



Final Report

Hedging Interest Rate Risk

GVG GLASFASER

07th october 2024

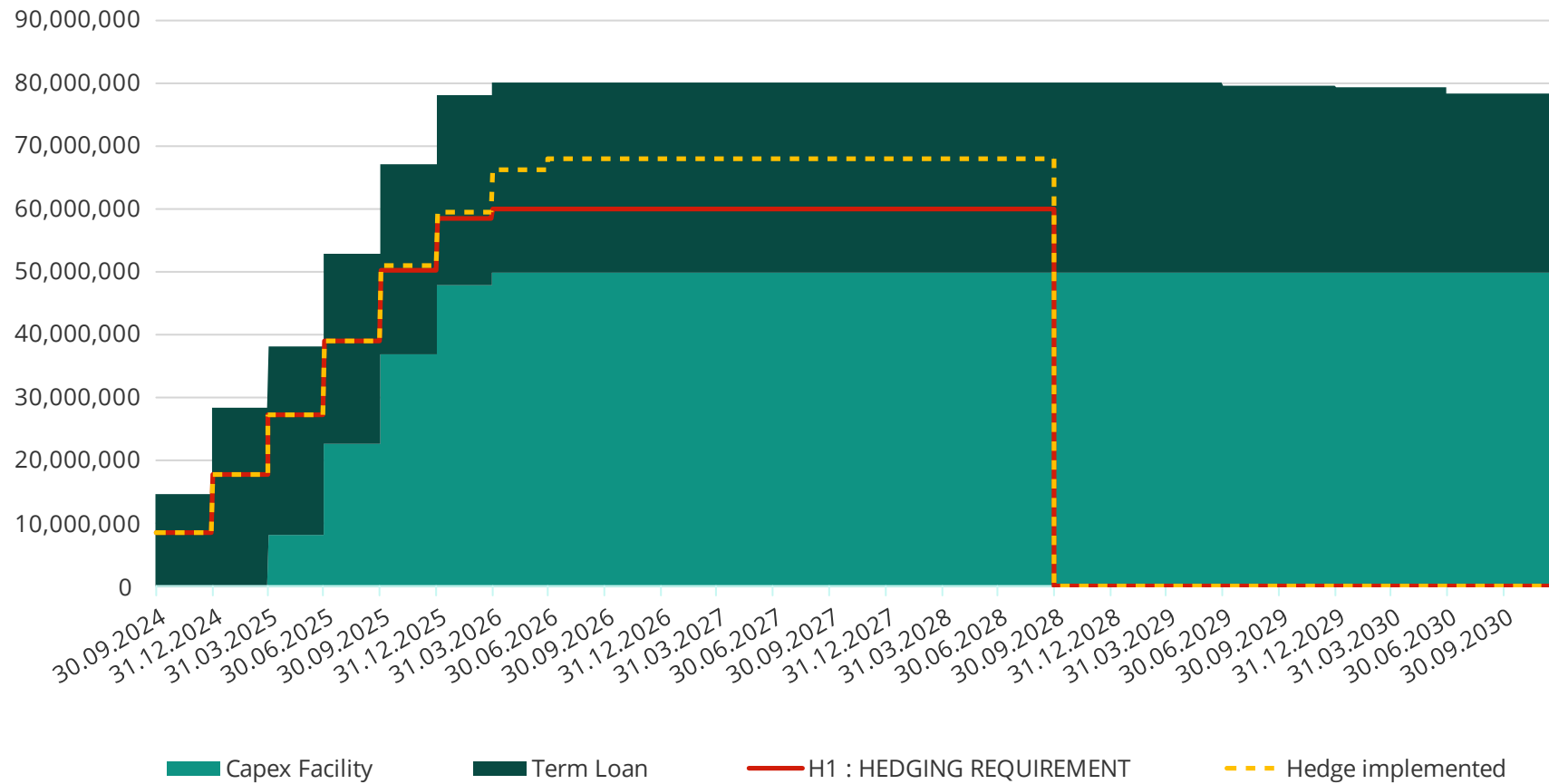


KERIUS Finance SAS
Conseiller en Investissements Financiers
Membre de l'ANACOFI CIF- Association agréée par l'AMF - ORIAS N° 13000716

Summary of hedging decisions

- New hedge set up on a 4-year horizon to mitigate the sensitivity of the group to interest rates variations, including the impact of negatives rates with the Cash Flow Hedge objective (future cash flow hedging).
- A cap with a protection rate (strike) at 0% has been set up to limit the financing rate on the hedged part. Those products take into account the 0% floor on the debt.

Map after hedge inception



Hedges set up:

Purchased Cap 0% for 4 years.

Banking split :

Nord LB 50%, ING 50%

Debt & Hedging Requirement Mapping

Financing :

Lenders : Pool – Facilities of **€80'000'000**, **First drawdown scheduled for 30/09/2024**

- **Term Loan**: €30'000'000, drawn quarterly from **30/09/2024** until **31/03/2025**, maturing **30/12/2030**, special amortization, floor 0% on Euribor 3 months + 3,25% margin.
- **Capex Facility**: €50'000'000, drawn quarterly from **31/03/2025** until **31/03/2026**, maturing **30/12/2030**, bullet amortization, floor 0% on Euribor 3 months + 3,25% margin.

Hedging requirement :

The Company shall, no later than **30 Business Days** after Financial Close, enter into **Interest Rate Hedging** with an aggregate notional amount of no less than **75%** and no more than 110% of the aggregate amount expected to be outstanding under the **Term Loan Facility and the Capex Facility** until the date which is **four years** after the date of the first utilisation (as per the Base Case Model). It being understood, that the Original Lenders will have the chance to provide an offer to the Company for such Interest Rate Hedging regarding the Term Loan Facility and the Capex Facility and a right to match in relation to offers received from prospective hedge counterparties which are not Original Lenders. → **30/10/2025**

Hedging counterparty : ING Bank ; Norddeutsche Landesbank

In the event of hedging of a loan that has not yet been drawn on the hedging date: check that the contract allows it or request authorization from the arranging Bank because it is generally prohibited to cover more than 100% of the debts drawn.

Details of hedges set up

Cap with premium:

Bank : Nord LB

Strike price: 0% (strike)

Trade Date: 25/09/2024

Start Date: 30/09/2024

End Date: 30/09/2028

Index : Euribor 3 Mois

Base : Actual/360

Notional principal : € 4'250'000 amortization as set out in the table.

Annual premium to pay on a quarterly basis until 29/09/2028 : **2,1580%**, corresponding to an upfront premium of **€ 2'280'209.**

Cap with premium:

Bank : ING

Strike price: 0% (strike)

Trade Date: 26/09/2024

Start Date: 30/09/2024

End Date: 30/09/2028

Index : Euribor 3 Mois

Base : Actual/360

Notional principal : € 4'250'000 amortization as set out in the table.

Annual premium to pay on a quarterly basis until 29/09/2028 : **2,1370%**, corresponding to an upfront premium of **€ 2'269'967.**

Premium to be paid (lissée)

Accounting deferral of the premium (upfront)

Hedge Nord LB

Fixing	Start	End	Payment	Notionnal	Premium to be paid	Remaining to be paid in case of unwinding
26.09.2024	30.09.2024	31.12.2024	31.12.2024	4,250,000	22,168	-2,256,134
27.12.2024	31.12.2024	31.03.2025	31.03.2025	8,925,000	45,541	-2,210,632
27.03.2025	31.03.2025	30.06.2025	30.06.2025	13,600,000	70,166	-2,140,525
26.09.2025	30.09.2025	31.12.2025	31.12.2025	25,500,000	133,007	-1,905,744
29.12.2025	31.12.2025	31.03.2026	31.03.2026	29,750,000	151,802	-1,754,070
26.06.2026	30.06.2026	30.09.2026	30.09.2026	34,000,000	177,343	-1,405,991
28.09.2026	30.09.2026	31.12.2026	31.12.2026	34,000,000	177,343	-1,228,798
29.03.2028	31.03.2028	30.06.2028	30.06.2028	34,000,000	175,416	-175,267
28.06.2028	30.06.2028	29.09.2028	29.09.2028	34,000,000	175,416	0

Running Premium 2.1580%

Total to be paid 2,280,209

Premium to be paid (lissée)

Accounting deferral of the premium (upfront)

Hedge ING

Fixing	Start	End	Payment	Notionnal	Premium to be paid	Remaining to be paid in case of unwinding
26.09.2024	30.09.2024	31.12.2024	31.12.2024	4,250,000	22,068	-2,246,000
27.12.2024	31.12.2024	31.03.2025	31.03.2025	8,925,000	45,336	-2,200,702
27.03.2025	31.03.2025	30.06.2025	30.06.2025	13,600,000	69,851	-2,130,910
26.09.2025	30.09.2025	31.12.2025	31.12.2025	25,500,000	132,410	-1,897,184
29.12.2025	31.12.2025	31.03.2026	31.03.2026	29,750,000	151,120	-1,746,191
26.06.2026	30.06.2026	30.09.2026	30.09.2026	34,000,000	176,547	-1,399,676
28.09.2026	30.09.2026	31.12.2026	31.12.2026	34,000,000	176,547	-1,223,278
29.03.2028	31.03.2028	30.06.2028	30.06.2028	34,000,000	174,628	-174,480
28.06.2028	30.06.2028	29.09.2028	29.09.2028	34,000,000	174,628	0

Running Premium 2.1370%

Total to be paid 2,269,967

Amortization table

DATE FIXING	START DATE	END DATE	DATE PAIEMENT	Term Loan		Capex Facility		TOTAL DEBT
				Amort.	CRD	Amort.	CRD	
26.09.2024	30.09.2024	31.12.2024	31.12.2024	0	14,817,204	0	0	14,817,204
27.12.2024	31.12.2024	31.03.2025	31.03.2025	-13,720,070	28,537,274	0	0	28,537,274
27.03.2025	31.03.2025	30.06.2025	30.06.2025	-1,462,726	30,000,000	-8,106,661	8,106,661	38,106,661
26.06.2025	30.06.2025	30.09.2025	30.09.2025	0	30,000,000	-14,659,767	22,766,428	52,766,428
26.09.2025	30.09.2025	31.12.2025	31.12.2025	0	30,000,000	-14,262,489	37,028,916	67,028,916
29.12.2025	31.12.2025	31.03.2026	31.03.2026	0	30,000,000	-10,975,917	48,004,833	78,004,833
27.03.2026	31.03.2026	30.06.2026	30.06.2026	0	30,000,000	-1,995,166	50,000,000	80,000,000
26.06.2026	30.06.2026	30.09.2026	30.09.2026	0	30,000,000	0	50,000,000	80,000,000
28.09.2026	30.09.2026	31.12.2026	31.12.2026	0	30,000,000	0	50,000,000	80,000,000
29.12.2026	31.12.2026	31.03.2027	31.03.2027	0	30,000,000	0	50,000,000	80,000,000
25.03.2027	31.03.2027	30.06.2027	30.06.2027	0	30,000,000	0	50,000,000	80,000,000
28.06.2027	30.06.2027	30.09.2027	30.09.2027	0	30,000,000	0	50,000,000	80,000,000
28.09.2027	30.09.2027	31.12.2027	31.12.2027	0	30,000,000	0	50,000,000	80,000,000
29.12.2027	31.12.2027	31.03.2028	31.03.2028	0	30,000,000	0	50,000,000	80,000,000
29.03.2028	31.03.2028	30.06.2028	30.06.2028	0	30,000,000	0	50,000,000	80,000,000
28.06.2028	30.06.2028	29.09.2028	29.09.2028	0	30,000,000	0	50,000,000	80,000,000
27.09.2028	29.09.2028	29.12.2028	29.12.2028	0	30,000,000	0	50,000,000	80,000,000
27.12.2028	29.12.2028	29.03.2029	29.03.2029	0	30,000,000	0	50,000,000	80,000,000
27.03.2029	29.03.2029	29.06.2029	29.06.2029	0	30,000,000	0	50,000,000	80,000,000
27.06.2029	29.06.2029	28.09.2029	28.09.2029	299,016	29,700,984	0	50,000,000	79,700,984
26.09.2029	28.09.2029	31.12.2029	31.12.2029	0	29,700,984	0	50,000,000	79,700,984
27.12.2029	31.12.2029	29.03.2030	29.03.2030	464,016	29,236,969	0	50,000,000	79,236,968
27.03.2030	29.03.2030	28.06.2030	28.06.2030	0	29,236,969	0	50,000,000	79,236,968
26.06.2030	28.06.2030	30.09.2030	30.09.2030	934,426	28,302,542	0	50,000,000	78,302,542
26.09.2030	30.09.2030	31.12.2030	31.12.2030	0	28,302,542	0	50,000,000	78,302,542
27.12.2030	31.12.2030	31.03.2031	31.03.2031	28,302,542	0	50,000,000	0	0

