

## How OTC Derivatives Help Borrowers Neutralize Risk Example of an Actual Hedge Used by a Real Estate Company

The purpose of this memo is to: (1) provide an example of how an OTC derivative is used to perfectly mitigate interest rate risk, (2) explain the beneficial features of an OTC derivative relative to conventional lending alternatives, and (3) identify the detrimental effects of requiring the borrower to centrally clear or exchange trade OTC derivatives.

### Background

In 2007, a real estate company (“the Real Estate Company”) refinanced the maturing debt on its property, an office building. Because tenants of the building entered into fixed rate leases, the Real Estate Company also wanted to use long term fixed rate debt on its financing. It evaluated proposals to put fixed rate debt in place and compared those proposals to putting floating rate debt in place combined with an interest rate swap to synthetically fix the rate on the debt. The Real Estate Company concluded that floating rate debt with an interest rate swap provided the Real Estate Company with lower financing costs and more favorable prepayment terms.

Following is a profile of the loan and the interest rate swap, followed by discussion as to the benefits of the interest rate swap.

#### Loan:

Amount: 640,000,000  
 Lender: Bank Real Estate Group – an affiliate of Bank Derivative Group  
 Loan Rate: 1 month LIBOR + 0.90%  
 Loan: 10/1/2007 – 9/1/2017  
 Collateral: Secured by mortgage held on the property

#### Hedge:

Amount Hedged: 640,000,000  
 Counterparty: Bank Derivative Group – an affiliate of Bank Real Estate Group  
 Hedge Rate: 5.50%  
 Hedge Index: 1 month LIBOR  
 Hedge Period: 10/1/2007 – 9/1/2017  
 Collateral: Secured by **same** mortgage held on the property

### Benefits of OTC Derivative

The swapped floating rate debt presented clear benefits to the traditional fixed rate financing. These benefits were as follows:

- **Perfectly Matched Cash Flows:** The derivative cash flows are perfect in offsetting the risk to rising interest rates on the floating rate financing. This is demonstrated in the table below, which shows how, no matter how much LIBOR increases, the borrowers interest expense remains fixed at 6.40%. This is shown in greater detail in the attached schedule of payments.

		Current	+100 bps	+700 bps
<b>LOAN</b>	LIBOR	0.30%	1.30%	7.30%
	Borrowing Spread	0.90%	0.90%	0.90%
	Loan Rate	1.20%	2.20%	8.20%
<b>HEDGE</b>	Fixed Swap Rate	5.50%	5.50%	5.50%
	Floating Rate on Swap	0.30%	1.30%	7.30%
	Net Swap Payment/(Receipt)	5.20%	4.20%	-1.80%
<b>COMBINED</b>	<b>Total Effective Loan Rate</b>	<b>6.40%</b>	<b>6.40%</b>	<b>6.40%</b>

- **Pricing Efficiency:** The swapped floating rate debt resulted in a lower rate than conventional fixed rate debt. The savings was approximately \$6 million over the life of the loan. This is because floating rate markets and fixed rate debt markets are not always equally efficient. Investor demand for floating rate debt or fixed rate debt may make one more efficient than the other at any given time. Further, banks prefer to lend on a floating rate basis because they typically borrow on a floating basis. Interest rate swaps allow for the borrower to achieve the benefits of a fixed rate, while allowing the borrower to pursue the lowest cost financing.
- **Favorable Prepayment Terms:** In the event of Prepayment, the swapped floating rate debt presented the following benefits.
  - o Ability to receive payment upon termination of swap if rates increase.
  - o Ability to incur lower prepayment penalty than with conventional fixed rate debt if rates stay the same or decrease.
    - If rates stayed the same, under the conventional fixed rate financing, the Real Estate Company would incur a prepayment penalty of approximately \$44 million if prepaid halfway through the financing. Loan might be prepaid, for example, if the borrower opted to sell the building.
    - If the Real Estate Company prepaid the swap at the same point in time, the prepayment cost would be \$0. This is because the prepayment cost of swapped floating rate debt solely relates to changes in interest rates, and not the borrower's credit spread.

### **Detrimental Impact of Central Clearing & Exchanges**

If central clearing or exchanges had been required in 2007 when this financing was put in place, the borrower would have faced several detrimental impacts.

- **Inability to Use Property as Collateral:** The interest rate swap is secured by the property, just as the loan is. In the event the borrower ceased to be able to make its payments on the loan, the lender would be able to recoup its losses on both the loan and the swap through the value of the property. To the extent the building value had diminished so substantially that it ceased to be able to cover the lender's losses on the loan and swap, the lender's losses would be no less than the losses that they would have incurred on a fixed rate financing.
- **Upfront Collateral Requirement:** The project would have needed to post approximately \$19.2 million (equal to 3% of notional amount) in upfront cash collateral
- **Ongoing Mark-to-Market Collateral:** Today, based upon current swap rates, the Real Estate Company would currently have posted an additional \$100 million to secure the negative value of the swap, even though such obligation would be paid over the course of the remaining 8 years. When interest rates were at their lowest point, the collateral that would be required to be posted would have equaled an additional \$180 million. The graph below shows the value of the swap over time.
- **Impact on Investment and Job Creation:** A requirement to set aside almost \$200 million in cash to satisfy margin requirements would have a material impact on the Real Estate Company's ability to enter into new construction projects and property acquisitions. As such, these margin requirements would limit the growth prospects of the company and, therefore, the ability for the Real Estate Company to increase hiring and maintain its workforce.



- **Cost Impact of Collateral Posting:** Reserving working capital to post as collateral would cause the Real Estate Company to have a dramatically higher financing cost than if it were able to use the property to secure the derivative. The total interest rate of 6.40% increases to as high as 8.70% when taking into account the lost opportunity to invest that capital at a 10% rate of return. If the Real Estate Company forewent an opportunity to invest those funds at a 5% rate of return, its maximum interest rate would increase to 7.50%. At 20%, the debt cost would increase to 11.00%.
- **Limitations on Customization:** If clearinghouses or exchanges do not develop hedging alternatives tied to 1-month LIBOR, the Real Estate Company would have been unable to perfectly lock its cash flows on the debt obligation.