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pfross | pfross | 28. Nov 2018, 19:33

[**Question 3 e) of Exam 2012/2**](https://ilias.uni-mannheim.de/ilias.php?ref_id=829539&cmdClass=ilobjforumgui&pos_pk=119538&thr_pk=48193&viewmode=1&cmd=markPostRead&cmdNode=ro:ji&baseClass=ilrepositorygui#119538)

When the expected return of stock S of 6% in T=0 is given, I understand that we can first calculate the actual probability p for an increase of the stock price from the formula that discounts the expected value of the stock in t=1 under the probability measure p by discounting by the expected rate of return alpha (p=0.64). We can then use this actual probability p to calculate the expected rate of return of the Chooser option C (alpha\_C=0.0435) and American put P (alpha\_P=–0.1346) using the same formula.  
However, I originally had another solution approach that is related to option elasticities and about which I am not sure about. I would first calculate the risk premium of the stock as RP\_stock= alpha – r = 6% - 3% = 3%. Second I would calculate the option elasticity of the Chooser option C as Ω\_C= dCO/dS \* S(0)/CO(0) = (3.56–3.15)/(23–19)\*20/3.27=0.6269. I would then calculate the expected rate of return C by alpha\_C=RP\_stock \* Ω + r = 0.03 \* 0.6269 + 0,03 = 0.0489.  
For the Put option P I would proceed in the same way and end up with Ω\_P=–5.4609 and alpha\_P=–0.1338.  
Is this approach conceptually sound? Thank you.

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nkloehn | nkloehn | 28. Nov 2018, 20:24

[**Questions**](https://ilias.uni-mannheim.de/ilias.php?ref_id=829539&cmdClass=ilobjforumgui&pos_pk=119543&thr_pk=48193&viewmode=1&cmd=markPostRead&cmdNode=ro:ji&baseClass=ilrepositorygui#119543)

Dear teaching team,  
  
I would really appreciate it if you could answer the following questions:  
  
How exactly do we calculate the value of a compound call / put? Could you please explain this based on an example with a tree and numbers?  
  
What is the general strategy to quickly and efficiently duplicate the payments of a certificate if we are not allowed to use a risk-free asset?  
  
Previous Exam 2011 – 1 / Problem 1b: How do we quickly obtain r(2,3) and r(0,2)?  
  
Previous Exam 2011 – 2 / Problem 1a: What would change regarding the transaction costs if we had a cash settled contract?  
  
Thank you very much in advance.  
  
Kind regards,  
  
Nils

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jliang | jliang | 29. Nov 2018, 13:46

[**Questions**](https://ilias.uni-mannheim.de/ilias.php?ref_id=829539&cmdClass=ilobjforumgui&pos_pk=119601&thr_pk=48193&viewmode=1&cmd=markPostRead&cmdNode=ro:ji&baseClass=ilrepositorygui#119601)

Dear teaching team,

I have the following questions:  
  
1. Could you please explain how do compounds calls/puts work and how to calculate the value using an example?  
  
2. Previous Exam 2011 – 1 / Problem 1b: When I calculate r(1,2) and r(0,2), is it true that I don’t have to take the dividend in t=2 into account? i.e. I just use the stock price before the dividend payment?  
  
3. Previous Exam 2011 – 1 / Problem 3b: Why is the statement false? My thoughts are as following:

           According to Put-Call-parity, P=C-S+X\*B(t,T)

           Since S=X, P=C-X+X\*B(t,T), C-P=X-X\*B(t,T)

           Since X-X\*B(t,T)>0

           Then C>P, the statement is true  
  
4. Question about the derivation of the formula of a fair interest-currency swap rate,          see:https://drive.google.com/open?id=1NeX7JuOXyY37bG3b0ZwwVH7QPL9ajqT5  
  
5. Previous Exam 2012 – 1 / Problem 2a: Question about the lower bound of the forward price,   
see: https://drive.google.com/open?id=1vOjL\_jVHM79HC8dTj4Hv9tS0J2qNfJjG  
  
6. Previous Exam 2012 – 1 / Problem 4c: Could you please explain how to work this out.

Sorry for so many questions and thank you very much in advance.

Best Regards,

Jiaying

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hongnguy | hongnguy | Yesterday, 10:53

[**Arbitrage opportunities**](https://ilias.uni-mannheim.de/ilias.php?ref_id=829539&cmdClass=ilobjforumgui&pos_pk=119685&thr_pk=48193&viewmode=1&cmd=markPostRead&cmdNode=ro:ji&baseClass=ilrepositorygui#119685)

Hi guys,  
When proving there exists an arbitrage opportunity using duplication table, do we need to show the positive profits for ALL stages or is it still fine with at least 1 stage?   
  
Thanks in advance for the clarification!  
Best,  
Phuc.

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nischaef | nischaef | Yesterday, 14:58

[**Calculator**](https://ilias.uni-mannheim.de/ilias.php?ref_id=829539&cmdClass=ilobjforumgui&pos_pk=119723&thr_pk=48193&viewmode=1&cmd=markPostRead&cmdNode=ro:ji&baseClass=ilrepositorygui#119723)

Hi,  
  
are there any restrictions on the calculator we are allowed to use?   
(Are the models from the Bachelor [Casio FX-85DE Plus or FX-991DE Plus] fine?)  
  
Thanks in advance!  
Best,  
Niklas

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nblessin | nblessin | Yesterday, 19:43

[**Questions for Q&A session**](https://ilias.uni-mannheim.de/ilias.php?ref_id=829539&cmdClass=ilobjforumgui&pos_pk=119769&thr_pk=48193&viewmode=1&cmd=markPostRead&cmdNode=ro:ji&baseClass=ilrepositorygui#119769)

Hello,   
  
I have a few questions regarding the lecture notes and the past exam (2011/1):

1. Chapter 3 (Forwards), page 22: Setting the sum in t equal to zero because of no-arbitrage argument implies that we can multiply the table with -1. But this would mean that if I sell the Commodity, I would get the storage costs. Isn't that an unrealistic assumption?  
  
2. Chapter 5 (swaps), page 27: Could we do a concrete example how to price an equity swap based on an index with dividend payments?  
  
3. Can we apply the Black-Scholes formula for a Call on a dividend paying stock?  
  
4. Exam 2011, first exam: How do we solve problem 2?

Thank you and best regards,  
  
Nike