



THC Weekly Post ARM Relative Valuation

Challenge: The yield of an adjustable rate mortgage loan depends on the projected adjustable rates, which in turns depend on the projected underlying Treasury or swap rates. Therefore yield as a measure of relative value depends on the reasonableness of your interest rate forecast.

- How then can we value ARMs relative to FRMs without depending on your rate forecast?

Solution: By identifying the cost of risks associated with the loans as discussed in my last Post, you can evaluate the relative value of loans using option adjusted spreads (OAS). The numerical example below illustrates such a relative value comparison

Numerical Example: For the fixed rate mortgage loan, consider a 30 year fixed rate 3.5%, \$300,000 amount, single family, FICO 700 and LTV 80%. For the ARM, consider a 5-1 ARM, 2.8% interest for the initial period and 1 year LIBOR +2% after the initial period. The Risk Adjusted Profitability can be calculated as below. The costs are estimated from the THC model. The Option-Adjusted Spread (OAS) highlighted in yellow suggests that the 5-1 ARM has higher relative value than the FRM, with higher OAS of 93 bpt versus 81 bpt that of the FRM.

	FRM 30yr 3.5%	ARM 5/1, 2.8% for initial period, 1yr Libor+2% for later	Comments
annualized yields	3.53%	3.58%	not monthly interest
cash flow funding cost	1.96%	1.97%	funding with equivalent duration off the TSY rates
extension risk cost	0.08%	0.00%	cost of the extension option, refer to 3/1/15 Post
allowance for credit loss	0.43%	0.43%	assuming 85% recovery rate
servicing cost	0.25%	0.25%	bank s internal cost
income	0.81%	0.93%	option-adjusted spread net of credit reserve
Total	3.53%	3.58%	

This calculation can be extended to other loans that you originate and therefore you can determine the relative merits of your products. The risk adjusted profitability is provided in the Mortgage Performance Analytics report. Note that your subjective projection of interest rates affects the cash flow funding cost, but less so on the OAS.

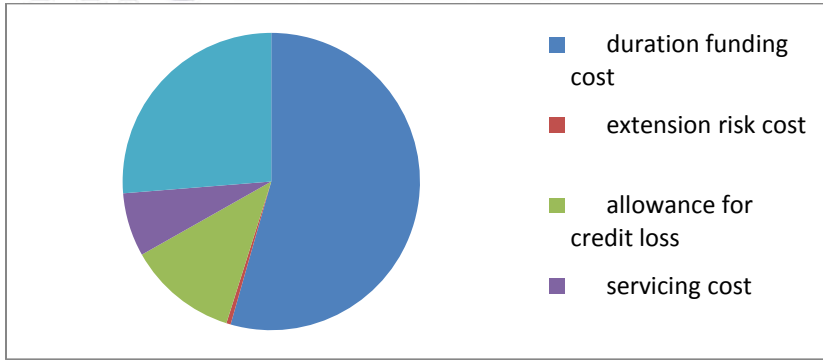


Figure 1 ARM Yield Decomposition

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