

DMB Constant Prepayment Analysis

Description

The DMB Constant Prepayment Analysis (CPR) is a tool devoted to analysing mainly Danish Callable Mortgage Bonds where the users can create their own prepayment cashflow, calculate key figures of bonds and horizon returns using these prepayment cashflows.

Settings

It is possible to specify the following settings in CPR

Date: Defines the date for when the calculations should be done, i.e. trade date. Default is today i.e. real-time.

Save curve in real time: Possibility to save discount curve in real time/.

Cashflow Type: The chosen methods of estimating cashflows. Default is MCI.

Prepay Type: Choose the method of adjusting cash flows; the default method is Nordea internal adjustment method.

Number of prepayment terms: Number of prepayment terms with the first level of prepayments.

CPR: The first level of prepayments in percent.

Rest cpr: The second level of prepayments in percent.

Reinvest in bonds: When enabled, cash flows will be reinvested in the same bond series if possible. If it is not, then the reinvestment rate above will be used.

Reinvestment: User is able to enter the rate that cash flows should be reinvested at. If empty, it will be the relevant libor or repo rate.

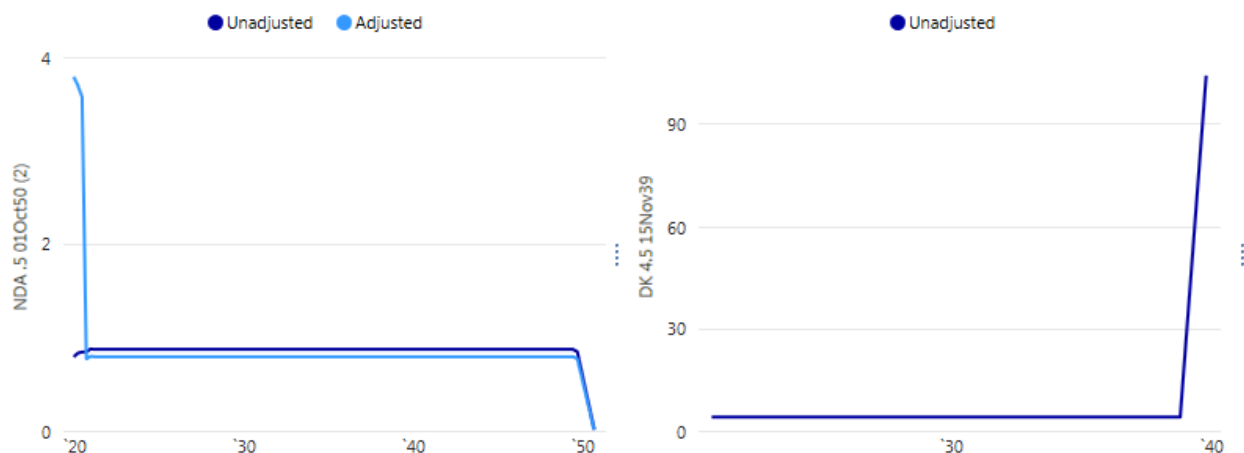
Horizon Date: The date for when horizon key figures should be calculated and marks the end date for the return period.

Report elements

DMBA report elements are described below.

Cash flows

CASHFLOWS



The graph above contains both unadjusted (dark blue) and adjusted cash flows (light blue) using the entered fixed prepayments. For non-callable bonds only the unadjusted line will appear

Key figures

The application calculates key figures using the adjusted and the unadjusted cashflow. Using the adjusted cash flow, the key figures are based on one key figure from the unadjusted cash flow. For instance, using the adjusted cash flow and price of the unadjusted cash flow.