Amortization table

DATE FIXING	START DATE	END DATE	DATE PAIEMENT	H1 : HEDGING REQUIREMENT	50% NORD LB	50% ING	Hedge implemented
26.09.2024	30.09.2024	31.12.2024	31.12.2024	8 500 000	4,250,000	4,250,000	8,500,000
27.12.2024	31.12.2024	31.03.2025	31.03.2025	17 850 000	8,925,000	8,925,000	17,850,000
27.03.2025	31.03.2025	30.06.2025	30.06.2025	27 200 000	13,600,000	13,600,000	27,200,000
26.06.2025	30.06.2025	30.09.2025	30.09.2025	39 100 000	19,550,000	19,550,000	39,100,000
26.09.2025	30.09.2025	31.12.2025	31.12.2025	50 271 687	25,500,000	25,500,000	51,000,000
29.12.2025	31.12.2025	31.03.2026	31.03.2026	58 503 625	29,750,000	29,750,000	59,500,000
27.03.2026	31.03.2026	30.06.2026	30.06.2026	60 000 000	33,150,000	33,150,000	66,300,000
26.06.2026	30.06.2026	30.09.2026	30.09.2026	60 000 000	34,000,000	34,000,000	68,000,000
28.09.2026	30.09.2026	31.12.2026	31.12.2026	60 000 000	34,000,000	34,000,000	68,000,000
29.12.2026	31.12.2026	31.03.2027	31.03.2027	60 000 000	34,000,000	34,000,000	68,000,000
25.03.2027	31.03.2027	30.06.2027	30.06.2027	60 000 000	34,000,000	34,000,000	68,000,000
28.06.2027	30.06.2027	30.09.2027	30.09.2027	60 000 000	34,000,000	34,000,000	68,000,000
28.09.2027	30.09.2027	31.12.2027	31.12.2027	60 000 000	34,000,000	34,000,000	68,000,000
29.12.2027	31.12.2027	31.03.2028	31.03.2028	60 000 000	34,000,000	34,000,000	68,000,000
29.03.2028	31.03.2028	30.06.2028	30.06.2028	60 000 000	34,000,000	34,000,000	68,000,000
28.06.2028	30.06.2028	29.09.2028	29.09.2028	60 000 000	34,000,000	34,000,000	68,000,000
27.09.2028	29.09.2028	29.12.2028	29.12.2028	0	0	0	0
27.12.2028	29.12.2028	29.03.2029	29.03.2029	0	0	0	0
27.03.2029	29.03.2029	29.06.2029	29.06.2029	0	0	0	0
27.06.2029	29.06.2029	28.09.2029	28.09.2029	0	0	0	0
26.09.2029	28.09.2029	31.12.2029	31.12.2029	0	0	0	0
27.12.2029	31.12.2029	29.03.2030	29.03.2030	0	0	0	0
27.03.2030	29.03.2030	28.06.2030	28.06.2030	0	0	0	0
26.06.2030	28.06.2030	30.09.2030	30.09.2030	0	0	0	0
26.09.2030	30.09.2030	31.12.2030	31.12.2030	0	0	0	0
27.12.2030	31.12.2030	31.03.2031	31.03.2031	0	0	0	0

ROI analysis

In addition to the qualitative aspects (analysis and choice of the most appropriate strategy) and the time saved during the process, the KERIUS Finance service generated the following savings:

Value of 1 BP	11 181	11 181
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	Nord LB	ING	Total
Total savings	51 634	57 406	109 040
Market price without bank margin	2 220 030	2 215 561	4 435 591
Price with standard bank margin *	2 331 843	2 327 373	4 659 216
Standard bank margin (10 basis points) *	111 813	111 813	223 626
Final price	2 280 209	2 269 967	4 550 176
Final margin	60 179	54 406	114 586

* The standard margin taken by banks in this context is 10 to 15 basis points over the fixed rate or running premium compared to the rate / price without margin used above. A margin of 10 basis points is used for this comparison.

The total savings are made in three stages in a "cooperative" way with the bank:

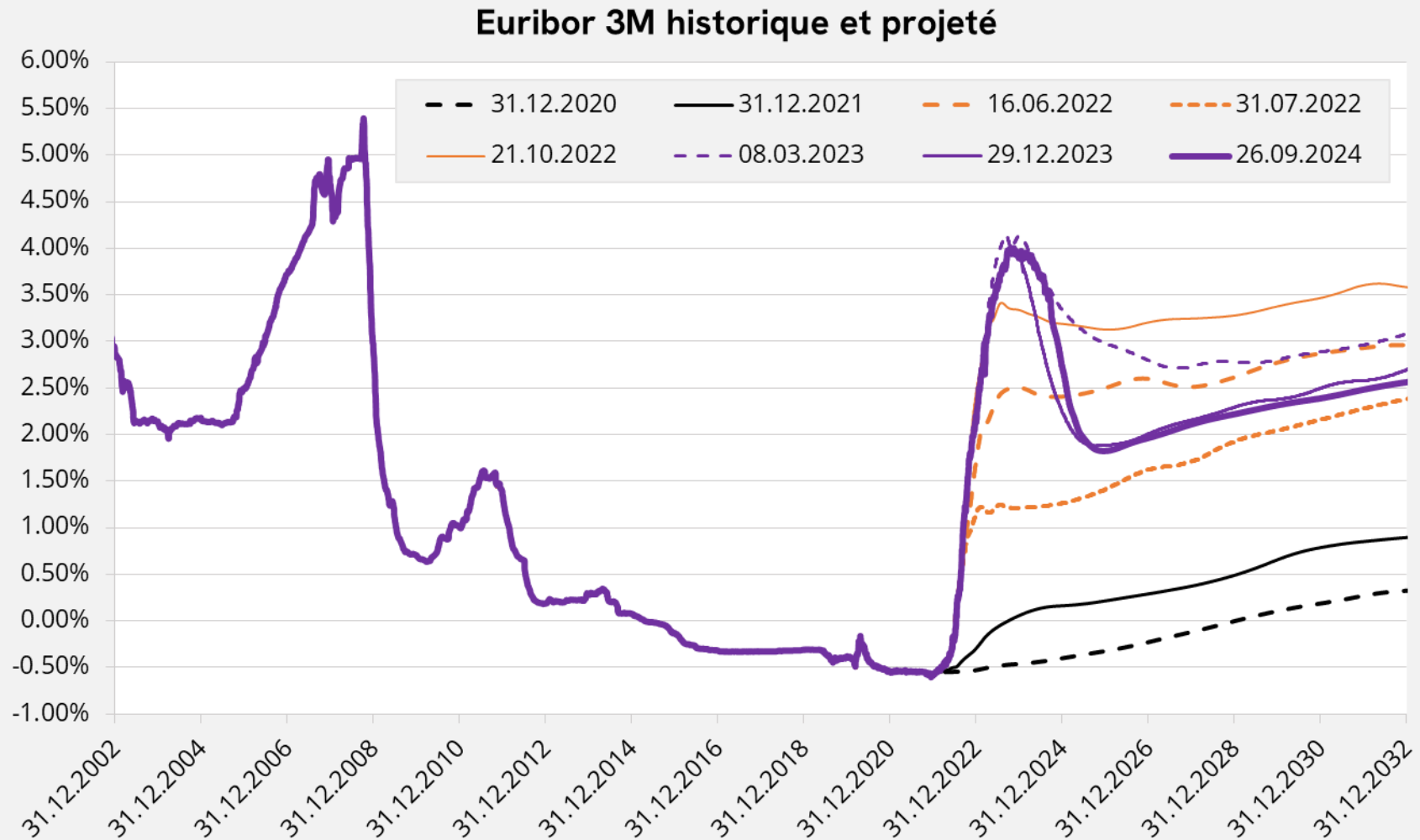
- Choosing the optimal product: similar or identical products are often "priced" differently
- Preliminary negotiations before quotes tender (explanation of KERIUS method and target margin to be selected)
- Final negotiation at the end of the process

Appendices

- Market Data : Historic and projected Euribor
- Recall: Situation before new hedges and Financial expenses simulation
- Financing terms
- Recall : Profiles at maturity of different types of hedge

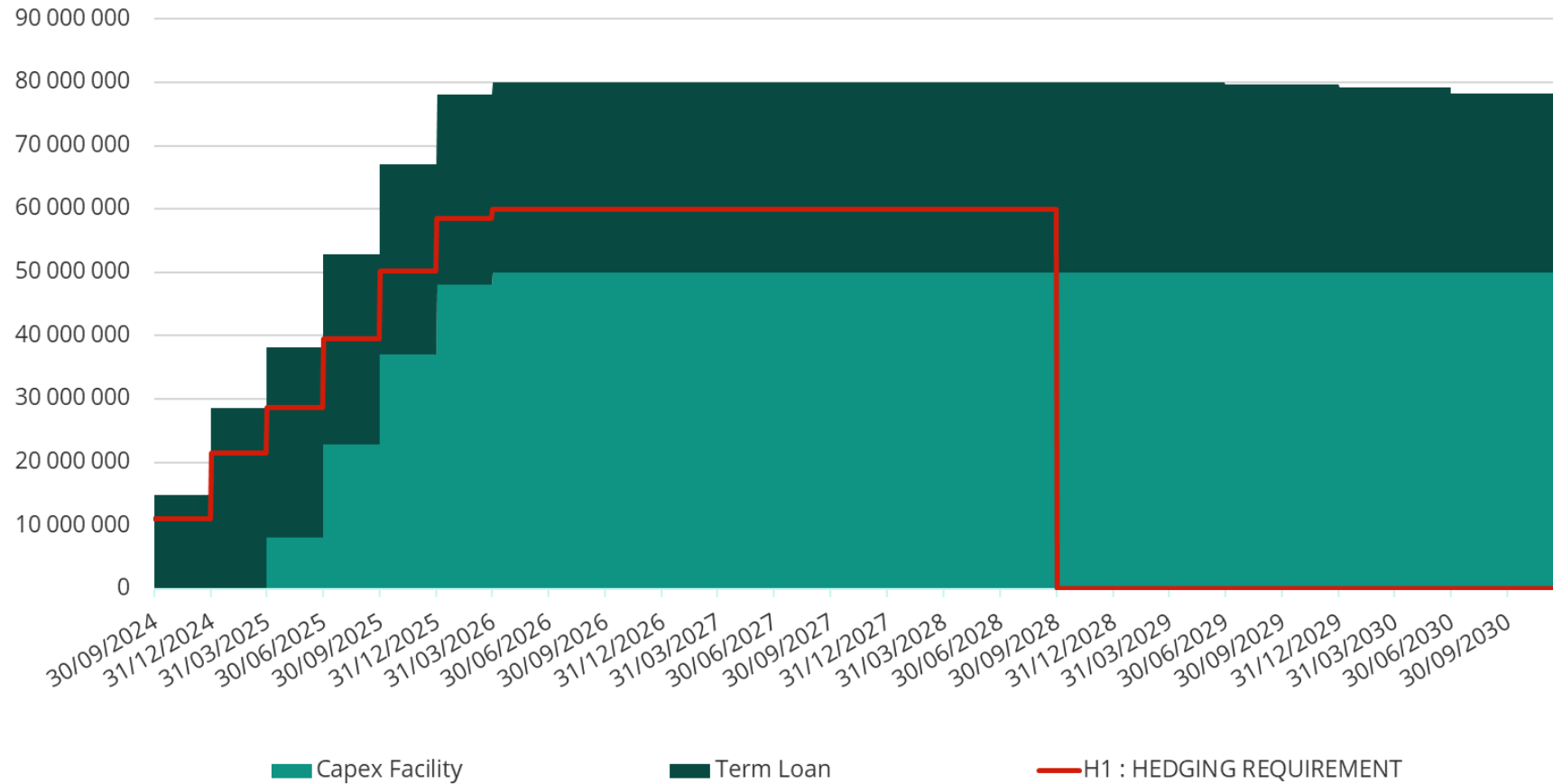
Extract from past reports

Market data (26/09/2024)



Extract from the analysis reports produced during the mission

Debt & Hedging Requirement Mapping



Financing :

Lenders : Pool – Facilities of €80'000'000, **First drawdown scheduled for 30/09/2024**

- **Term Loan**: €30'000'000, drawn quarterly from **30/09/2024** until **31/03/2025**, maturing **30/12/2030**, special amortization, floor 0% on Euribor 3 months + 3,25% margin.
- **Capex Facility**: €50'000'000, drawn quarterly from **31/03/2025** until **31/03/2026**, maturing **30/12/2030**, bullet amortization, floor 0% on Euribor 3 months + 3,25% margin.

