $ per gram.

Decision sensitivity



Question : For which interval of values of the environmental compensation fees does the currently optimal decision remains optimal ?

Answer : According to the chart above, it seems that it would be for values within the interval [0.25, 0.90].

Question : For which interval of values of the environmental compensation fees is it optimal to not conduct alternative research ?

Answer : According to the chart above, it seems that it would be for values within the interval  
[0, 0.25].