June 15 2016

Weekly Post: THCExpected Credit Loss Model (CECL)

Dear Clients-

The recent FASB draft ***Measurement of Credit Losses on Financial Instruments*** on April 1, 2016 describes the Current Expected Credit Loss (CECL) model. "This project addresses issues related to the impairment reporting of credit losses of financial assets. The objective of this project is to significantly improve the decision usefulness of financial instrument reporting for users of financial statements. The Boards believe that simplification of the accounting requirements for financial instruments should be an outcome of this improvement. The Boards' goal is to develop a single credit loss model for financial assets that enables more timely recognition reporting of credit losses." CECL, by introducing the Life of Loan concept, will impact your financial reporting, ALM, and indeed almost all aspects of risk and profitability management.

CECL recognizes the expected credit loss of a loan also depends on the other loan factors of prepayments, amortization and other loan cash flow characteristics. And therefore CECL will integrate your credit risk management into interest rate and liquidity risk management. You should not narrowly view CECL as credit loss provision, but, more as an important tool to assist you in managing your bank's performance. This Post will explain how the THC CECL model enables you to not only meet the accounting requirements pertaining to CECL, but also simultaneously enables you to enhance your ALM process.

Challenges

- How to address: "The allowance for credit losses is a valuation account that is deducted from the amortized cost basis of the financial asset(s) to present the net amount expected to be collected on the financial asset"?
- Which methodology should be used since "The allowance for credit losses may be determined using various methods"?
- How to calculate CECL based on your "Historical credit loss experience of financial assets with similar risk characteristics generally provides a basis for an entity's assessment of expected credit losses" while taking prepayments into account?

Solution

Market Wisdom - Art Hilliard*

Not everything is fixable

Please note the comments in the attached Scratch and Dent pool - bids are due tomorrow. One investor come back and showed a "no bid" meaning they didn't like any of the loans and they weren't going to bid on the pool. A second investor came back and said they'll take a look at them, but it has some toxic loans in it.

What are the main issues with these loans that investors take issue to?

- Early payment defaults (EPD) – High risk loans. They are certainly not a defect that can be cured in order to make the loan saleable (Most season these loans and then try to sell them.)
- TRID (TILA-RESPA Integrated Disclosure) violations – People are spooked about where regulators and government agencies reaction.
- Other compliance related disclosure issues – Investors, especially banks, do not want to own these issues.

Some issues, try that we might, are not curable. Sellers are often faced with going to investors further down the food chain and accepting a lower price or keeping the loan on their balance sheet.

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

The THC CECL model ensures that the credit loss estimate is an integral part of your asset-liability management process. EVE, EaR, Credit Stress Test, Contingency Funding Plan and other ALM reports are all consistent with each other as they all have the same underlying engine. For example, under an interest rate rising scenario, the loan weighted average life may be extended resulting in a higher expected credit loss over the life of your loans. Managing all balance sheet risks in a holistic manner is ever so important in today's environment

To enable you to manage your balance sheet in a more holistic manner, the THC CECL model

- THC uses "discounted cash flow" with "loss rate" model taking the financial asset's optionality into consideration. This approach is used because a simplistic probability of default model cannot relate to interest rate and liquidity risk models.
- Ensures that a "financial asset is evaluated on an individual basis", not on a collective (pool) basis, because few loan pools have the same interest rate risk characteristics.
- Specifies the Effective Interest Rate to be the benchmark yield curve used in Interest Rate Risk models because the yield curve shape and yield curve scenarios can affect CECL
- Incorporates the"estimated prepayments in the future principal and interest cash flows" using THC multifactor models, where credit risk exposure affects prepayment rate visa versa.
- "Incorporates reasonable and supportable forecasts in its estimate of expected credit losses" by using the THC database and the THC model can be adjusted by incorporating your historical credit experience and your qualitative assessment into the assumptions.

Therefore, the THC CECL model follows FASB guidelines while enabling you to use the loss estimate in your asset-liability management, including loan pricing, specifying your required margin for loans and establishing a consistent set of risk exposure policy limits. As you may have experienced, better risk management enables you to optimally adjust your capital ratio, duration, liquidity coverage ratios resulting in an increase in your income.