Hedging requirement :

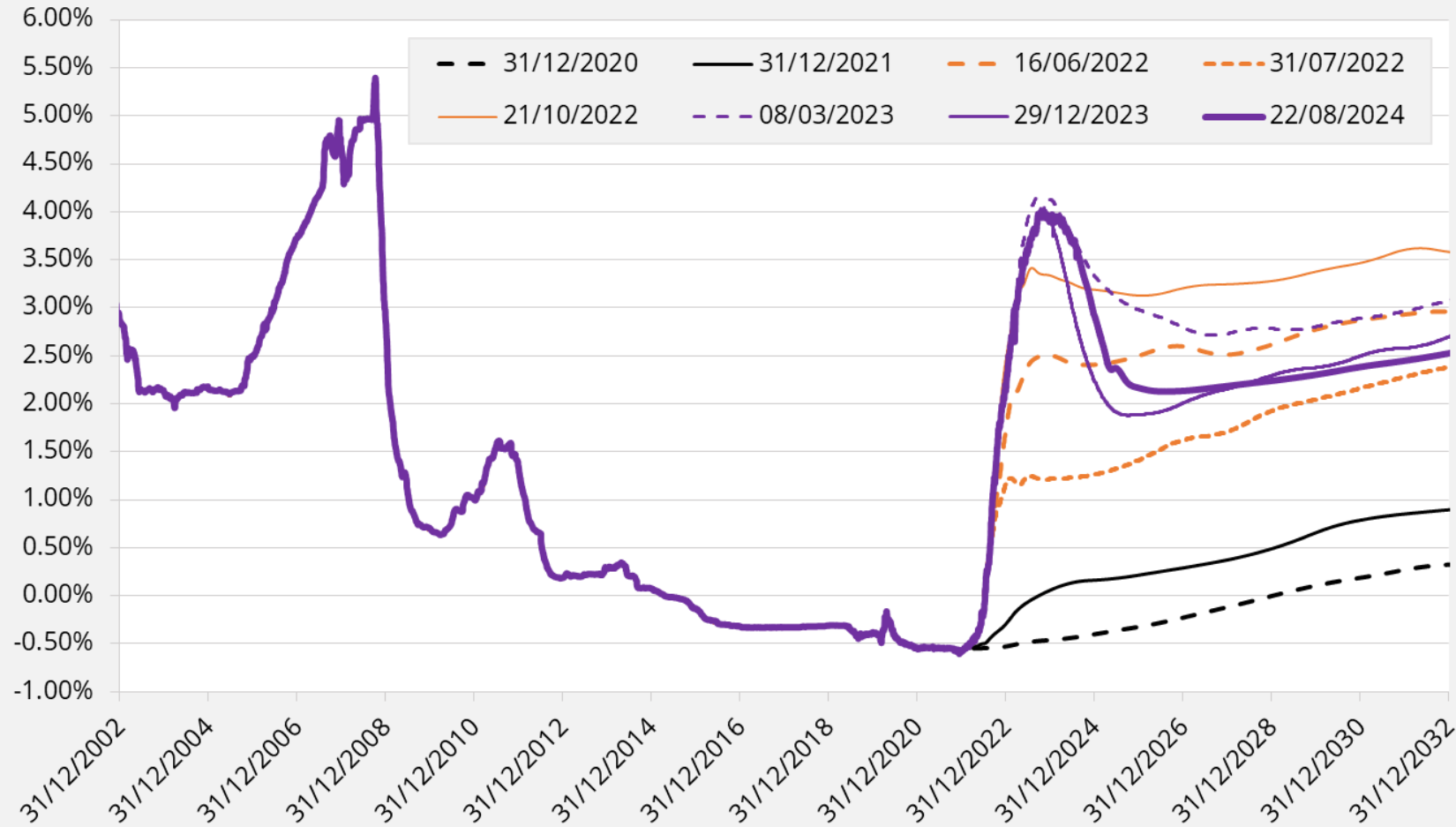
The Company shall, no later than **30 Business Days** after Financial Close, enter into **Interest Rate Hedging** with an aggregate notional amount of no less than **75%** and no more than 110% of the aggregate amount expected to be outstanding under the **Term Loan Facility and the Capex Facility** until the date which is **four years** after the date of the first utilisation (as per the Base Case Model). It being understood, that the Original Lenders will have the chance to provide an offer to the Company for such Interest Rate Hedging regarding the Term Loan Facility and the Capex Facility and a right to match in relation to offers received from prospective hedge counterparties which are not Original Lenders. → **30/10/2025**

Hedging counterparty : ING Bank ; Norddeutsche Landesbank

In the event of hedging of a loan that has not yet been drawn on the hedging date: check that the contract allows it or request authorization from the arranging Bank because it is generally prohibited to cover more than 100% of the debts drawn.

Market data

Historical & Projected Euribor 3M

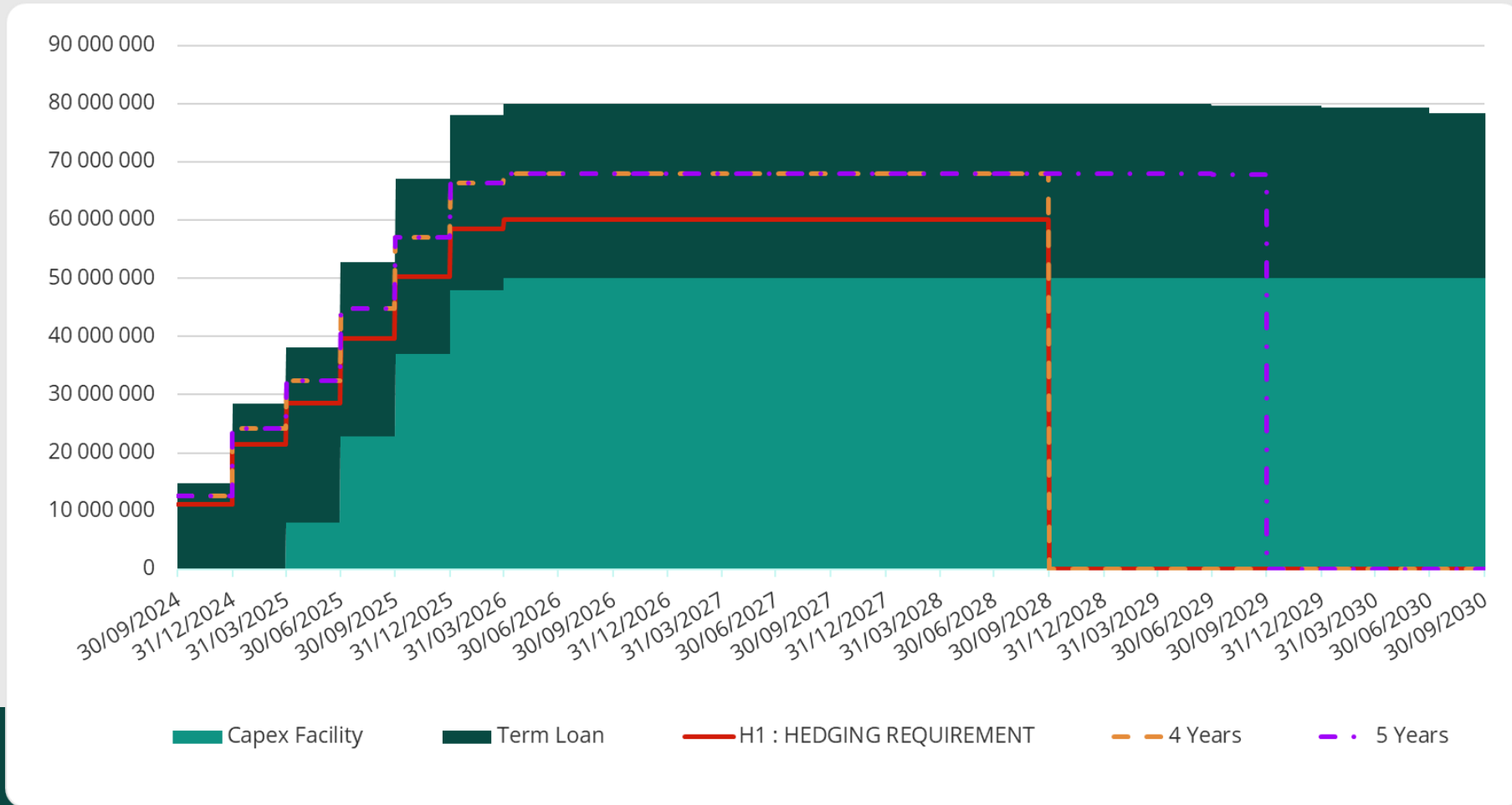


The markets are currently very volatile and can cause the price of hedges to vary significantly.

The price of hedges moves daily by +/-10 or 15 basis points

Since Covid, banks' legal departments have been saturated and implementation times have been significantly extended. Several procedures can only be launched after the customer has chosen the bank. This is why it is necessary to allow a period of between 2 and 4 weeks between the call for tenders and the instauration of the hedge.

New hedges: Various Amounts and Possible Timeframes



Not recommended products

Hedging	4 Years	5 Years
Value of 1 bp in EUR	23 271	30 159
Swap without floor	2.26%	2.26%
Swap with floor	2.38%	2.40%
Cap 0% annualized	2.38%	2.40%

There are many interest rate hedging products. There are certain products that we do not recommend or no longer recommend for various reasons, relating to a problem of efficiency or accounting (sometimes the two are linked) or comparative profitability. Product sheets are available in the appendix of this report to clarify the mechanisms and their intrinsic advantages/disadvantages.

Here is a (non-exhaustive) list of products we do not recommend and the reasons why:

▪ Interest rate swap (simple and floored) :

- Simple: toxic in a context of negative rates and therefore can be de-qualified and considered as a speculative product by the company's auditors even in a period of positive rates, which implies recording changes in the product's net asset value in financial income at each closing.
- Floored: increased bank margin for a product equivalent to Cap 0%, but sold at a higher price most of the time for reasons specific to the banks.

▪ Cap 0% :

- Does not allow to benefit from a decrease in rates because this product, which is currently very expensive, completely freezes the interest rates.
- Requires more risk lines in the banks
- This is a product that we recommended when Euribor rates were negative or close to zero.

▪ Collar (purchase of cap / sale of floor):

- Does not guarantee a cap rate in the event of negative rates because the financing already includes a floor/floor at 0%, which induces an increase in the overall financing rate in the event of a fall in Euribor rates in the negative zone. As such, the product can be de-qualified and considered as a speculative product by the company's auditors even in a period of positive rates (in the same way as the simple swap).

▪ Knock-out Cap :

- Does not guarantee a cap rate, therefore it is not a hedging product and must be considered as speculative by the auditor.

▪ Knock-in Cap:

- Increased bank margin and interesting product on very large amounts only to absorb additional bank costs.

▪ Cap Spread (e.g.: buy 1% cap / sell 3% cap) :

- Does not guarantee a cap rate and is never a hedging product in the event of a highly unfavorable rate scenario, so can be considered as speculative by auditors.

Recommended products

Hedging	4 Years	5 Years
Maturity	4 years	5 years
Index	Euribor 3M	Euribor 3M
Starting Notionnal	12 594 623	12 594 623
Start Date	30/09/2024	30/09/2024
End Date	30/09/2028	30/09/2029
Value of 1 bp in EUR	23 271	30 159

Estimated bank margin in bps included in the prices : **7 bps**

	Running premium	
Cap 0% annualized	2.38%	2.40%
Max Financing rate	2.38%	2.40%

Cap 2.5% annualized	0.50%	0.56%
Max Financing rate	3.00%	3.06%

80% Cap 0% - 20% cap 2.5%	2.00%	2.03%
Max Financing rate	2.50%	2.53%

60% Cap 0% - 40% cap 2.5%	1.63%	1.66%
Max Financing rate	2.63%	2.66%

	Premium in Euros	
Cap 0%	5 217 200	6 735 400
Cap 2.5%	1 097 800	1 559 300
80% Cap 0% - 20% cap 2.5%	4 393 320	5 700 180
60% Cap 0% - 40% cap 2.5%	3 569 440	4 664 960

Indicatives quotes

See comparison of hedging profiles in the appendix.

Indicative quotes without bank margin or with estimated bank margin. A non-negotiated bank margin is generally between 0.10% and 0.20%.

The markets are currently very volatile and can cause these prices to vary significantly.

**Collars : Please note that we do not recommend this product since the risk of loss is unlimited since the financing is already floored. In fact, the Tunnel floor doubles that of financing. This generates a loss in the event of a drop in rates or a return to negative rates.
In addition, this product does not fall within the scope of hedge accounting since it is considered speculative.**

Indications for comparing quotes with each other:

The swap rate represents the financing rate of the hedged part of the debt (excluding the specific problem of the floor in the event of negative rates).

- The annualized cap premium represents the cost to pay over time to benefit from the cap (strike). The overall financing rate is then capped at strike + annualized premium. The cap allows you to benefit from Euribor rates lower than the strike, as long as the strike is higher than the floor included in the hedged financing.
- In the event of resale of the cap before maturity, the unpaid running premium remains due, but from this amount will be deducted the residual value (mark to market / fair value) of the cap, which may exceed the amount of the premium remaining due (for example if rates have risen).

