Using the Symmetrical Prepayment Advance

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Short-term interest rates have changed minimally in the past decade, as the Federal Reserve has only inched up the Fed Funds Target rate once since 2006. Intermediate and longer-term rates continue to confound the fixed income investor, and long term borrower, amidst a lower-for-longer market phenomenon. With the expectation of a cautious Fed, any potential rate hike campaign will most likely occur over an extended period of time.

One question we at FHLB Des Moines often hear is, "What do you think about rates… and do you see many members holding longer-term mortgages despite historically low mortgage rates?" Unequivocally, we have as good an insight on the future path of rates as a random dart throw, and we do see members holding longer-term mortgages despite historically low mortgage rates.

A growing percentage of our members are deciding to grow during this lower-for-longer campaign and do so with organic originations, whether they are residential or commercial in nature. One facet of the risk/return decision that we can assist with is hedging the unwanted interest rate risk from such originations using our Symmetrical Prepayment Advances.

The Symmetrical Prepayment Advance can fund a wide variety of your fixed rate assets, and also hedge the risk of deposit erosion and the effects of deposit dis-intermediation when interest rates rise. The Symmetrical Prepayment Advance provides stable funding that is not rate-sensitive and includes a feature which allows members to monetize the value associated with rising rates and the positive impact this can have on liabilities. To realize this value, members need to prepay the advance prior to contractual maturity which allows for prepayment credit to be paid should rates rise sufficiently enough.

The Symmetrical Prepayment Advance not only provides stable funding and desired interest rate hedging features; it's also a margin preserving funding vehicle. As interest rates rise, the cost of deposits will begin to increase as well. No-cost to low-cost retail deposits will become more expensive, as deposit customers will seek higher yielding accounts and/or alternative providers due to more attractive rates. With that said, the Symmetrical Prepayment Advance not only hedges against the risk of higher interest rates, it allows for locked-in funding costs and net interest margin spreads.

How the Symmetrical Add-on Feature Compares to a Standard Advance

The Symmetrical Prepayment Advance includes a feature that allows members to prepay an advance and potentially monetize any gain in the advance value should market conditions cause the market value of the advance to be less than the original par value of the advance. This feature increases the cost of the Symmetrical Prepayment Advance by a fraction, typically one to two basis points for maturity terms up to 10-years.

In terms of the mechanics, there are a few key points that should be addressed. When executing an advance with FHLB Des Moines, you always have the option to prepay an advance for a fee that is equal to the present value of the remaining cash flows expected to be received by FHLB Des Moines (unless terms dictate otherwise). In some situations — namely, when interest rates have increased enough — there is no prepayment fee due as the market value of the advance is well below then-current conditions. What the Symmetrical feature will do is let you collect the difference between the current market value of the advance and the original principal, assuming the market value is less than the original principal.

Table 1. Symmetrical Advance vs. Non-Symmetrical Advance

	Instantaneous Interest Rate Rise (bps)						
5 Year Non-Symmetrical	-300	-200	-100	0	+100	+200	+300
Market Value	1.17380	1.11860	1.06606	1.01605	0.96846	0.923152	0.880026
Fee (non-Symmetrical)	173,809	118,608	66,068	16,059	-	-	-
5 Year Symmetrical	-300	-200	-100	0	+100	+200	+300
Market Value	1.17434	1.11912	1.06657	1.01655	0.9689	0.92362	0.88048
Fee (Symmetrical)	174,341	119,127	66,573	16,552	-31,059	-76,379	-119,517

Table 1 illustrates the difference in prepayment fees (or credits) associated with a standard 5-year, $1 million Fixed Rate Bullet Advance and the same advance with the Symmetrical add-on feature. As the table demonstrates, fees in a flat or down rate environment are highly correlated as most terms carry only a one or two basis point increase to the advance rate to include the Symmetrical feature. The difference occurs in an up rate environment. Taking a look at the market values of both advances in an up-rate scenario, there is very little difference between the two. The Symmetrical feature, however, allows you to realize a gain comprised of that difference between the current market value of the advance and the original principal amount.

Why Use the Symmetrical Add-On Feature?

The Symmetrical Prepayment Advance is an ideal tool to use for funding a variety of assets. Assume that you will be funding a $15 million, 3.50%, 7-year commercial real estate loan that amortizes over 15 years with an advance ladder comprised of the three advances:

Table 2. Ladder of Three Bullet Advances

Advance Term	Rate (%)*	Allocation (%)	Allocation ($)	Total Interest
3 years	1.29	25	3,000,000	116,100
5 years	1.64	25	3,000,000	246,000
7 years	1.96	50	6,000,000	823,200
Total	1.82	100%	12,000,000	1,185,300

*Rates as of 6/22/2016

This laddered strategy allows your institution to initially fund 80% of the portfolio with FHLB Des Moines bullet advances and 20% with deposits. The weighted average cost of the advances would be 1.82% and the total interest expense would be $1,185,300 for the life of the advances. Initially, the weighted average spread of this strategy would be 2.01%, assuming an initial deposit cost of 50 basis points.

