KU LEUVEN

Design of a structured product

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Contents

1 Introduction, Assumptions and relevant market data

In this assignment the design of two structured products for an underlying stock will be discussed. Namely the underlying stock is Advanced Micro Devices, Inc. , which is also known as AMD. AMD is an American multinational semiconductor company, which produces Computer processors and related technologies for business and consumer markets. For many investors AMD is a really interesting company, as it is beside of Intel (Intel Corp. v. Advanced Micro Devices) the biggest producer for computer processors with even growing partial of the market. Additionally the recent release of the new graphics processing units (GPUs) is very promising as these represent serious competition to Nvidia graphics cards, which dominated the market in the last years.

Following structured products will be introduced:

- Product 1: Partially principal protected note

- Product 2: Airbag note

As underlying Finance instruments we will basically consider three different assets:

- the risk-free bank account with an fixed interest rate r

- the stock S (in this case AMD)

- Call and Put options on the stock S

As starting date $t = 0$ Friday the 20st November is choosen. The maturity date of the products is Friday 21st January 2022. More precisely the structured product, which will be discussed later, are build on the data presented below, accessed at Friday 20st November at 3:35 pm (MEZ).
c   LaTeX Error: tabular on input line 122 ended by cSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ¡command¿ ¡return¿ to replace it with another command,or ¡return¿ to continue without it.
tabular To get a fixed interest rate for the whole time period we the daily treasure yield rate of the US treasure

2 Product 1: Partially principal protected note (PPPN)

2.1 Descriptive part: What is a PPPN and why is it interesting?

2.2 Technical Part: How does a PPPN work?

3 Product 2: Airbag note (AN)

3.1 Descriptive part: What is a AN and why is it interesting?

3.2 Technical Part: How does a AN work?

4 Appendix

4.1 Screenshots of the market data

References

[1] Daily treasury yield curve rates - the united states government. `https://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yield`. Accessed: 2020-11-20.