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Weekly Post: Explaining the Changes in Your Risk Profile

Dear Clients-

Explaining the quarterly changes of your risk profile is central to the ALM process. Knowing the reasons behind the changes in your duration and EVE enables you to better manage your balance sheet exposure and profitability. The THC "Two Cycle Comparison" report can assist you in explaining the changes.

However, the drivers behind the changes in the risk profile are complex and may be dependent on many factors. This Post details how this attribution model can be useful in explaining the changes in your risk profile from one cycle to another.

Challenges

- Why did my EVE duration change so much in this cycle?
- How can my EVE value decrease when I have not done much to the balance sheet?
- How can I verify the balance sheet risk exposure and impact of funding new loan volume using FHLB advances?

Solution

An increase in EVE value is the balance sheet's unrealized gain. If your EVE value has increased by \$10mm, then you have accrued \$10mm in unrealized gains, which can be realized over the life of each balance sheet item, when held until maturity. For example, when interest rates falls 50 bpts, a 3 year fixed rate loan would have an unrealized gain of locking into an additional 50 bpts income for the next 3 years.

EVE value can also be affected by your customers' action. For example, a mortgagor may prepay a high interest loan eliminating the unrealized gain embedded in the loan. Further EVE value may also be affected by the actions on your balance sheet. For example, you may have originated long duration loans in the beginning of the cycle as the rates then declined the following three months, resulting in a higher EVE value.

Our two-cycle comparison report attributes the changes in the EVE values to the change of each balance sheet item face value and the change in economic value due to the market. Using a hypothetical Bank B, the report gives the following attribution.

Market Wisdom - Art Hilliard*

Beyond the obvious

Being an active seller certainly helps in managing the balance sheet and mortgage origination pipeline, not to mention gaining income from sales. Smaller institutions, especially, can use seller relationships to strategically grow their business and avoid sending customers down the street

- Institutions can gain access to products they previously haven't been able to offer like fixed rate mortgages that they have not been able to put on their balance sheet
- Some banks don't originate loans with LTVs over 80% because of portfolio risk. These loans can be originated and sold while lower LTVs are kept on balance sheet
- Some institutions avoid originating loans over 80% LTV because of the escrow requirement on servicing these loans. Investors who buy loans servicing released give institutions the option of originating loans over 90% without having any additional servicing requirements

Provide more options to your customers and grow your mortgage pipeline without taking on additional risk.

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>



Description	EVE (December 2015)							EVE (March 2016)							EVE chg(\$)			
	Coup on	Maturity Date	Base	Face Value	BC/FV (%)	Up 400BP	Dur	Coupon Rate(%)	Maturity Date	Base	Face Value	BC/FV (%)	Up 400BP	Dur	Dur chg	due to BS	due to Price	total
Economic Value of Equity																		
Total assets	4.38	10.34	397,056	388,951	102.08	-10.63	2.33	4.54	10.63	399,692	386,688	103.36	-10.58	2.49	0.16	(2,310)	4,947	2,636
Total liabilities	0.24	0.81	342,201	350,360	97.67	-5.66	1.34	0.26	0.66	341,390	347,467	98.25	-5.63	1.20	(0.14)	(2,826)	2,014	(811)
EVE	2.46	7.66	54,854	38,591	142.14	-41.64	8.48	2.57	7.89	58,302	39,221	148.65	-39.58	10.02	1.54	896	2,552	3,448

Consider the last item in the third row, EVE attribution. The EVE has increased by \$3.448mm in the past cycle. The decomposition shows that much of the change results from the fall in interest rates with the market effect accounting for \$2.552mm, while the balance sheet change accounts for only \$0.896mm. The THC Risk Profile attribution decomposes the changes into two key drivers: balance sheet changes and market rate changes.

Numerical Example

The attribution model then breaks down into individual balance sheet items and decomposes the economic value into two terms: the change in unit value based on the initial face value and the change in face value based on the initial unit value. Therefore, the change in EVE due to the Balance Sheet or to the market effect of interest rate changes can be attributed to each balance sheet item. The breakdown then highlights which balance sheet items had the most impact on the changes in your risk profile.

For example, the report below shows that the Secured by First Lien contributes \$3.102mm to the total of \$3.448mm..