Example of annualized premium payments: 4 Years Strategy 80% Cap 0% - 20% Cap 2,5%

Fixing	Start	End	Payment	Notionnal	Premium to be paid	Remaining to be paid in case of unwinding
26/09/2024	30/09/2024	31/12/2024	31/12/2024	12 594 623	60 813	-4 332 507
27/12/2024	31/12/2024	31/03/2025	31/03/2025	24 256 683	114 577	-4 217 931
27/03/2025	31/03/2025	30/06/2025	30/06/2025	32 390 662	154 698	-4 063 233
26/09/2025	30/09/2025	31/12/2025	31/12/2025	56 974 579	275 100	-3 571 569
29/12/2025	31/12/2025	31/03/2026	31/03/2026	66 304 108	313 188	-3 258 381
27/03/2026	31/03/2026	30/06/2026	30/06/2026	68 000 000	324 767	-2 933 613
26/06/2026	30/06/2026	30/09/2026	30/09/2026	68 000 000	328 336	-2 605 277
28/09/2026	30/09/2026	31/12/2026	31/12/2026	68 000 000	328 336	-2 276 941
29/12/2026	31/12/2026	31/03/2027	31/03/2027	68 000 000	321 199	-1 955 742
25/03/2027	31/03/2027	30/06/2027	30/06/2027	68 000 000	324 767	-1 630 975
28/06/2027	30/06/2027	30/09/2027	30/09/2027	68 000 000	328 336	-1 302 638
28/09/2027	30/09/2027	31/12/2027	31/12/2027	68 000 000	328 336	-974 302
29/12/2027	31/12/2027	31/03/2028	31/03/2028	68 000 000	324 767	-649 535
29/03/2028	31/03/2028	30/06/2028	30/06/2028	68 000 000	324 767	-324 767
28/06/2028	30/06/2028	29/09/2028	29/09/2028	68 000 000	324 767	0

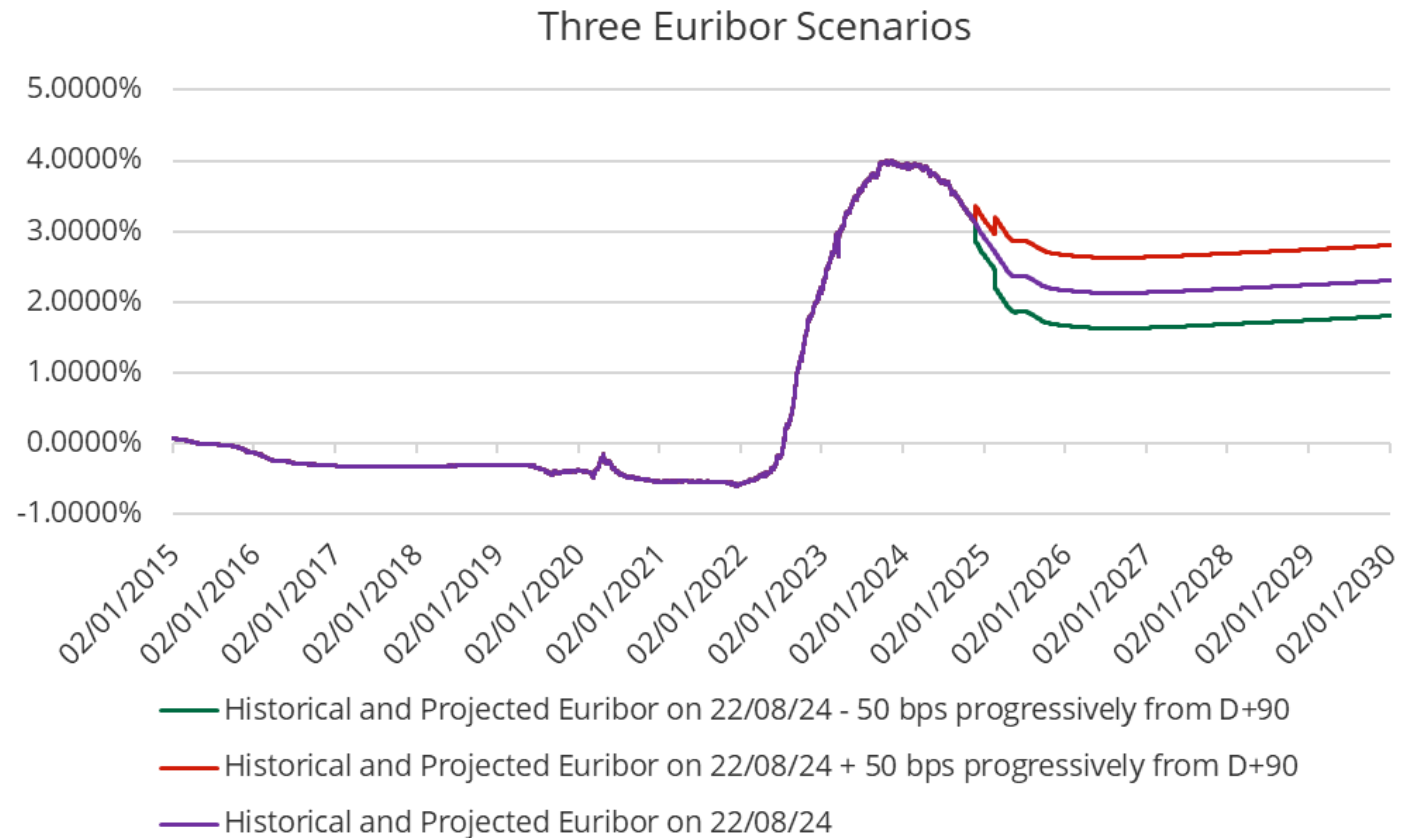
Running Premium 2.00%

Total to be paid 4 393 320

Simulation of financial expenses with three Euribor evolution scenarios

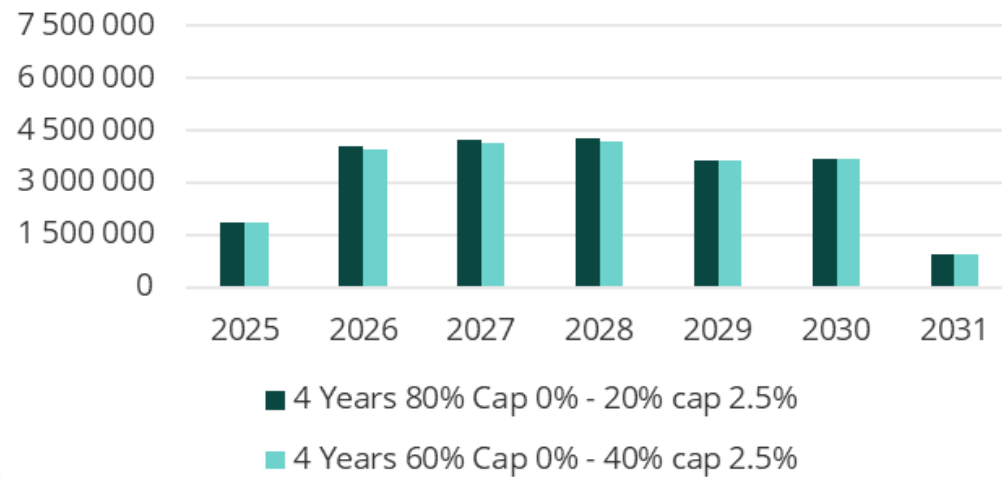
All financial expenses simulations start in **2025**.

This include the Term Loan margin **3,25%** (Y), CAPEX margin **3,25%** (Y), Euribor 3m variations' impact and the cost of setting up the new hedge.

