

NEGATIVE INTEREST RATE DISCLOSURE

POTENTIAL IMPLICATIONS OF NEGATIVE INTEREST RATES

Understanding the impact of negative interest rates

It is important that users of derivatives products with payment obligations linked to interest reference rates understand how the cash flows and economics of these products operate in a negative interest rate environment. Interest rate swap (“IRS”) market convention is to quote a fixed rate versus a floating rate that is **not** floored at 0%. Swap rates shown on interbank and broker pages are quoted on this basis. This means, the default position for an IRS is that the (floating) reference rate is not floored at 0%. If the reference rate is negative, the fixed rate payer will pay both a fixed amount and a floating amount (the notional amount multiplied by the absolute of the negative reference rate). In other words, because the floating rate is negative, the floating rate payer receives, rather than pays, a floating amount in addition to the fixed amount. The floating rate payer would pay nothing to the fixed rate payer.

On the other hand, many of the interest rate liabilities you may be trying to manage with a derivative (e.g. where you must pay interest on a loan by reference to a reference rate) contain interest rate obligations which are ‘floored’. This could be because the loan agreement defines the relevant screen rate in such a way that the rate is deemed to be zero if the reference rate is negative. Even without such language, a loan agreement is likely to be impliedly or structurally floored because it won’t contemplate that the lender will pay interest to the borrower, regardless of how far below zero a reference floating rate might be.

If you intend to manage the interest rate risk on a liability using a derivative (such as an IRS), you should carefully review your loan and IRS documentation and ensure you understand how the payment obligations and the cash flows under the liability and derivative will operate under different scenarios, including negative rates, and whether the cash flows under the derivative manage or hedge the interest rate risk under the liability to the extent you intend. If you are concerned about the risk of negative interest rates, please reach out to your Markets contact to discuss ways to manage the risk.

This document explains some of the potential implications of negative interest rates for derivatives that are entered into for the purpose of hedging the cash flows under a particular liability. You should understand that IRS, including those entered into as a hedge, are governed by different standard documentation to liabilities such as bonds or loans (e.g. different definitions, business day conventions, fallback replacement rates etc) and to the extent that these differences are not specifically addressed by you, they could potentially result in a mismatch (on an ongoing basis and/or in particular circumstances) between the amount you are required to pay under your loan and the amount you will receive or pay under your IRS. If you do not understand those differences and their implications for you and your risk management, or the risks those differences create are not suitable or acceptable to you, an IRS may not be an appropriate product for you.

For customers with only a floating (variable) rate loan:

- If the loan documentation includes a 0% floor on the reference rate (e.g. BBSY) (a “**Contractual Floor**”) and the reference rate becomes negative, then the customer will pay 0% on the reference rate part of the interest rate (but will continue to pay the customer loan margin part of the interest rate and any other fees, such as a line or facility fee).
- If the loan documentation does not include a Contractual Floor and the reference rate becomes negative, the customer’s interest rate will decrease to the extent of the customer loan margin (if any) because the negative reference rate will offset the customer loan margin until the sum of the reference rate and the customer loan margin is zero (a “**Structural Floor**”). The customer will continue to pay any other fees, such as a line or facility fee. A loan with a fee, such as a line or facility fee, but a small or no customer loan margin has a similar effect to a loan with a Contractual Floor.

For customers intending to reduce interest rate risk under a floating rate loan by entering into an interest rate swap:

- If the loan documentation includes a Contractual Floor, but the IRS **does not** include a 0% floor, and if the reference rate is less than zero, then the IRS will become ineffective as a tool to substantially replace variable payments under the loan with fixed payments. The same applies in relation to a loan with a Structural Floor.
- If the reference rate (e.g. BBSY) is:
 - **greater than or equal to zero:** the customer pays the fixed rate under the IRS and the customer loan margin and relevant fees under the loan. In normal circumstances, payment of the reference rate by the customer under the loan and the floating rate by ANZ under the IRS should generally offset each other if the rates are defined the same way.
 - **less than zero:** the customer pays the fixed rate under the IRS and the customer loan margin and relevant fees under the loan, **plus** the absolute difference between 0% and the prevailing negative reference rate under the IRS. E.g. For a loan with a Contractual Floor, if the customer’s fixed rate was 1.50% and the reference rate fell to negative 0.25%, the customer would pay 1.75% (i.e. 1.50% + 0.25%) under the IRS plus customer loan margin and relevant fees under the loan.

For customers intending to reduce interest rate risk under a floating rate loan by entering into an interest rate swap with a 0% floor:

- If the loan documentation includes a Contractual Floor, or if you think interest rates might go negative by more than the size of your margin (or at all if you have no margin), then including a 0% floor in the IRS will better match the cash flows under the loan if the reference rate becomes negative.
- If the reference rate (e.g. BBSY) is:
 - **greater than or equal to zero:** the customer pays the fixed rate under the IRS and the customer loan margin and relevant fees under the loan. In normal circumstances, payment of the reference rate by the customer under the loan and the floating rate by ANZ under the IRS should generally offset each other if the rates are defined the same way.
 - **less than zero:** the 0% floor in the IRS means the customer is not required to make payments to ANZ for the absolute difference between 0% and the prevailing negative reference rate under the IRS. E.g. For a loan with a Contractual Floor, if the customer’s fixed rate was 1.50% and BBSY fell to negative 0.25%, the customer would pay 1.50% under the IRS plus customer loan margin and relevant fees under the loan.

