October 26, 2015

*Weekly Post:* **Borrowings Modification**

Dear Clients-

We may have borrowed six years ago when interest rates were high. These borrowings may have few years of remaining life. Then we may consider negotiating a modification of the borrowings so that we can terminate these borrowings on the balance sheet immediate and simultaneously take on new borrowings at a lower rate and long maturity.

However, typically, the lender would require a penalty. The amortization of the penalty over the life the new borrowings would increase the reported funding cost, called the effective funding cost. We can amortize the penalty as long as this modification passes the 10% test.

**Challenge**

- How should we analyze this opportunity to retire the high-interest cost funding while lowering the liability sensitivity?
- Is the borrowings modification advantageous to us, when the effective funding cost is lower than the current funding cost?

**Solution**

This borrowing modification decision consists of three parts that we need to consider:

1. The economics of the borrowing modification in analyzing the total cost of the modification given the penalty
2. The impact of the new borrowings on interest rate risk and liquidity risk on the balance sheets
3. Financial reporting of the effective funding costs.

The proposed funding rates of the new borrowings are typically based on the market rates. In this case, we should separate the economics of the decisions from the balance sheet risk management decision.

To analyze the economics of the modification decision, we need to make an apple-to-apple comparison. To this end, we need to consider the cost of funding to that of borrowings with the same amount and maturity plus the penalty. We should then compare this cost to the fair value of the borrowings on the balance sheet. If the cost is higher than the fair value of the borrowings, then the modification is detrimental to the economic value of equity (EVE). Conversely, if the cost is lower than the fair value, then the modification would be profitable to the bank.

The maturities of the new borrowings will depend on our ALM risk analysis that we have discussed extensively. Note that the longer is the maturities of the new borrowings, lower is the effective funding costs because the annual amortization amount is lowered by using longer maturity. This argument shows that the comparison between the effective funding cost and the current borrowing cost is not the important criterion in determining the efficacy of the transaction. The important considerations are the economics and the risk analysis.

**Numerical Example**

Consider the following numerical examples. The values below are not taken from actual transaction. They are used for illustrations only. The table presents three FHLB advances. The penalties are quoted by the lender.

| outstanding | rate (%) | maturity | penalty | total value | trade price | fair price | gain | value gained |
|---|---|---|---|---|---|---|---|---|
| $ 4,000,000.00 | 4.1 | 3/1/2017 | $ 205,605.60 | $ 4,205,605.60 | 105.14014 | 104.512 | -0.63 | $ (25,127.44) |
| $ 7,000,000.00 | 4.46 | 7/17/2017 | $ 491,756.59 | $ 7,491,756.59 | 107.02509 | 106.0782 | -0.95 | $ (80,489.95) |
| $ 4,000,000.00 | 3.95 | 8/17/2017 | $ 255,273.60 | $ 4,255,273.60 | 106.38184 | 105.3691 | -1.01 | $ (50,637.14) |

The total value is the outstanding amount plus the penalty. The percent of the total value to the outstanding amount is the trade price. The fair price is the economic value of the advances based on the rates and maturities presented in the table.  As the results show that the fair price is lower than the trade price, suggesting that the trade is detrimental to the balance sheet value. The impact is the "value gained".

Note that, the "gain" on par value varies among the advances. If we want to select one advance to be modified, then the first advance 4.1%  3/1/2017 would be least costly.

**Conclusion**

Borrowings modification may lead to lower effective funding cost. But that measure of value can be misleading. We should first compare the fair value of the borrowings on the balance sheet and the total cost of the refunding. Then the maturity of the new borrowings should depend on the ALM risks weighing against the new funding rate. Finally, we can consider the impact of the financial reporting.

*Please do not hesitate to contact THC staff if you have any questions regarding borrowings modification.*

Regards,

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