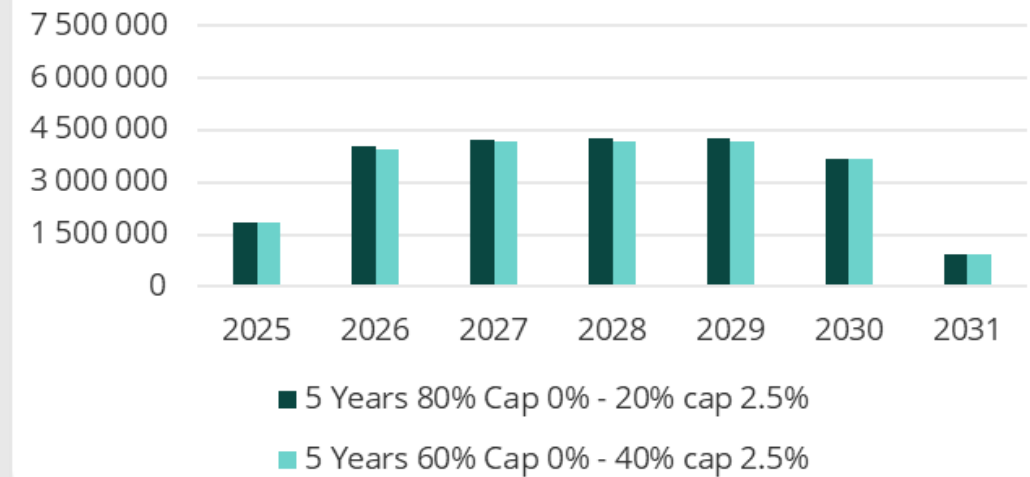


Financial expenses simulation in expected Euribor -1% Scenario

STRATEGY 4 Years

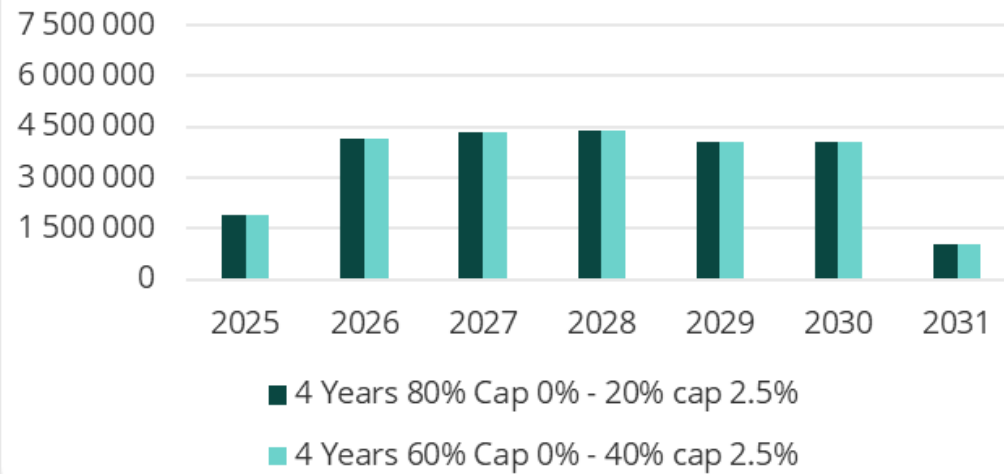


STRATEGY 5 Years

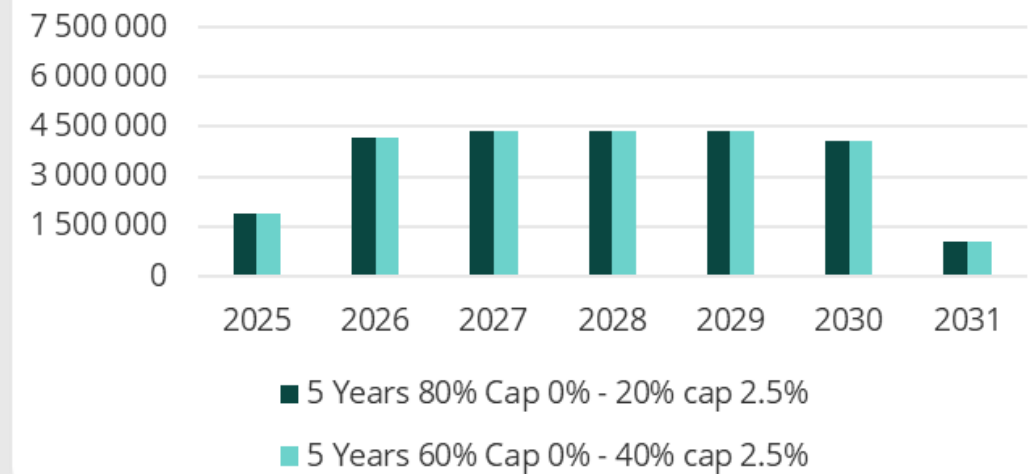


Financial expenses simulation in expected Euribor -0,5% Scenario

STRATEGY 4 Years

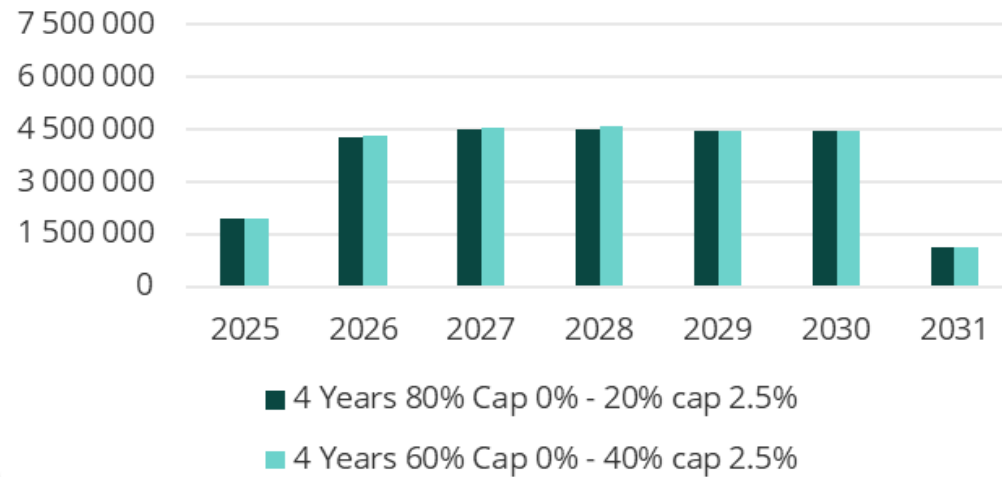


STRATEGY 5 Years

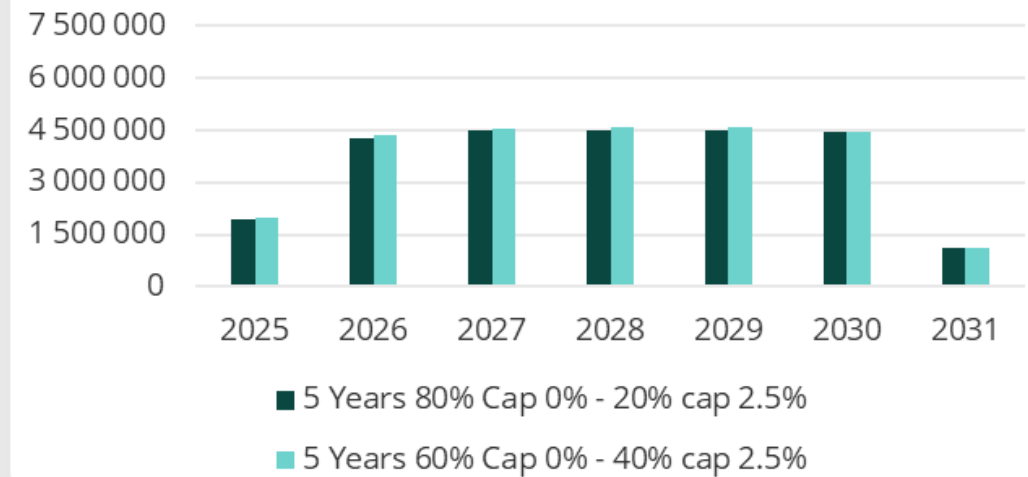


Financial expenses simulation in expected Euribor Scenario

STRATEGY 4 Years

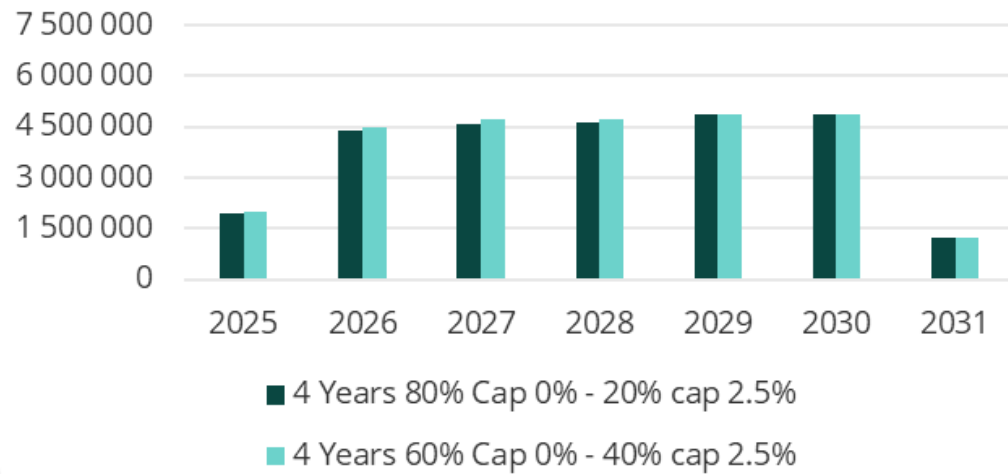


STRATEGY 5 Years

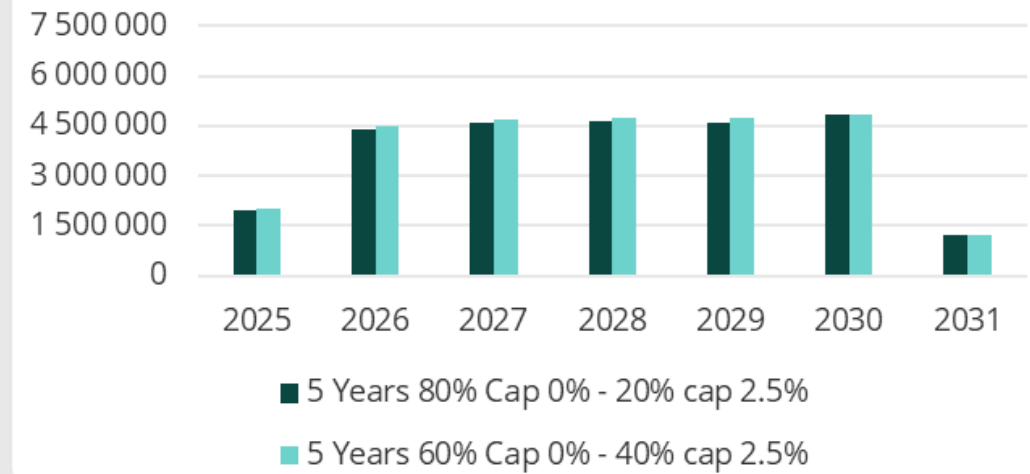


Financial expenses simulation in expected Euribor + 0,5% Scenario

STRATEGY 4 Years

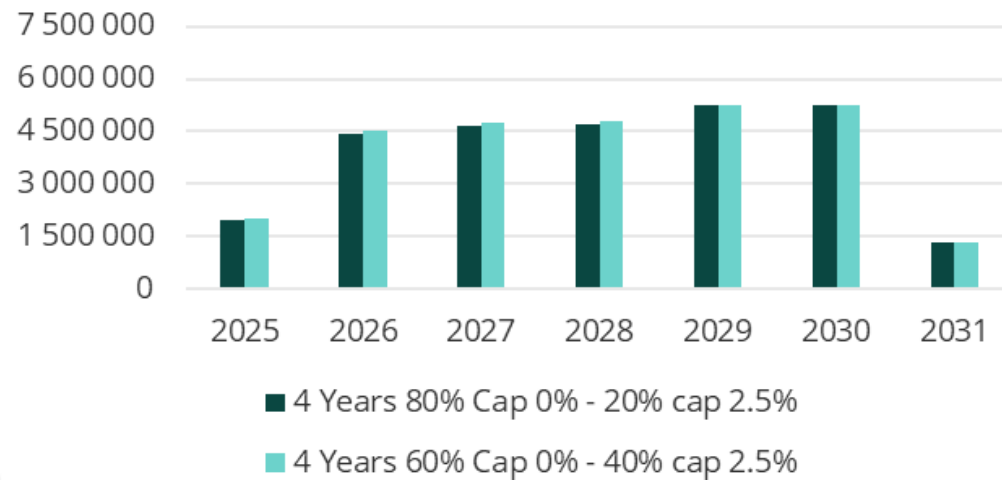


STRATEGY 5 Years

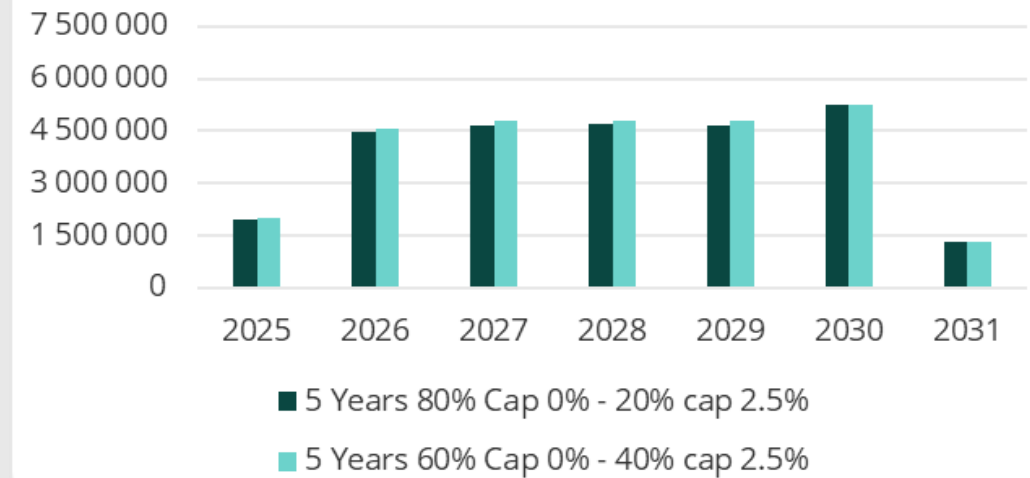


Financial expenses simulation in expected Euribor + 1% Scenario

STRATEGY 4 Years



STRATEGY 5 Years



Synthesis of financial costs simulation

(over the total duration of the financing, hedging cost included – APR approach)

	STRATEGY 4 Years			STRATEGY 5 Years		
	4 Years 80% Cap 0% - 20% cap 2.5%	4 Years 60% Cap 0% - 40% cap 2.5%	4 Years Cap 0%	5 Years 80% Cap 0% - 20% cap 2.5%	5 Years 60% Cap 0% - 40% cap 2.5%	5 Years Cap 0%
Projected Euribor - 100 bps	22,607,787	22,360,526	22,855,048	23,227,813	22,940,920	23,514,705
Projected Euribor - 50 bps	23,938,159	23,915,138	23,961,181	24,282,667	24,288,894	24,276,441
Projected Euribor	25,267,138	25,466,962	25,067,313	25,336,128	25,634,080	25,038,176
Projected Euribor + 50 bps	26,513,132	26,852,817	26,173,446	26,272,654	26,745,397	25,799,911
Projected Euribor +100 bps	27,619,265	27,958,950	27,279,579	27,034,390	27,507,133	26,561,647

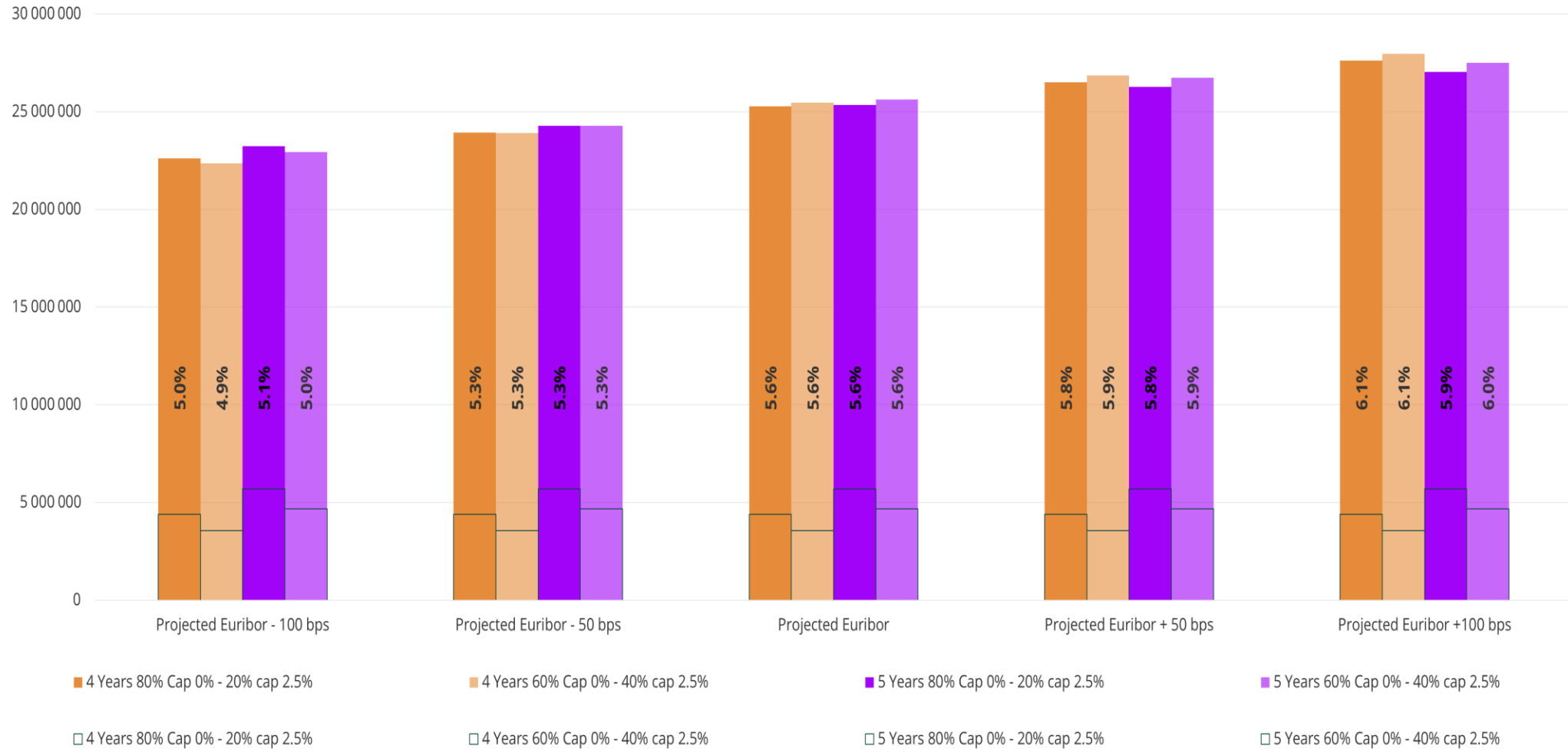
Note : If the projected scenario occurs, the 0% cap is the optimal strategy because the entire price is intrinsic value, which is offset by the indemnity from the interest rate cap, meaning no time value is lost. In contrast, for the 2.5% cap, most of the price is attributed to time value.