ALTERNATE OUTCOMES UNDER AN INTEREST RATE SWAP WITHOUT A 0% FLOOR

Example:

- Set out below is an example of the operation of an IRS **without** a 0% floor (market standard) in conjunction with a floating/variable rate loan which includes a Contractual Floor, given alternate potential BBSY rates (i.e. positive, 0%, negative).
- Note that these scenarios exclude the customer loan margin and any loan fees (which are payable regardless) and assume an IRS @ 1.05% and a \$10M hedge notional.



Worked scenarios for illustration purposes

Scen.	Description	Details					1mth BBSY (assumed)	Loan BBSY Interest (\$) Customer pays	Interest Rate Swap				Total Amount - Paid	
		Start Date	End Date	Payment Date	Days	Principal / National (\$)			Fixed Rate	Fixed Swap Leg (\$) Customer pays	Floating Swap Leg (\$) Customer receives	Net Swap Payment by Customer (\$)	(BBSY plus Fixed Swap Leg Minus Floating Swap Leg)	Effective Rate
1	1mth BBSY is positive	1-Oct-19	1-Nov-19	1-Nov-19	31	10,000,000	0.80%	6,794.52	1.05%	8,917.81	6,794.52	2,123.29	8,917.81	1.05%
2	1mth BBSY is 0%	1-Oct-19	1-Nov-19	1-Nov-19	31	10,000,000	0.00%	0.00	1.05%	8,917.81	0.00	8,917.81	8,917.81	1.05%
3	1mth BBSY is negative	1-Oct-19	1-Nov-19	1-Nov-19	31	10,000,000	-0.25%	0.00	1.05%	8,917.81	-2,123.29	11,041.10	11,041.10	1.30%

- In scenarios **1 & 2** above, should BBSY be positive or equal to zero, the customer pays the same effective interest rate when hedged with an IRS.
- However, in the event BBSY is negative (as in scenario **3**), whilst the customer would pay \$0 interest on the underlying loan (given the Contractual Floor), for this interest period under the IRS the customer would:
 - pay the fixed leg at 1.05% (i.e. \$8,917.81) and;
 - as BBSY is negative, instead of receiving BBSY, the customer **also pays** the floating (BBSY) leg at -0.25% (i.e. -\$2,123.29) thereby increasing the effective total interest cost to **\$11,041.10 or an effective interest rate of 1.30%**.

ALTERNATE OUTCOMES UNDER AN INTEREST RATE SWAP WITH A 0% FLOOR

Example:

- Set out below is an example of the operation of an IRS **with** a 0% floor, in conjunction with a floating/variable rate loan with Contractual Floor, given alternate potential BBSY rates (i.e. positive, 0%, negative).
- Note that these scenarios exclude the customer loan margin and any loan fees (which are payable regardless) and assume an IRS at 1.15%, a 0% floor (with the cost of the floor factored into the swap rate) and a \$10M hedge notional. You should also understand your cash flows under both your loans and IRS if interest rates fell below zero in an amount more than the customer margin on your loan (including if your customer margin is small or zero).



Worked scenarios for illustration purposes

Scen.	Description	Details					Principal / National (\$)	1mth BBSY (assumed)	Loan BBSY Interest (\$) Customer pays	Interest Rate Swap (with BBSY floored at 0%)				Total Amount - Paid	
		Start Date	End Date	Payment Date	Days	Fixed Rate				Fixed Swap Leg (\$) Customer pays	Floating Swap Leg (\$) Customer receives	Net Swap Payment by Customer (\$)	(BBSY plus Fixed Swap Leg Minus Floating Swap Leg)	Effective Rate	
1	1mth BBSY is positive	1-Oct-19	1-Nov-19	1-Nov-19	31	10,000,000	0.80%	6,794.52	1.15%	9,767.12	6,794.52	2,972.60	9,767.12	1.15%	
2	1mth BBSY is 0%	1-Oct-19	1-Nov-19	1-Nov-19	31	10,000,000	0.00%	0.00	1.15%	9,767.12	0.00	9,767.12	9,767.12	1.15%	
3	1mth BBSY is negative	1-Oct-19	1-Nov-19	1-Nov-19	31	10,000,000	-0.25%	0.00	1.15%	9,767.12	0.00	9,767.12	9,767.12	1.15%	

- In all 3 scenarios above, the inclusion of a 0% Floor within the IRS will result in the customer's total interest expense being the same, regardless of whether BBSY is positive, zero or negative.

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