



Weekly Post: Simulate NMD Offer Rate Strategies

Dear Clients:

Last week's Post describes the decay rate and beta of non-maturity deposits and how they are related to the Earnings-at-Risk Report. This Post will discuss the need to simulate your NMD offer rate strategies using the beta and decay measures under multiple interest rate scenarios. These offer rate strategies can be impacted by your competitive environment, funding needs, customer withdrawal behavior, balance sheet interest rate risk exposure, and the margin between your offer rate and loan rates. There are many moving parts making the simulations as complex as they are important.

Challenge:

- How to determine your offer rate strategy in this rising rate environment?
- Since the beta and decay measures are estimated from a period of low interest rates, the regulatory model risk can be significant. How should interest rate risk be managed if the actual beta (the offer rate adjustment speed) is much higher than that estimated?

Solution:


THC Risk Officer™ enables you to simulate earnings under a broad range of scenarios. In viewing the EaR report, click on [Sensitivity Calculator](#)  , you can input your scenarios as per the screen shot below, based on a hypothetical bank.

Table 1	Risk Drivers	Current Assmp	Change on Risk Drivers
Interest Rate Sensitivity	3m rate(bpt)	1.00	100
	1yr rate(bpt)	28.01	50
	3yr rate(bpt)	101.55	20
	5yr rate(bpt)	165.23	
	7yr rate(bpt)	211.56	
	10yr rate(bpt)	241.30	
	20yr rate(bpt)	296.67	
	30yr rate(bpt)	334.78	
Prepayment Model	OAS(bpt)	187.96	
	CPR(%)	14.70	
Deposit Model	CDR(%)	0.11	
	Decay(%)	6.75	
	Beta(%)	24.98	50

For example, if the short term rate, which affects the depositor's withdrawal behavior most, rise faster than the longer term loan rates, then you may need to raise the offer rates faster, increasing beta to retain the customers. To simulate this scenario, you may consider the

- 3m rate rises by 100 bpt
- 1yr rate by 50 bpt
- 3 yr rate up 20 bpt.

Suppose market competition is intense and that the beta increases by 50% from 24.98% to 74.98%.

The scenario is illustrated in Table 1 and the changes are in the yellow column.



Example:

Given the above scenario, you can simulate the NII and NI results, as illustrated below.

Table 2		shocked
NII	Before	9,932.74
	After	1,419.38
NI	Before	3,279.56
	After	-2,339.23

The results show that if 3m rate rises by 200 bpt, 1yr rate by 150 bpt 3 yr rate up 120 bpt, then the NII and NI fall over a 12 month horizon. The NII falls from \$9,932 to \$1,419. As mentioned above, the level of the fall in NII can be a result of many factors such as the lack of assets repriced over the short term, the loan prepayment speed may have extended significantly and other factors as well. Therefore, it is important to simulate your NMD offer rate strategies based on your balance sheet models.

Conclusions

The impact of offer rate strategies on NII depends on many factors and the impact can be significant.

- You may consider performing some simulations for several of your offer rate strategies and reviewing the results of these simulations on your strategies with your Board and ALCO
- Some of the issues referenced in this Post may be discussed with your regulatory examiner.

Please do not hesitate to contact us if you have any questions about simulating your offer rates strategies.

Regards,

Tom Ho

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