Report 2

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In this report has been estimated the implicit dividend of a specific underlying using box spread and call put parity method. The chosen dividend paying underlying is American Electric Power Company, Inc. (AEP).

Discount factors values are included between zero and one and determine the importance of future rewards. A factor of 0 force to consider current rewards, while a factor approaching 1 makes it strives for a long-term high reward. If the discount factor exceeds 1, the action values may diverge, that's probably caused by the choice of strike price k1 and k2, that happens in the maturity 10 months.

T=2/12	20/05/202	call	put	Colonna1
k1	77,5	12,8	0,15	
k2	115	0,35	20,54	
k2-k1	37,5			
box_spr	32,84			
dis_fac	0,875733	D(0,T)		
k	97,5			
S	97,8			
F(0,T)=s*exp(rT)-div		call	put	call - put
D(0,T)*(F(0,T)- K)=c -		1,75	1,15	0,6
Call - Put =s - K*D(0,T) - s*exp(qT)*D(0,T)				
div=s*exp(qT)				
13,49269				
T=3/12	**17/06/202**	**call**	**put**	**Colonna1**
k1	78	13,7	0,28	
k2	110	0,3	3,37	
k2-k1	32,5			
box_spr	16,49			
dis_fac	0,507385	D(0,T)		
k	97,75			
S	99,77			
F(0,T)=s*exp(rT)-div		call	put	call - put
D(0,T)*(F(0,T)- K)=c -		4,8	2,43	2,37
Call - Put =s - K*D(0,T) - s*exp(qT)*D(0,T)				
div=s*exp(qT)				
94,21483				

T=5/12	19/08/202	call		put	Colonna1
k1	77,5		13,15	1,26	
k2	105		0,4	9,2	
k2-k1	27,5				
box_spr	20,69				
dis_fac	0,752364	D(0,T)			
k	97,5				
S	98,89				
F(0,T)=s*exp(rT)-div		call		put	call - put
D(0,T)*(F(0,T)- K)=c -			1,75	1,15	0,6
Call - Put =s - K*D(0,T) - s*exp(qT)*D(0,T)					
div=s*exp(qT)					
33,14161					
T=10/12	20/01/202	call		put	Colonna1
k1	77,5		20,01	1,95	
k2	110		1,05	31,68	
k2-k1	32,5				
box_spr	48,69				
dis_fac	1,498154	D(0,T)			
k	97,5				
S	98,89				
F(0,T)=s*exp(rT)-div		call		put	call - put
D(0,T)*(F(0,T)- K)=c -			1,75	1,15	0,6
Call - Put =s - K*D(0,T) - s*exp(qT)*D(0,T)					
div=s*exp(qT)					
-31,8926					