

CECL: To Re-amortize or Not Re-amortize? *That is the question*

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In preparation for CECL, more attention is being given to the modeling and methodologies. Recently a question surfaced regarding forecasting cash flows for the Discounted Cash Flows method (DCF). The question is: Do we re-amortize each month or not? That question has been part of Asset/Liability Management for several years, and the focus on CECL has brought it to the forefront once more. The answer to that can be impactful to the reserve.

INDIVIDUAL LOANS

Let's say we have two loans. One, a 30-year fixed, and the other, a 30-year ARM. If we assume the 30-year fixed is just one loan, then no, we wouldn't need to re-amortize each month. That payment will likely stay constant for the duration of the loan. If that loan has a partial prepayment and we re-amortized, we would be understating the cash flows, impacting forecasted earnings and liquidity.

Prepayments, in effect, will shorten the maturity, but the scheduled payments don't change. When modeling, in a case where we don't have the current payment, as long as we have the original balance, origination date, rate and term, we can calculate the payment.

The ARM will be different. Due to the effect and relationship of the rate on the payment amount when the loan resets, we will need to re-amortize. If the rate never changes it will mimic the fixed rate loan above. If the rate does reset, then the re-amortized payment will reflect the rate change and prepayments.

Commonly the fixed rate loan will be 'payment constant' and the adjustable loan will be 'term constant.'

POOL OF LOANS

When we move from an individual loan to pooled loans, we will need to make additional assumptions due to behavior. First, let's consider that if there are no prepayments, or behavioral assumptions, then the same process described above for an individual loan exists with the pool. That is, without a rate change, the payment doesn't change, and we wouldn't need to re-amortize. But we don't live in this world.

In reality, when we have a pool of similar loans, let's stay with a pool of 30-year fixed, we know some will prepay. Some people will partially prepay, like many of us, by paying an additional \$100 or \$200 a month or more towards principle. But some loans will be paid off entirely. In other words an individual loan can experience a 100% prepayment in a given month. Usually due to the owner selling the house and moving for various reasons. The problem is – we don't know which loans will 100% prepay.

For this pool, if we did not re-amortize, we would have an aggregate monthly payment that included an amount for a loan that no longer exists. We would therefore be applying an additional prepayment to the portfolio and inadvertently shortening its life which could have a significant impact on its economic value and misstate the liquidity position and overstating the sources of funds.

To be fair, re-amortizing isn't without its shortcomings. By re-amortizing a portfolio that is experiencing prepayments, the reduced scheduled payment may be lower than the actual payment. This could misrepresent liquidity, understating the sources of funds but arguably less so than no re-amortizing.

CECL: DEFAULT ADJUSTMENTS

As we continue to layer on assumptions when allowing for credit, if we default adjust the cash flows for methods such as DCF, we have much the same impacts as prepayments. While we can see a partial default, it typically is not the case. Most borrowers don't have the ability to tell the lender, "Hey, I'm only going to pay you about 75% of what I owe. Just consider the rest as a default right now." If a loan defaults, it's the outstanding balance. But which loan? When forecasting, we don't know which particular loans will default. If we did, we would pull out of the pool. Therefore, in order to not overstate the monthly payment, we should re-amortize the pool. Between re-amortizing and not re-amortizing with default assumptions the effect on liquidity is similar to prepayments.

Using simplifying assumptions in Figures 1 and 2, such as the Discount Rate set to the coupon, we see a significant difference in value and impact to the reserve between re-amortizing and not re-amortizing.

THE IMPACT ON THE RESERVE

Re-amortizing or not re-amortizing can have a significant impact on the present value when using DCF. Depending on the term, coupon and discount rate, as well as the prepay and default rates, the impact to the reserve for a given account can differ by as much as 10 to 30% when choosing to re-amortize or not to re-amortize.

Understanding the impact of assumptions is critical when evaluating risk. More so with processes that directly impact the financials such as reserves for losses. Whether you are analyzing data for CECL yourself, or purchasing third party software, consider if the cash flows are being re-amortized so that you have consistent and more representative results.

Whether or not you re-amortize, ensure a consistent process is applied when evaluating credit, liquidity and earnings. And, understand the impact of each so that you are not potentially severely misrepresenting liquidity positions.