Should a 50-bps decrease materializes, the 0% cap continues to be the best option among the 5-year strategies. The 2.5% cap costs 0.56% per year over a 5-year period, making it less effective than the 0% cap in the event of a 50-bps decreases. The 2.5% cap loses its full value (0.56%), whereas the 0% cap only experiences a 0.50% loss of intrinsic value. However, this analysis changes for the 4-year strategies, where the losses on both products are very close.

Should a 50-bps increase materializes, the 0% cap benefits directly from the increase on a 1-to-1 basis. The 2.5% cap, being close to the money forward, will quickly lose time value but will more than compensate through gains in intrinsic value.

Synthesis of financial costs simulation – Multi Scenarios

(over the total duration of the financing, hedging cost included – APR approach)



Amortization table

DATE FIXING	START DATE	END DATE	DATE PAIEMENT	Term Loan		Capex Facility		TOTAL DEBT	4 Years	5 Years
				Amort.	CRD	Amort.	CRD			
26/09/2024	30/09/2024	31/12/2024	31/12/2024	0	14 817 204	0	0	14 817 204	12 594 623	12 594 623
27/12/2024	31/12/2024	31/03/2025	31/03/2025	-13 720 070	28 537 274	0	0	28 537 274	24 256 683	24 256 683
27/03/2025	31/03/2025	30/06/2025	30/06/2025	-1 462 726	30 000 000	-8 106 661	8 106 661	38 106 661	32 390 662	32 390 662
26/06/2025	30/06/2025	30/09/2025	30/09/2025	0	30 000 000	-14 659 767	22 766 428	52 766 428	44 851 464	44 851 464
26/09/2025	30/09/2025	31/12/2025	31/12/2025	0	30 000 000	-14 262 489	37 028 916	67 028 916	56 974 579	56 974 579
29/12/2025	31/12/2025	31/03/2026	31/03/2026	0	30 000 000	-10 975 917	48 004 833	78 004 833	66 304 108	66 304 108
27/03/2026	31/03/2026	30/06/2026	30/06/2026	0	30 000 000	-1 995 166	50 000 000	80 000 000	68 000 000	68 000 000
26/06/2026	30/06/2026	30/09/2026	30/09/2026	0	30 000 000	0	50 000 000	80 000 000	68 000 000	68 000 000
28/09/2026	30/09/2026	31/12/2026	31/12/2026	0	30 000 000	0	50 000 000	80 000 000	68 000 000	68 000 000
29/12/2026	31/12/2026	31/03/2027	31/03/2027	0	30 000 000	0	50 000 000	80 000 000	68 000 000	68 000 000
25/03/2027	31/03/2027	30/06/2027	30/06/2027	0	30 000 000	0	50 000 000	80 000 000	68 000 000	68 000 000
28/06/2027	30/06/2027	30/09/2027	30/09/2027	0	30 000 000	0	50 000 000	80 000 000	68 000 000	68 000 000
28/09/2027	30/09/2027	31/12/2027	31/12/2027	0	30 000 000	0	50 000 000	80 000 000	68 000 000	68 000 000
29/12/2027	31/12/2027	31/03/2028	31/03/2028	0	30 000 000	0	50 000 000	80 000 000	68 000 000	68 000 000
29/03/2028	31/03/2028	30/06/2028	30/06/2028	0	30 000 000	0	50 000 000	80 000 000	68 000 000	68 000 000
28/06/2028	30/06/2028	29/09/2028	29/09/2028	0	30 000 000	0	50 000 000	80 000 000	68 000 000	68 000 000
27/09/2028	29/09/2028	29/12/2028	29/12/2028	0	30 000 000	0	50 000 000	80 000 000	0	68 000 000
27/12/2028	29/12/2028	29/03/2029	29/03/2029	0	30 000 000	0	50 000 000	80 000 000	0	68 000 000
27/03/2029	29/03/2029	29/06/2029	29/06/2029	0	30 000 000	0	50 000 000	80 000 000	0	68 000 000
27/06/2029	29/06/2029	28/09/2029	28/09/2029	299 016	29 700 984	0	50 000 000	79 700 984	0	67 745 836
26/09/2029	28/09/2029	31/12/2029	31/12/2029	0	29 700 984	0	50 000 000	79 700 984	0	0
27/12/2029	31/12/2029	29/03/2030	29/03/2030	464 016	29 236 969	0	50 000 000	79 236 968	0	0
27/03/2030	29/03/2030	28/06/2030	28/06/2030	0	29 236 969	0	50 000 000	79 236 968	0	0
26/06/2030	28/06/2030	30/09/2030	30/09/2030	934 426	28 302 542	0	50 000 000	78 302 542	0	0
26/09/2030	30/09/2030	31/12/2030	31/12/2030	0	28 302 542	0	50 000 000	78 302 542	0	0
27/12/2030	31/12/2030	31/03/2031	31/03/2031	28 302 542	0	50 000 000	0	0	0	0

Next steps

Organize the transaction

Initiate discussions with banks to ensure they are prepared to address the type of strategy being considered, finalize regulatory documentation and ask them for indicative quotations

Finalize a choice of strategy

Appendices

- Constraints linked to negative rates
- Euribor curves used for simulations of financial costs
- Profiles of different types of maturity hedges

Ineffectiveness of simple swaps (and tunnels/collars) in case of a floor in the financing

A video detailing this concern is visible on the blog of KERIUS Finance by [clicking here](#).

The financing contract provides that the Libor cannot be negative, therefore the bank will not pay interest to the borrower.

An Interest Rate swap which allows to fix the rate of a debt is a contract by which the company undertakes to:

- Receive a floating rate on the amount of the hedged debt (to cancel the floating rate of the financing contract)
- Pay a fixed rate on the same amount.

A conventional swap, which does not replicate this floor, that is to say whose variable "leg" does not also include a floor, has two disadvantages when the index (Libor/Euribor) is negative

No cap on the overall financing rate: the negative Libor rate is added to the fixed rate to be paid by the company.

A similar problem arises with the collar :

- the floor of the collar doubles the floor of the financing.
- In the event of negative rates, it induces a loss which increases the financial expenses beyond the threshold rate (cap).

Potential problem for applying hedge accounting:

The hedges are no longer considered effective by the CACs due to this non-capping of the financing rate.

As such, all valuation variations (mark to market) of the swaps will be recorded in financial income (in other words, not deferred over time)

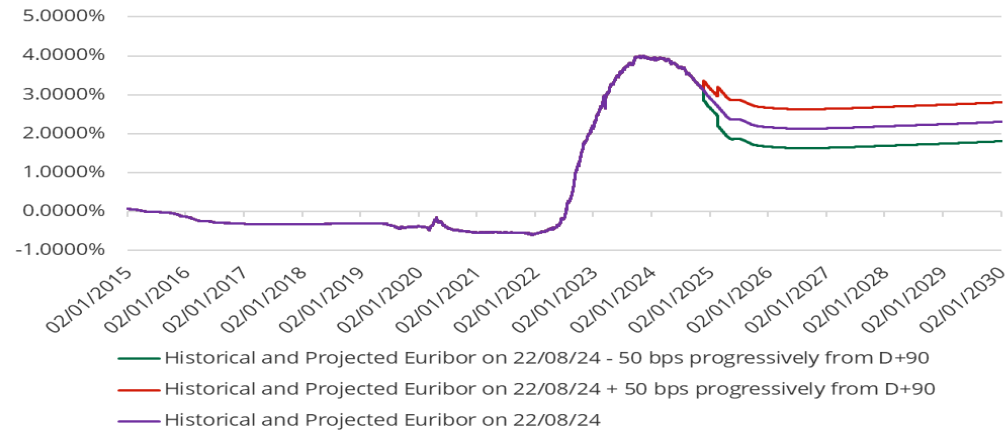
Technical solutions:

Include in the swap a floor replicating that of the financing, but this has a cost. See simulations.

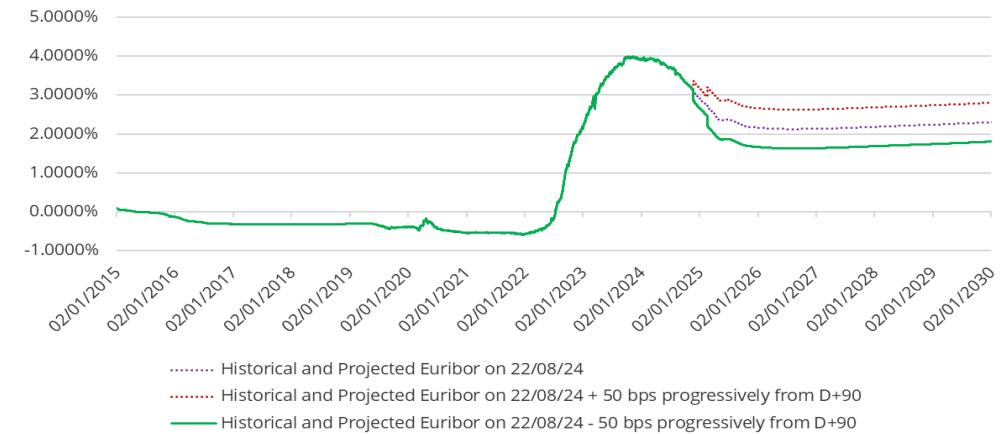
Opt for a hedging with a Cap, which cannot generate negative valuation in the event of negative rates.