DETERMINISTIC KEYFIGURES CASH FLOW BASED ON PREPAYMENT SCHEME

NDA 0.5 01OCT27 (2)		NDA 0.5 01OCT30 (2)		NDA 0.5 01OCT50 (2)		NDA 1.5 01OCT37 (2)		NDA 1.5 01OCT47 (2)	
BASED ON PRICE		BASED ON PRICE		BASED ON PRICE		BASED ON PRICE		BASED ON PRICE	
Keyfigure		Keyfigure		Keyfigure		Keyfigure		Keyfigure	
Spread	66,86	Spread	66,65	Spread	78,58	Spread	127,78	Spread	138,57
Yield	0,00	Yield	0,00	Yield	0,01	Yield	0,01	Yield	0,01
FW_Duration	3,89	FW_Duration	5,37	FW_Duration	14,63	FW_Duration	8,56	FW_Duration	12,89
NPV	2,69	NPV	3,72	NPV	11,98	NPV	12,26	NPV	20,76
Accrued_Interest	0,05	Accrued_Interest	0,05	Accrued_Interest	0,05	Accrued_Interest	0,14	Accrued_Interest	0,14
Quote	101,33	Quote	101,35	Quote	96,15	Quote	103,78	Quote	102,15
BASED ON YCS		BASED ON YCS		BASED ON YCS		BASED ON YCS		BASED ON YCS	
Keyfigure		Keyfigure		Keyfigure		Keyfigure		Keyfigure	
Price	101,37	Price	101,40	Price	96,20	Price	103,92	Price	102,36
Yield	0,00	Yield	0,00	Yield	0,01	Yield	0,01	Yield	0,01
NPV	2,42	NPV	3,16	NPV	11,88	NPV	10,84	NPV	19,74
BASED ON YTM		BASED ON YTM		BASED ON YTM		BASED ON YTM		BASED ON YTM	
Keyfigure		Keyfigure		Keyfigure		Keyfigure		Keyfigure	
Price	101,37	Price	101,40	Price	96,20	Price	103,92	Price	102,19
Spread	65,55	Spread	66,98	Spread	79,46	Spread	127,38	Spread	139,88

In the table above you see the key figures from the adjusted cash flows based on price or yield curve spread.

Horizon return with fixed prepayments

HORIZON RETURNS WITH FIXED PREPAYMENTS

NDA 0.5 01OCT27 (2)		NDA 0.5 01OCT30 (2)		NDA 0.5 01OCT50 (2)		NDA 1.5 01OCT37 (2)	
Horizon Prices	Returns	Horizon Prices	Returns	Horizon Prices	Returns	Horizon Prices	Returns
101,075	-0,20 %	101,1	-0,19 %	95,9	0,18 %	103,525	-0,04 %
101,325	0,03 %	101,35	0,04 %	96,15	0,42 %	103,775	0,19 %
101,575	0,26 %	101,6	0,27 %	96,4	0,67 %	104,025	0,42 %
101,825	0,49 %	101,85	0,50 %	96,65	0,91 %	104,275	0,65 %

In the tables above we have the horizon return with the fixed prepayments and fixed horizon prices.

Input data: In the bottom tables of the visualizer, you can customize the individual prepayment, and horizon prices, and deterministic keyfigures:

PREPAYMENTS INPUT DATA

	2020_04_01	2020_07_01	2020_10_01	2021_01_01	2021_04_01
NDA 0.5 01Oct27 (2)	3,00 %	3,00 %	3,00 %	0,00 %	0,00 %
NDA 0.5 01Oct30 (2)	3,00 %	3,00 %	3,00 %	0,00 %	0,00 %
NDA 0.5 01Oct50 (2)	3,00 %	3,00 %	3,00 %	0,00 %	0,00 %
NDA 1.5 01Oct37 (2)	3,00 %	3,00 %	3,00 %	0,00 %	0,00 %

In the table above it is possible to change individual prepayments.

HORIZON PRICES FOR HORIZON RETURNS

	Below_quote	At_Quote	Small_Quote_Increase	Large_Quote_Increase
DK 4.5 15Nov39	192,82	193,07	193,32	193,57
NDA 0.5 01Oct27 (2)	101,08	101,33	101,58	101,83
NDA 0.5 01Oct30 (2)	101,10	101,35	101,60	101,85
NDA 0.5 01Oct50 (2)	95,90	96,15	96,40	96,65
NDA 1.5 01Oct37 (2)	103,53	103,78	104,03	104,28
NDA 1.5 01Oct47 (2)	101,90	102,15	102,40	102,65

In the table above it is possible to change individual horizon prices.

ORIGINAL KEYFIGURES WITH MANUAL PREPAYMENTS

	Spread	Yield	FW_Duration	NPV	Accrued_Interest	Quote
DK 4.5 15Nov39	0,0000	-0,0015	15,2838	0,0000	0,9959	193,2730
NDA 0.5 01Oct27 (2)	65,6238	0,0013	3,5907	2,4266	0,0467	101,3250
NDA 0.5 01Oct30 (2)	67,1645	0,0021	4,5632	3,1728	0,0467	101,3500
NDA 0.5 01Oct50 (2)	79,7611	0,0077	14,3606	11,9363	0,0467	96,1750
NDA 1.5 01Oct37 (2)	127,7491	0,0102	7,6502	10,8729	0,1401	103,7750
NDA 1.5 01Oct47 (2)	139,0300	0,0134	12,8921	20,8371	0,1401	102,1500

In the table above it is possible change the deterministic key figures individually.