Alternatively, if your institution considers using the Symmetrical add-on feature for your advances, the impact on interest rates and total interest expense of advances would be as follows:

Table 3. Ladder of Three Symmetrical Bullet Advances

Advance Term	Rate (%)*	Allocation (%)	Allocation ($)	Total Interest
3 years	1.30	25	3,000,000	117,000
5 years	1.65	25	3,000,000	247,500
7 years	1.97	50	6,000,000	827,400
Total	1.83	100%	12,000,000	1,191,900

*Rates as of 6/22/2016

As Table 3 shows, the structure of the ladder strategy remains the same, 80% advances and 20% deposits, with the advances retaining the same terms and allocation amounts. The difference is that the Symmetrical feature adds an additional basis point to each advance, which in turn slightly increases the total interest expense over the life of the advance. (Note: Symmetrical add-on premium varies by term, for 6/22/2016 the premium was one basis point for two through seven year terms.) This additional basis point per advance raises the weighted cost of the laddered strategy to 1.83%, lowers the spread to 2.00%, and only increases the total interest expense by $6,600.

The minimal additional cost to add the Symmetrical feature provides your institution interest rate protection, as well as the flexibility to prepay the advance and monetize any value at some point in the future as demonstrated in Table 1. Without the Symmetrical feature, the advance behaves as any other fixed rate bullet and would be subject to any fee due, and no prepayment fee credit, if applicable. The Symmetrical feature may potentially help recoup a portion of the interest lost due to the early prepayment of an asset. As Table 3 demonstrates, the opportunity cost of this feature is an additional $6,600 in interest expense over the course of the life of the laddered strategy.

The Symmetrical Advance and the Investment Portfolio

The Symmetrical Prepayment Advance is also a great tool to hedge interest rate risk inherent in fixed rate investments. As rates rise, the value of an investment portfolio declines as new bond issues will have more favorable yields. As previously demonstrated increasing rates can actually be beneficial for the Symmetrical Prepayment Advance and help offset the losses of your investment portfolio.

Table 4. Hedging the Investment Portfolio with Symmetrical Advances

Investment Category	Book Value	Assumed Duration	Market Value Loss		
			100 bps	200 bps	300 bps
Treasuries, Agencies, & Munis	583,010,000	2.5	-14,575,250	-29,150,500	-43,725,750
Mortgage Pass-Throughs	0	0	0	0	0
Other MBS	70,268,000	3	-2,108,040	-4,216,080	-6,324,120
Total	653,278,000	2.55	-16,683,290	-33,366,580	-50,049,870
		% of Tangible Equity	-6.55%	-13.10%	-19.66%

Advance Category	Book Value	Market Value Gain		
		100 bps	200 bps	300 bps
2-Year Symmetrical	50,000,000	985,000	1,945,000	2,890,000
3-Year Symmetrical	100,000,000	2,900,000	5,720,000	8,450,000
4-Year Symmetrical	25,000,000	947,500	1,857,500	2,735,000
Total	175,000,000	4,832,500	9,522,500	14,075,000
	% of Tangible Equity	1.90%	3.74%	5.53%
	Net Impact on Tangible Equity	-4.65%	-9.36%	-14.13%
	Impact on NIM	24 bps	17 bps	11 bps

Table 4 demonstrates the impact on both the investment portfolio and Symmetrical Prepayment Advances in a rising rate environment. The losses in the investment portfolio continue to increase the higher rates move, leading to substantial losses on the portfolio. However, by implementing a laddered approach of Symmetrical Prepayment Advances for a portion of the investment portfolio, you will be able to limit the net impact to your institution, as measured by tangible equity.

Bringing it All Together

Whether you are looking to hedge unwanted interest rate risk, fund fixed rate investments or portfolio longer term fixed rate residential and commercial mortgages, the Symmetrical add-on is a feature that should be considered when executing any eligible Fixed Rate Bullet or Fixed Rate Amortizing Advance. The opportunity cost of adding the Symmetrical feature is a fraction of the total advance rate, and does not demonstrably increase prepayment fees in a down rate environment. Alternatively, the Symmetrical feature can be quite material if rates rise sufficiently enough in up rate scenarios.

Feel free to call the FHLB Des Moines money desk (800-544-3452) for information on executing a Symmetrical Prepayment Advance. Also, contact your Relationship Manager or the Member Strategies team to discuss the Symmetrical Prepayment Advance and its many applications.