Euribor curves used for simulations of financial costs -0,5% / +0,5%

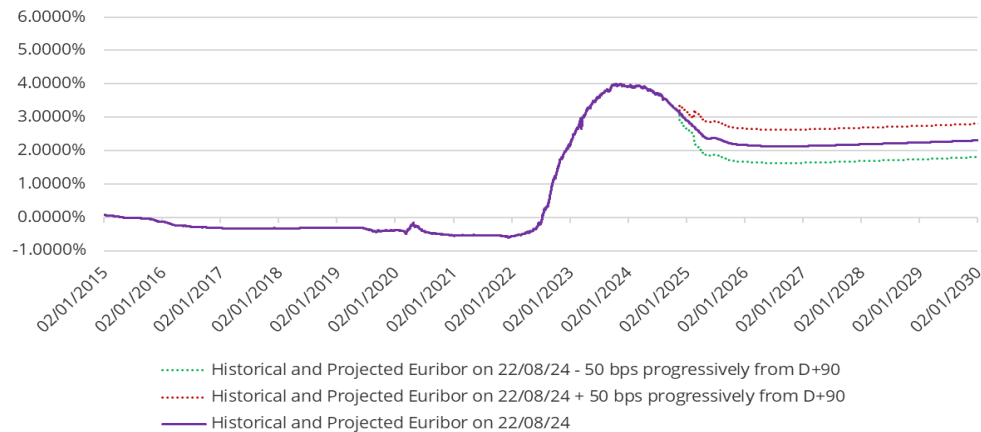
Three Euribor Scenarios



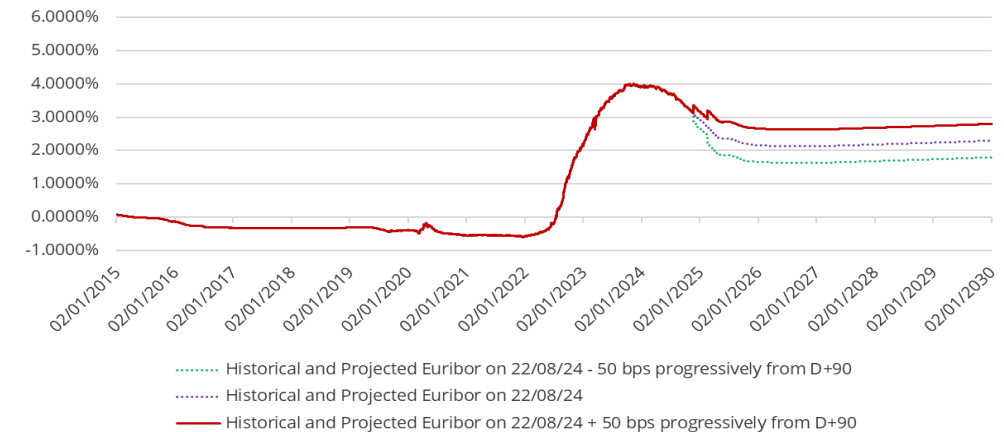
Projected Euribor - 50 bps



Projected Euribor

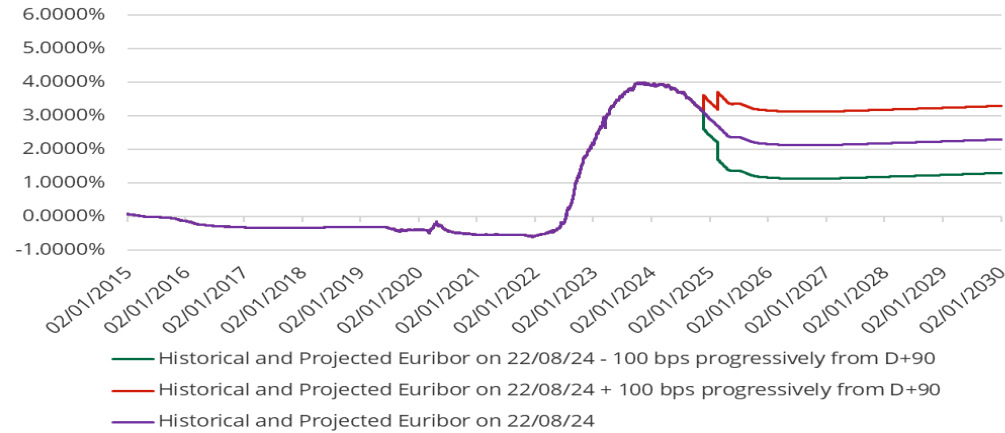


Projected Euribor + 50 bps

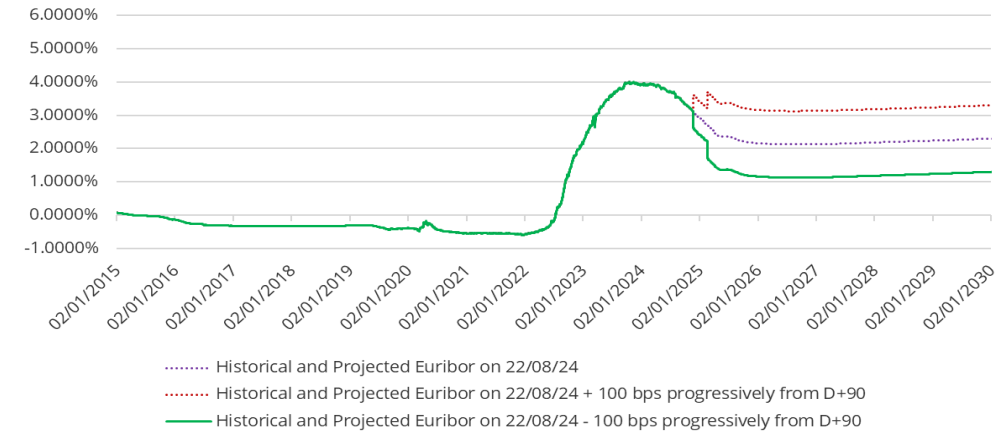


Euribor curves used for simulations of financial costs -1% / +1%

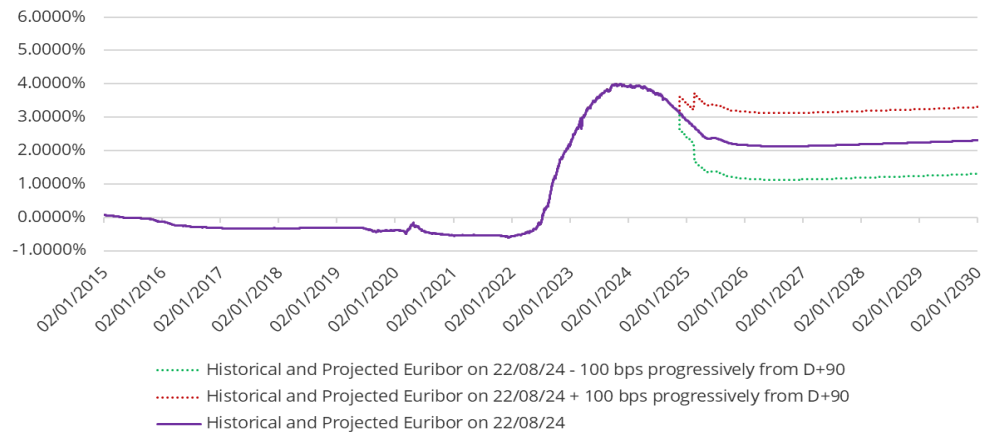
Three Euribor Scenarios



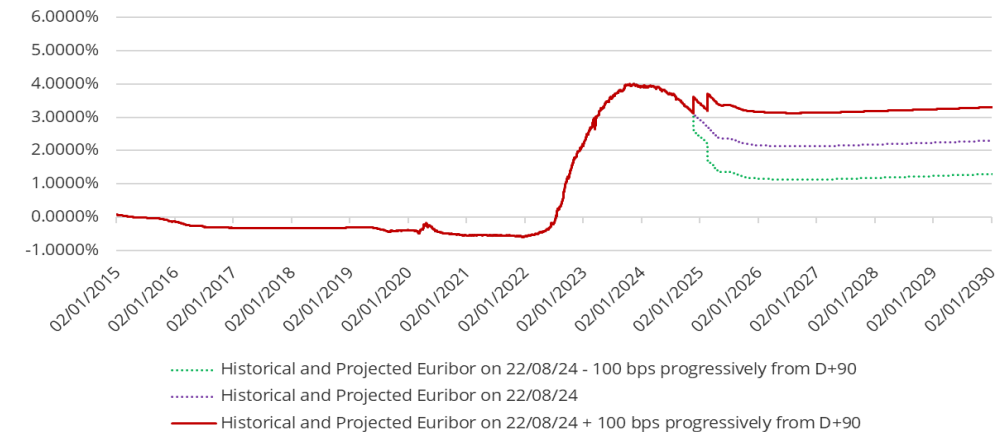
Projected Euribor - 100 bps



Projected Euribor



Projected Euribor + 100 bps



Product sheets

Rate swap (fixed versus variable rate payer):

Firm commitment to pay a flow at a fixed rate at a fixed frequency and for a specified duration, in exchange for a flow received corresponding to the variable rate. The periodicity of the variable rate index determines the number of payments per year. The net of the two flows can be positive or negative in each period.

Benefits:

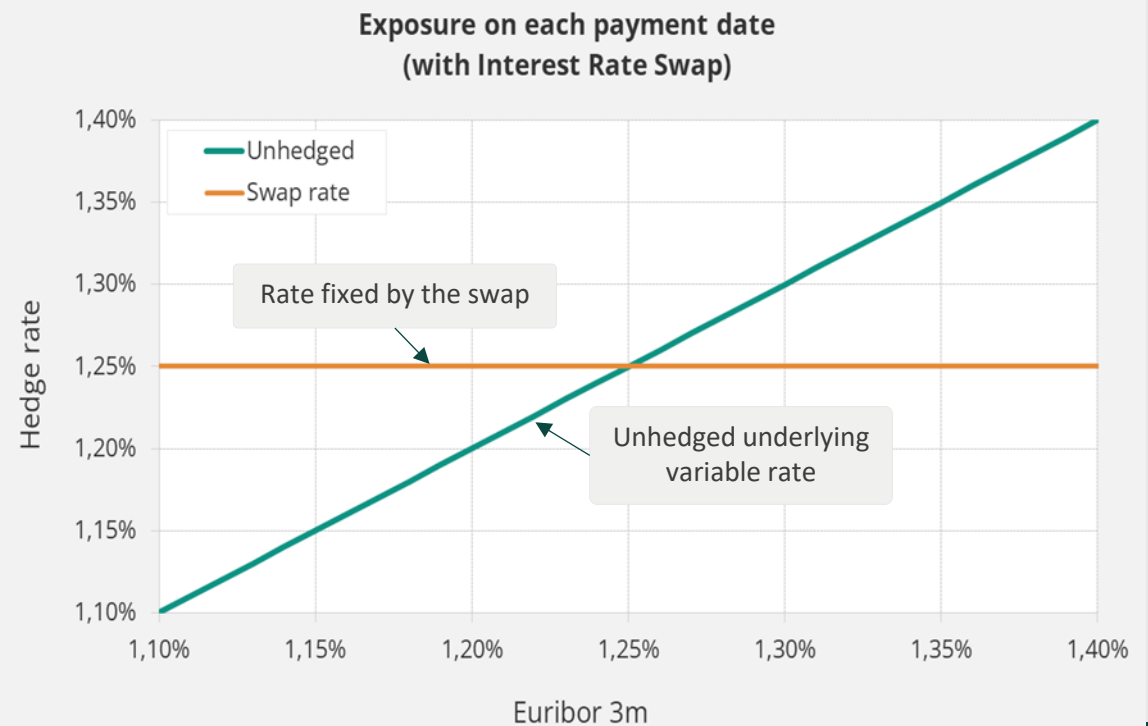
- Zero cost (no premium to pay)
- Financial charges are known in advance

Disadvantages:

- No opportunity to benefit from favorable rate movements;
- Risk of unlimited loss in the event of early termination.
- Simple but risky product in the event of reduction of the underlying exposure (debt reduction for example) or unwinding of the hedge in a negative valuation scenario (mark to market).

To be reserved for the incompressible part of the exposure (risk of negative valuation). **Illustrative graph:** not updated data

Product which no longer guarantees a financing rate in a context of negative rates for financing whose index (Euribor or other) is "floored".



Product sheets

Buying rate cap:

Right to receive a flow if the underlying rate index (hedged) is higher than the strike price of the cap (strike). The flow received will then correspond to the difference between the variable rate and the fixed rate, multiplied by the notional. In the context of financing, this flow has the effect of canceling what should have been paid on the underlying beyond the strike price of the cap.

Benefits:

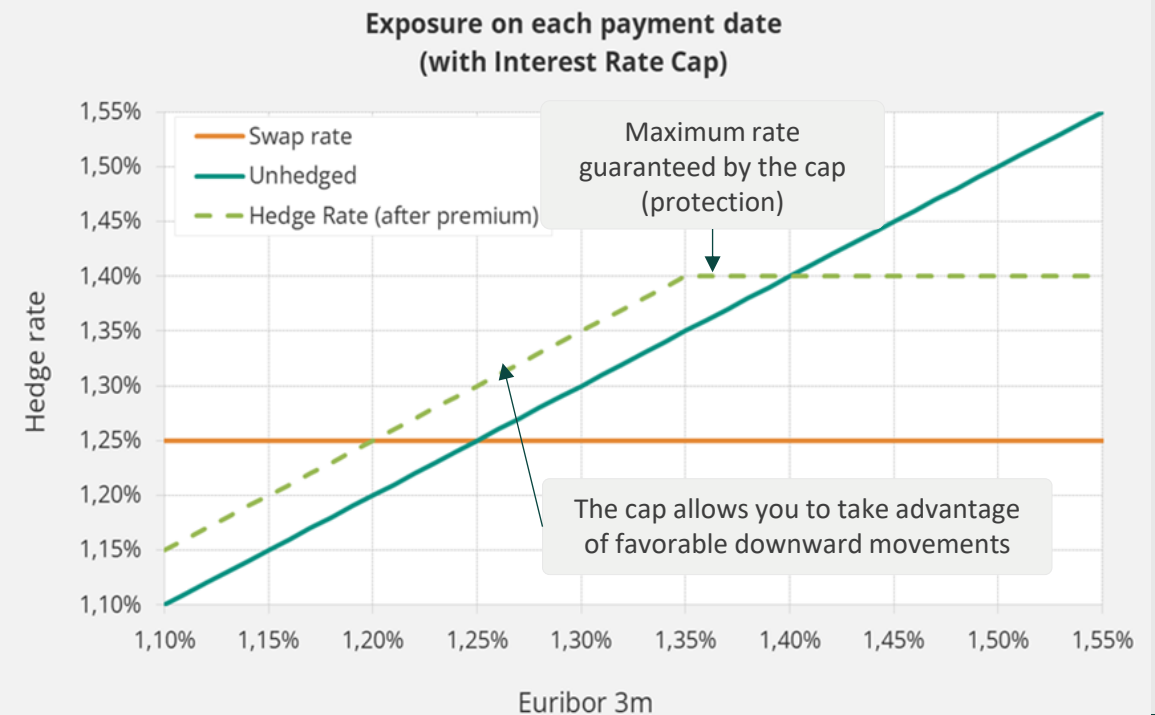
- Opportunity to take advantage of a low rate if it remains below the cap exercise price;
- Total flexibility to resell the hedge in the event of a change in the underlying;
- No risk of loss beyond the premium paid.

Disadvantages:

- Premium to be paid: depends on the characteristics of the option (amount, duration, more or less favorable exercise price, etc.)

Illustrative graph: not updated data

Recommended product in the current context.
This product takes into account the floors on financing



Product sheets

Tunnels/Collars of options:

Firm commitment to pay a flow at a fixed rate at a fixed frequency and for a specified duration, in exchange for a flow received corresponding to the variable rate.

The periodicity of the variable rate index determines the number of payments per year.

The net of the two flows can be positive or negative in each period.