Balance	8,000,000	Term	Beginning Balance	Total Payment	Principal	Interest	Prepayment	Default	Ending Balance
Maturity	360	1	8,000,000.00	\$38,193.22	\$11,526.56	26,666.67	48,234.46	7,600.00	7,932,638.98
Amortization	360	2	7,932,638.98	\$38,193.22	\$11,751.09	26,442.13	47,828.32	7,536.01	7,865,523.55
Discount Rate	4.00%	3	7,865,523.55	\$38,193.22	\$11,974.81	26,218.41	47,423.66	7,472.25	7,798,652.83
Recovery Lag	3	4	7,798,652.83	\$38,193.22	\$12,197.71	25,995.51	47,020.48	7,408.72	7,732,025.92
Coupon	4.00%	5	7,732,025.92	\$38,193.22	\$12,419.80	25,773.42	46,618.77	7,345.42	7,665,641.92
Annual CPR	7.00%	6	7,665,641.92	\$38,193.22	\$12,641.08	25,552.14	46,218.52	7,282.36	7,599,499.96
Prepayment SMM	0.603%	7	7,599,499.96	\$38,193.22	\$12,861.56	25,331.67	45,819.73	7,219.52	7,533,599.15
Default Rate	0.095%	8	7,533,599.15	\$38,193.22	\$13,081.23	25,112.00	45,422.39	7,156.92	7,467,938.62
Severity/LGD	80.000%	9	7,467,938.62	\$38,193.22	\$13,300.09	24,893.13	45,026.50	7,094.54	7,402,517.48
		10	7,402,517.48	\$38,193.22	\$13,518.17	24,675.06	44,632.06	7,032.39	7,337,334.86
		11	7,337,334.86	\$38,193.22	\$13,735.44	24,457.78	44,239.05	6,970.47	7,272,389.90
		12	7,272,389.90	\$38,193.22	\$13,951.92	24,241.30	43,847.48	6,908.77	7,207,681.73
PV of Total CF	\$7,631,632.02	13	7,207,681.73	\$38,193.22	\$14,167.62	24,025.61	43,457.33	6,847.30	7,143,209.48
Allowance Under CECL	\$368,367.98	14	7,143,209.48	\$38,193.22	\$14,382.53	23,810.70	43,068.61	6,786.05	7,078,972.29
		15	7,078,972.29	\$38,193.22	\$14,596.65	23,596.57	42,681.30	6,725.02	7,014,969.31
		16	7,014,969.31	\$38,193.22	\$14,809.99	23,383.23	42,295.41	6,664.22	6,951,199.69
		17	6,951,199.69	\$38,193.22	\$15,022.56	23,170.67	41,910.92	6,603.64	6,887,662.57
		18	6,887,662.57	\$38,193.22	\$15,234.35	22,958.88	41,527.84	6,543.28	6,824,357.10

Figure 1: Fixed Payment

Balance	8,000,000		Beginning Balance	Total Payment	Principal	Interest	Prepayment	Default	Ending Balance
Maturity	360	1	8,000,000.00	\$38,193.22	\$11,526.56	26,666.67	48,234.46	7,600.00	7,932,638.98
Amortization	360	2	7,932,638.98	\$37,926.28	\$11,484.15	26,442.13	47,828.32	7,536.01	7,865,790.50
Discount Rate	4.00%	3	7,865,790.50	\$37,661.19	\$11,441.89	26,219.30	47,425.27	7,472.50	7,799,450.83
Recovery Lag	3	4	7,799,450.83	\$37,397.96	\$11,399.79	25,998.17	47,025.29	7,409.48	7,733,616.27
Coupon	4.00%	5	7,733,616.27	\$37,136.57	\$11,357.85	25,778.72	46,628.35	7,346.94	7,668,283.13
Annual CPR	7.00%	6	7,668,283.13	\$36,877.00	\$11,316.06	25,560.94	46,234.44	7,284.87	7,603,447.77
Prepayment SMM	0.603%	7	7,603,447.77	\$36,619.24	\$11,274.42	25,344.83	45,843.53	7,223.28	7,539,106.55
Default Rate	0.095%	8	7,539,106.55	\$36,363.29	\$11,232.93	25,130.36	45,455.60	7,162.15	7,475,255.87
		9	7,475,255.87	\$36,109.12	\$11,191.60	24,917.52	45,070.62	7,101.49	7,411,892.16
		10	7,411,892.16	\$35,856.72	\$11,150.42	24,706.31	44,688.58	7,041.30	7,349,011.86
		11	7,349,011.86	\$35,606.09	\$11,109.38	24,496.71	44,309.46	6,981.56	7,286,611.46
		12	7,286,611.46	\$35,357.21	\$11,068.50	24,288.70	43,933.23	6,922.28	7,224,687.45
PV of Total CF	\$7,520,545.91	13	7,224,687.45	\$35,110.06	\$11,027.77	24,082.29	43,559.87	6,863.45	7,163,236.36
Allowance Under CECL	\$479,454.09	14	7,163,236.36	\$34,864.65	\$10,987.19	23,877.45	43,189.36	6,805.07	7,102,254.74
		15	7,102,254.74	\$34,620.94	\$10,946.76	23,674.18	42,821.68	6,747.14	7,041,739.15
		16	7,041,739.15	\$34,378.94	\$10,906.47	23,472.46	42,456.81	6,689.65	6,981,686.21
		17	6,981,686.21	\$34,138.62	\$10,866.34	23,272.29	42,094.74	6,632.60	6,922,092.54
		18	6,922,092.54	\$33,899.99	\$10,826.35	23,073.64	41,735.43	6,575.99	6,862,954.78

Figure 2: Fixed Maturity (Re-Amortized)

About the Author

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