Description	EVE (December 2015)							EVE (March 2016)							EVE chg(\$)			
	Coup on	Maturity Date	Base	Face Value	BC/FV (%)	Up 400BP	Dur	Coupon Rate(%)	Maturity Date	Base	Face Value	BC/FV (%)	Up 400BP	Dur	Dur chg	due to BS	due to Price	total
1-4 family residential construc	5.63	2.52	8,210	8,214	99.95	-5.43	1.44	6.01	2.64	7,324	7,284	100.55	-5.09	1.36	(0.09)	(930)	43	(886)
Other construction loans and a	5.63	2.52	24,285	24,296	99.95	-5.43	1.44	6.01	2.64	23,749	23,620	100.55	-5.09	1.36	(0.09)	(676)	140	(536)
Revolving, open-end loans sec	3.92	10.00	2,145	2,178	98.51	-3.27	0.84	3.33	10.00	1,972	2,008	98.23	-3.28	0.85	0.00	(167)	(6)	(173)
Secured by first liens	4.45	17.92	105,451	100,739	104.68	-16.46	2.60	4.16	18.25	108,554	103,208	105.18	-15.97	3.23	0.63	2,584	518	3,102
Secured by junior liens	3.83	5.59	2,897	2,881	100.55	-1.93	0.51	3.57	5.75	2,570	2,556	100.54	-1.96	0.52	0.01	(327)	(0)	(327)
Secured by multifamily (5 or m	5.36	7.59	18,452	17,984	102.60	-7.19	1.96	5.69	7.76	21,488	20,619	104.21	-7.48	2.05	0.09	2,704	333	3,036
Loans secured by owner-occ	5.36	7.59	63,831	62,213	102.60	-7.19	1.96	5.69	7.76	64,591	61,979	104.21	-7.48	2.05	0.09	(240)	1,001	760
Loans secured by other nonfa	5.36	7.59	39,569	38,566	102.60	-7.19	1.96	5.69	7.76	38,090	36,550	104.21	-7.48	2.05	0.09	(2,068)	590	(1,478)
Loans secured by real esta	5.00	11.07	264,840	257,071	103.02	-10.58	2.13	5.07	11.40	268,338	257,824	104.08	-10.55	2.42	0.29	776	2,722	3,498
Commercial and industrial loan	7.42	3.96	31,095	27,893	111.48	-10.51	2.90	8.70	4.10	30,959	26,670	116.08	-10.55	2.91	0.02	(1,363)	1,227	(136)
Credit cards	15.94	3.73	357	359	99.54	-2.71	0.70	14.27	3.59	367	371	98.88	-2.64	0.68	(0.02)	12	(2)	9
Other revolving credit plans	8.09	3.77	238	227	104.80	-5.72	1.51	6.05	3.60	548	535	102.40	-5.47	1.44	(0.07)	323	(13)	310
Automobile loans	7.41	4.77	366	342	107.13	-6.30	1.68	5.70	4.89	316	303	104.28	-6.38	1.70	0.02	(42)	(9)	(50)
Other consumer loans (include	8.43	3.88	74	70	105.06	-5.59	1.48	-	-	-	-	-	-	-	(1.48)	(74)	-	(74)
Other loans	0.84	3.66	98	109	90.23	-10.92	3.01	1.00	3.73	222	245	90.70	-10.95	3.03	0.02	123	1	124
Any unearned income on loans	-	-	-1,338	-1,338	100.00	-	-	-	-	-1,328	-1,328	100.00	-	-	-	10	-	10
Total Loans	5.25	10.26	295,730	284,733	103.86	-10.60	2.22	5.43	10.57	299,422	284,620	105.20	-10.58	2.48	0.26	(117)	3,809	3,692

The attribution is useful to ALM because the results here show how you have lowered the EVE duration and how you have accrued higher unrealized gain using a “riding down the curve” strategy or other strategies that I have described in previous Posts.

Conclusions

Changes in the balance sheet risk profile can be attributed to several underlying drivers: your action and your customers’ action on the balance sheet and the market rate changes. By knowing the reasons behind the change, you can explain the changes, better adjust the risk exposure of your balance sheet and better manage your profitability.

If you have any questions on the two cycle comparison report, please do not hesitate to contact THC.

Regards,



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