May 25 2016

Weekly Post: Lowering Liability Sensitivity using Balance Sheet Optimization

Dear Clients-

Goldman Sachs recently assigned probabilities 35%, 35% and 20% of a rate hike in June and the following months respectively. Regulators have urged you to conduct "model risk" analysis on the non-maturity deposit account, including alternative funding strategies.

Because the yield curve has been steeply upward sloping for past 6 years, many institutions have a liability sensitive balance (long EVE duration) to attain higher yields. When you lower the liability sensitive, you may also lower income. *This Post discusses how to manage earnings while lowering liability sensitivity (lowering EVE duration).*

Challenges

- How can I originate only short duration ARMs without lowering incomes?
- How can I extend the maturity FHLB Advances fundings without hurting earnings?
- Should I swap long bonds to short term securities?

Solution

You are using Directors Dashboard, EVE, EaR and other reports to manage your interest rate risk. I have discussed that the most important risk measure to manage is EVE duration.

You may consider the strategy: keep long duration loans on the balance sheet and fund them with longer duration FHLB advances or broker CDs. Using THC Risk Officer to seek the optimal funding strategy.

Let me use a hypothetical bank to illustrate. The bank total asset, EVE ratio, and EVE duraton are $507.477 mm, 18.96% and 3.50 year. The bank is keeping $35,700,000 @ 2.89% 15 year and $14,300,000 @3.78% 30 year on the book.

In THC Risk Officer ™ trade simulation, I can use the optimizer to determine the optimal FHLB funding: the combination of FHLB advances' maturities to maximize earnings while lowering the EVE

Market Wisdom - Art Hilliard*

As one can see with the proliferation of scratch and dent pools this is a robust market. Since loan origination is not an exact science, as much as we would like to think it is, every originator is touched by these loans. Some companies have entire departments dedicated to curing these loans and delivering them to the investor or, if they can't be cured, selling them in the S&D market.

As noted above, Institutions have options regarding S&D loans that they own

- Cure and deliver, sell as S&D, hold on balance sheet
- If a loan was to be a Fannie or Freddie delivery, one option may be to go to the investor and ask for a waiver. They may grant it with conditions, but at least it is deliverable

It is not necessarily a reflection on the institution's credit practice to have S&D loans. They are inevitable. These are not bad loans. Look at the pool out for bid this week:

- Read the comments; every loan has a story. Out of 20 loans, 10 had compliance issues – Doesn't necessarily affect performance
- WAFICO 741, WALTV 83, WADTI 39.73
- The bidding period is still open, but initial bids are in the H80s to L90s.

Art Hilliard has been in the mortgage industry for 29 years. He has originated, managed secondary marketing, securitizations and settlements, provided mortgage financial advisory and performed multiple mortgage portfolio sales and acquisitions. He was past president of the Illinois Mortgage Bankers Association.

Pool details attached *THC* site *Conf Room*
https://www.thcdecisions.com/tro

duration from 3.50 year to 2.50 year. The optimal funding is using $14.2mm @ 2.03 6 year, $35.6mm @2.39% 8 year, and $0.142mm cash.

The impact of the strategy on the balance sheet is summarized below. The blue shaded row is the March cycle results and the green shaded area contains the simulated results.

Performance Dashboard							
Economic Values			capital			NII and Earnings 12mo Pro	
assets	loans	deposits	EVE	EVE ratio(%)	duration	NII	earnings
507,477	366,481	391,153	96,226	18.96	3.50	20,177	6,239
557,335	416,481	391,153	96,226	17.27	2.50	20,615	6,676

The result shows that the EVE ratio is lowered from 18.96% to 17.27%, only 1.69%. The simulated duration is on target, 2.5 year. NII increases by $438,000 for the 12 month.

You can increase the loan portfolio by keeping loans on the book instead of selling to investors, orginating loans that have long duration including 7-1 ARMs and 10-1 ARMs, and fund the loans with longer Advances can still lower the EVE duration. This example shows that by increasing the total asset by 10% results in lowering EVE ratio by 9.78%.

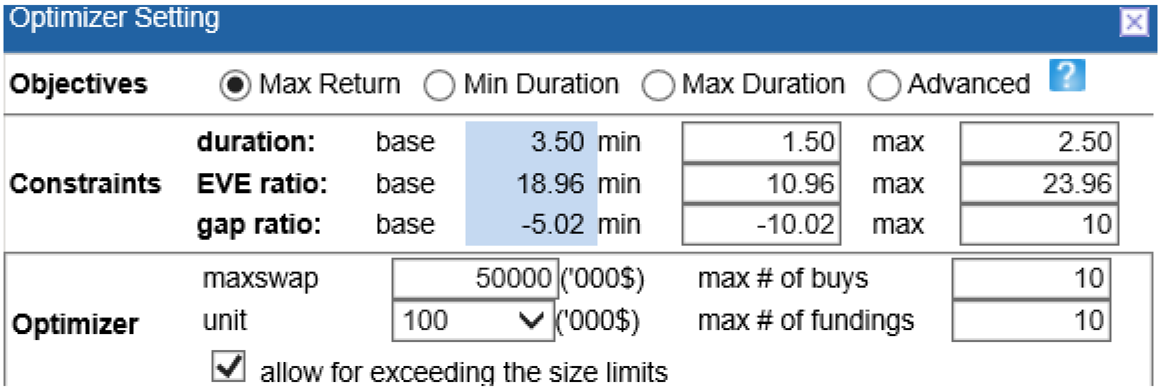
Of course, managing EVE duration with funding involves other considerations. For example, the extension risks of the loans; an issue I discussed in my Post last week using the convexity measure or stress test. As the balance sheet is leveraged higher, you need to manage the liquidity risk by checking the Liquidity Coverage Ratio.

Numerical Example

THC Risk Officer ™ enables you to optimize your balance sheet strategies. I am illustrating a balance sheet optimization in this Post. In this optimization, you specifies the loans and the funding instruments along with their maximum sizes that you allow. For example, you may not want to put over $60mm 30 year FRM on the book over the next 3 months.

The optimization allows you to specify your objective of maximizing income or other goals. You can then set the EVE duration target, EVE ratio and the Gap ratio to manage interest rate, capital, and liquidity risks respectively. You can also specify the maximum size of the transaction. In my case, the maximum size is $50mm about 10% of the total asset

THC optimization is called “integer” optimization. The solution is practical, does not ask you to buy fraction of a bond or funding with too many pieces of Advances. Solutions are based on market convention, round numbers, “integers.” Therefore you can specify the smallest unit of assets, and the largest number of assets and fundings. An example of the optimization constraints are provided below.



You can provide a comprehensive risk reports of such a strategy. These risk reports describes the impact on the balance sheets and projected incomes. These reports can be reviewed in your ALCO meetings.

Conclusions

You can hold more loan duration loans while lowering liability sensitivity of the balance sheet and increase earnings. You can also consider the implication of the strategies on other risks using other risk reports. These reports can be discussed in ALCO, Board meeting and regulatory reviews.

If you have any questions on the use of THC Risk Officer ™ balance sheet optimization to enhance your performance, please do not hesitate to contact THC.

Regards,
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