Benefits:

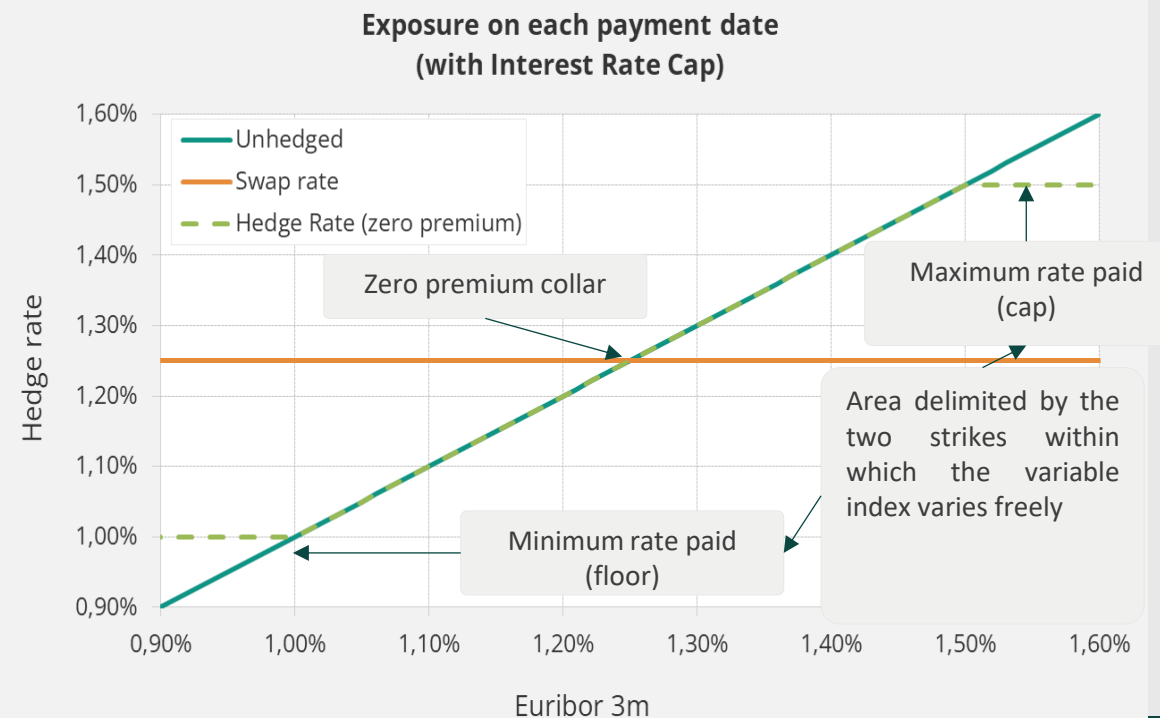
- Protection beyond the course of exercise of the cap;
- Opportunity to benefit from a drop in the index to the floor level;
- Financing the option purchased by the option sold.

Disadvantages:

- Risk of loss in the event of early unwinding and a drop in rates (as with a swap).

To be reserved for the incompressible part of the exposure (risk of negative valuation). **Illustrative graph:** not updated data

Product which no longer guarantees a financing rate in a context of negative rates for financing whose index (Euribor or other) is "floored".



Product sheets

Cap with deactivating barrier:

Right to receive a flow if the underlying rate index (hedged) is higher than the strike price of the cap (strike). The flow received will then correspond to the difference between the variable rate and the fixed rate, multiplied by the notional. In the context of financing, this flow has the effect of canceling what should have been paid on the underlying beyond the strike price of the cap. If the underlying rate crosses a so-called deactivating barrier, the product deactivates and no flow is then exchanged.

Benefits:

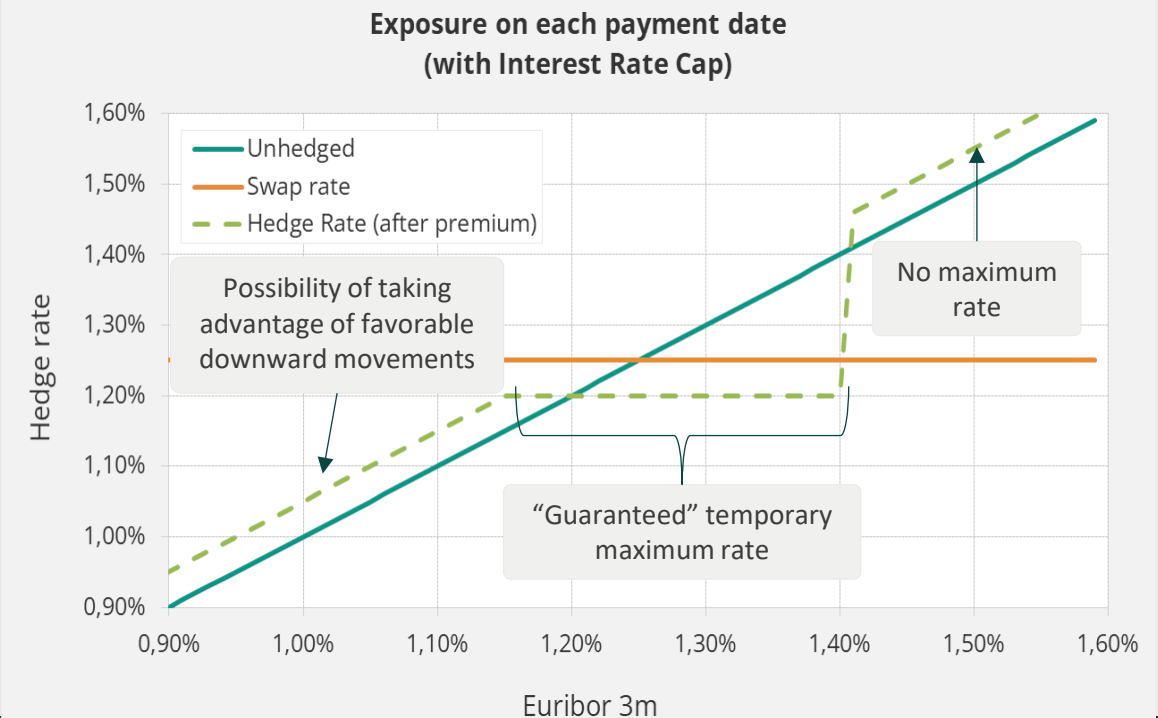
- Protection au-delà du cours d'exercice du cap
- Opportunité de profiter d'une baisse de l'indice de référence
- Stratégie moins couteuse qu'un cap classique

Disadvantages:

- Risk of loss in the event of early unwinding and a drop in rates (as with a swap).

Illustrative graph: not updated data

Product that does not provide any guaranteed ceiling rate. This is not a hedging product.



Product sheets

Cap with activating barrier:

Right to receive a flow if the underlying (hedged) rate index is higher than the so-called knock-in barrier. The flow received will then correspond to the difference between the variable rate and the fixed rate, multiplied by the notional. In the context of financing, this flow has the effect of canceling what should have been paid on the underlying beyond the price of the activating barrier. As long as the underlying rate remains below the knocking barrier, no flows are exchanged.

Benefits:

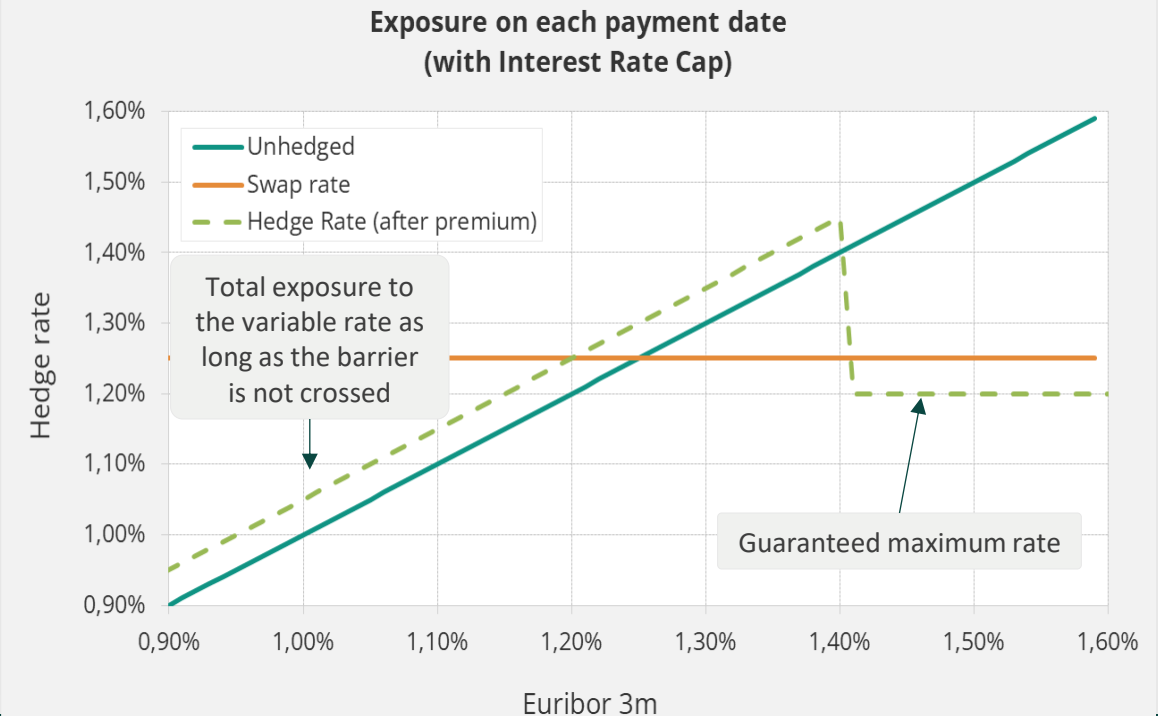
- Protection beyond the activation barrier at the strike of the cap;
- Opportunity to benefit from a drop in the benchmark index
- Less expensive strategy than a classic cap.

Disadvantages:

- Greater exposure to the upward risk of the variable rate than a traditional cap

Illustrative graph: not updated data

We do not recommend this product because most often bank margins degrade its performance.



Product sheets

Cap Spread:

Right to receive a flow if the underlying rate index (hedged) is higher than the strike price of the cap (strike). The flow received will then correspond to the difference between the variable rate and the fixed rate, multiplied by the notional. In the context of financing, this flow has the effect of canceling what should have been paid on the underlying beyond the strike price of the cap. If the underlying rate crosses the strike price of the cap sold, the exposure to the underlying rate is almost total (restated for the difference between the 2 strike prices).

Benefits:

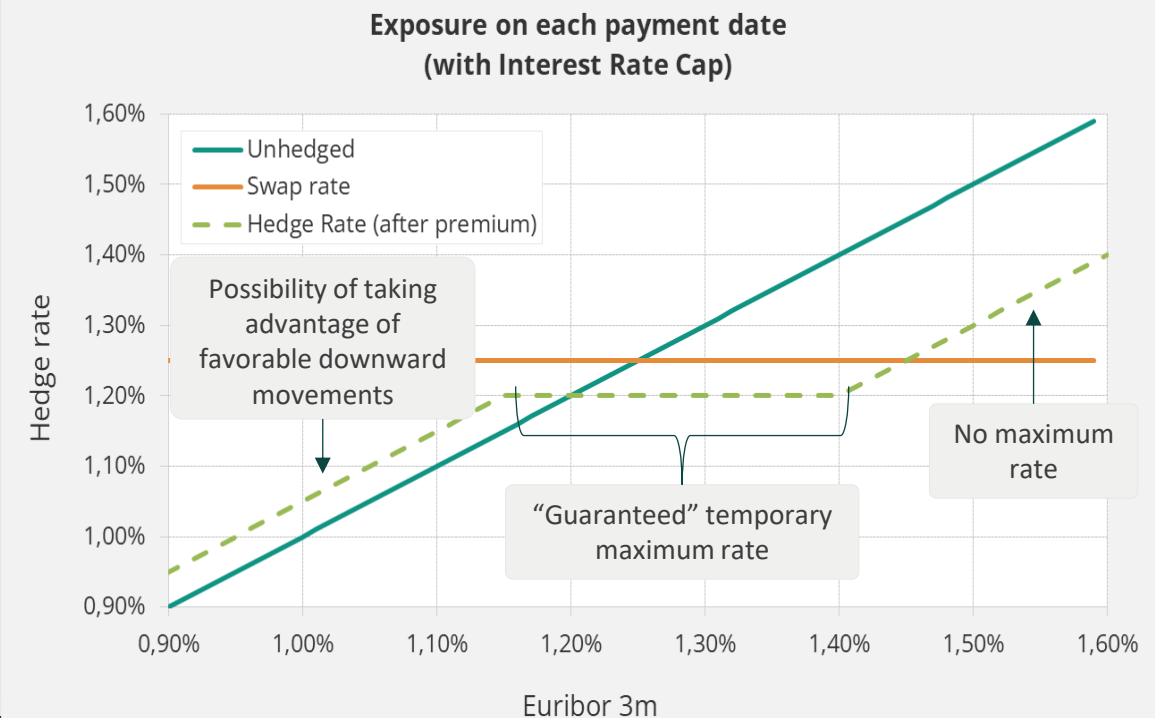
- Protection beyond the exercise price of the cap purchased;
- Opportunity to benefit from a drop in the benchmark index
- Less expensive strategy than a classic cap (partial financing of the option purchased by the option sold).

Disadvantages:

- Greater exposure to the upward risk of the variable rate than a traditional cap

Illustrative graph: not updated data

We do not recommend this product because it does not provide a guaranteed maximum rate. This is not a hedging product.



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