Numerical Example

Cash flow model

The THC Cash Flow report presents the components of the projected cash flows of a loan, which are the principal, interest, expected credit loss, expected recovery and fees. This report provides model transparency for your asset-liability management process. This cash flow model is also used for your interest rate and liquidity risk models. A sample of the cash flow report for a $500,000 1-4 family residential loan is provided below. The projected cash flow shows that the recently originated residential mortgage has minimal expected loss of $140 each of the first six months. The $500,000 after net of the amortized and prepayment principals and the charge off (= principal net loss + recovery) is the performing balance of $496.03.

Date	Cash Flow	Amort. Prin	Prepay. Prin	Prin Recov.	Prin Loss	Int Loss	Interest	Non-interest	Perf. Bal
Apr-16	5.50	0.78	2.24	0.81	0.14	0.00	1.77	0.10	496.03
May-16	5.51	0.78	2.28	0.79	0.14	0.00	1.76	0.10	492.03
Jun-16	5.27	0.77	2.06	0.79	0.14	0.00	1.74	0.10	488.27
Jul-16	5.19	0.77	2.00	0.80	0.14	0.00	1.73	0.10	484.56
Aug-16	5.18	0.77	1.99	0.81	0.14	0.00	1.72	0.10	480.85
Sep-16	4.97	0.77	1.80	0.80	0.14	0.00	1.70	0.10	477.34

Net Loss Rate Model

THC uses historical data to estimate the annual expected loss rate across 30 loan types and 11 credit risk levels. The loss rate is the expected annual expected charge off rate net of the recovery rate. The **recovery rate** is defined as the proportion of a bad debt that can be recovered. A sample of the THC estimates is provided below. These estimates can be adjusted based on your historical credit experience and qualitative assessment. As expected, the consumer loans have higher annual (net) loss rate of 1.29% while residential loans have loss rate of 33 bpt for the highest credit quality. (This table is only for illustration. THC credit model provides estimates for loans with more granular information)

Table1: Net loss rate (credit spread) % - Credit Score (internal credit rating)

Internal credit rating	A1	A2	A3	A4	A5	A6	B	C
credit score	840	810	780	750	720	690	660	630
1-4 family first mortgage	0.33	0.34	0.35	0.36	0.37	0.40	0.50	0.64
CRE	0.53	0.55	0.57	0.59	0.61	0.70	1.11	1.66
HELOC	0.60	0.60	0.71	0.82	1.08	2.02	2.15	3.02
Consumer- Direct New Auto	0.24	0.24	0.25	0.26	0.28	0.32	0.63	0.76
Consumer- Personal	1.29	1.29	1.42	1.55	2.13	3.00	3.84	4.74

Profit Margin Analysis

The yield of a loan can be decomposed into the funding cost, credit loss rate, option cost and the clean Option Adjusted Spread (clean OAS). This clean OAS is a rigorous measure of your profitability margin of your various loan types. Using the clean OAS and an accurate CECL model, you can optimize your loan portfolio and enhance your performance. A sample of the profitability margin is provided below. As expected, the margins for consumer loans are higher than others to compensate for the credit risk, with higher risk premiums.

Table2 : Clean OAS(%)

Internal credit rating		A1	A2	A3	A4	A5	A6	B	C
credit score	loan rate(%	840	810	780	750	720	690	660	630
1-4 family first mortgage	3.51	0.92%	0.91%	0.89%	0.88%	0.87%	0.83%	0.70%	0.53%
CRE	4.25	2.13%	2.11%	2.10%	2.08%	2.06%	1.99%	1.66%	1.23%
HELOC	5.13	3.12%	3.12%	2.69%	2.69%	2.19%	0.37%	0.11%	-3.34%
Consumer- Direct New Auto	3.63	2.56%	2.56%	2.54%	2.53%	2.51%	2.47%	2.16%	2.03%
Consumer- Personal	9.44	7.68%	7.68%	7.54%	7.41%	6.80%	5.88%	4.99%	4.03%

Conclusions

The THC CECL model adheres to the FASB guidelines and is consistent with your THC ALM model. THC has prepared the input data files and benchmark estimated loss rates for you to evaluate the impact of CECL on your capital adequacy. Furthermore, using CECL you can better manage your balance sheet in a more holistic manner resulting in improved balance sheet performance.

If you have any questions on the THC CECL model, please do not hesitate to contact THC.

Regards,

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