

MAXIMAX - The Optimistic Approach

- ✓ This is the way to answer the CEO when she asks, “How can we make the most money?”
- ✓ Find the maximum value in each row. Choose the maximum of the maximums.

MAXIMAX Example

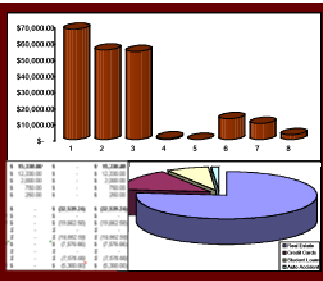
Alternative	State of Nature		Max
	Favorable Market	Unfavorable Market	
Buy a big house	\$ 50,000	\$ -50,000	
Buy a small house	\$ 10,000	\$ -5,000	
Do nothing	\$ 0	\$ 0	

MAXIMIN - The Pessimistic Approach

- ✓ This is the way to answer the CFO when he asks, “How can we lose the least money?”
- ✓ Find the minimum value in each row. Choose the maximum of the minimums.

MAXIMIN Example

Alternative	State of Nature		Min
	Favorable Market	Unfavorable Market	
Tech Stocks	\$ 1,000,000	\$ 0	
Energy Stocks	\$ 100,000	\$ 25,000	
Do nothing	\$ 50,000	\$ 50,000	



MINIMAX Regret - The BOD Approach

- ✓ This is the way to answer the BOD when they ask, “How can we balance the best and worst case scenarios?”

MINIMAX Regret Example

Step 1: Build your Alternatives table.

Alternative	State of Nature			
	Favorable Market	Unfavorable Market		
Build two stories	\$200,000	\$-180,000		
Build one story	\$100,000	\$ -20,000		
Do nothing	\$ 0	\$ 0		

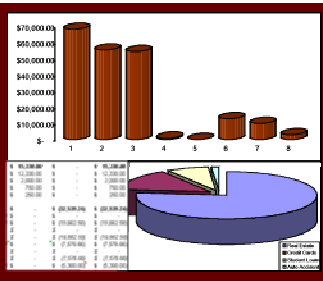
Step 2: Build an Economic Opportunity Loss (EOL) table by subtracting the value in each cell from the largest value in that cell’s column.

Step 3: Take the maximum value for each row (each alternative):

Alternative	State of Nature		Row Max	
	Favorable Market	Unfavorable Market		
Build two stories				
Build one story				
Do nothing				

Step 4: Take the minimum of the maximum values:

Alternative	State of Nature		Row Max	
	Favorable Market	Unfavorable Market		
Build two stories				
Build one story				
Do nothing				



The Expected Monetary Value (EMV) Approach

✓ This is a way to answer, "How can we balance risk and reward?"

Step 1: Assign a probability to each state of nature:

Alternative	State of Nature			
	Favorable Market	Unfavorable Market		
Build two stories	\$200,000	\$-180,000		
Build one story	\$100,000	\$- 20,000		
Do nothing	\$ 0,000	\$ 0		
Probability	0.5	0.5		

Step 2: Multiply the value in each cell by the probability for that state of nature:

Alternative	State of Nature			
	Favorable Market	Unfavorable Market		
Build two stories				
Build one story				
Do nothing				

Step 3: Compute the EMV by adding across each row:

Alternative	State of Nature		EMV	
	Favorable Market	Unfavorable Market		
Build two stories				
Build one story				
Do nothing				

Step 4: Select the alternative with the highest EMV:

Alternative	State of Nature		EMV	
	Favorable Market	Unfavorable Market		
Build two stories				
Build one story				
Do nothing				