March 30, 2016

Weekly Post: ARMs Whole Loan Purchase

Dear Clients-

Current conditions offer numerous opportunities for community banks and credit unions to buy and sell whole loans among themselves. Best practice would dictiate a sound risk-based policy be established before the purchase of any whole loans. Using the yield to measure returns is problematic for loans, particularly ARMs. This Post explains "how" one might go about evaluating their risk and determine value.

I will use an ARM pool to illustrate. Consider a pool of 2 Ohio loans, 5-1 ARMs 1 mo LIBOR + 2.88 % with the pool outstanding balance $224,786. The loans are seller service released with an indicative pool price 102.16.

Loan Market Commentary Art Hilliard*

A recent transaction of 5/1 and 10/1 ARMs sold in two parts, one in the mid-to-high 102s, and one in low 103s.

- This was a 135mm pool of Florida loans with a weighted average rate of 4.209%
- Low LTVs and high credit scores made for low credit risk
- The pool had an eclectic mixture of high quality, resident and non-resident borrowers

Pool details attached in *Conf Room*

	Summary		Analytics
Principal Balance($)	224,786	**Short Term CPR(%)**	22.92
Participation Balance($)	224,786	**Life Time CPR(%)**	25.68
Number of Loans (count)	2	**WAL(year)**	2.90
Gross WAC(%)	3.375	**Effective Duration**	2.11
Servicing Fee(bpt)	38	**Effective Convexity**	-0.64
NET WAC(%)	2.995	**Weighted Average FICO**	803
WAM(mos)	344	**Weighted Average LTV(%)**	58
Seasoning(mos)	16	**Price**	102.16
Serviced Retained By Seller	No	**Yield(%)**	3.394

Challenges

- Is the yield of 3.394% a good measure of return?
- How much credit spread should be deducted from the yield with low credit exposure of FICO 803 and LTV 58?
- How to determine the margin appropriate for your balance sheet?

Solution

Your analysis should include profitability, interest rate risk and credit risk analyses. I make the assumption that all documentation is in good order with no deficiencies. I will discuss each item individually below.

Profitability

Can yield be used to measure profitability? This question is analogous to asking: " How's the weather in Beijing today?" when there is heavy smog. This question is challenging because I first need to find ways to see through the smog under different scenarios. Likewise, I need to extract profitability from the yield, which is clouded in many factors.

Yield is the internal rate of return of a projected cashflow. However, the projected cashflows of ARMs depend on a "reasonable" interest rate scenario, as the repricing depends on the path of future rates.

One convention is to assume a static yield curve. Another convention would say that the yield curve follows forward rates. However, these scenarios are subjective. Alternatively, we can consider the appropriateness of the margin of the index, but that would ignore the time value of the loan before the reset, which in this example, is 44 months.

A solution is to use the Clean Option Adjusted Spread (COAS) measure of profitability. COAS is isolated from the funding cost, option cost, and credit risk haircut. In this case the COAS is the net profit margin of 88 bps. By way of comparison, the current market for agency ARMs (31326GSL1) has a COAS spread of 48 bps. A 5-1 ARM par FICO 800 and LTV 80 has a COAS of 89 bps. Therefore we reason that the loans in this example priced at 88 bps COAS are relatively close to the market benchmark value.

Interest Rate Risk

The duration of the loan pool is 2.11 years, roughly similar to a 2.5 yr bullet bond. As last week Post explained, evaluating the transaction impact on the balance sheet can be more important. The report below shows that if the pool is funded with cash, based on a hypothetical bank, the results are:

ALM Analysis	EVE ratio(%)	Duration	% EVE Chg up 400	Short Term/Asset(%)	Margin(%)	NII($000)	Earning($000)	ROE(%)
Base Case	14.02	8.79	-51.48	16.00	2.54	10,203	1,850	3.41
Strategy	14.02	8.80	-51.51	15.94	2.55	10,211	1,858	3.42

The duration increases by 0.01 year while earnings increase by $8,000. Since the transaction is funded with cash, the EVE ratio is not affected. The risk and return trade off this bank is clearly favorable.

Credit Risk

The model assumes a 4.52% annual deliquency rate (% of outstanding balance to become non-performing), and an 85% recovery ratio (15% of the non-performing loans are ultimately charged off). To the extent that you have a rigorous process in recovering the value and that you believe that the delinquency rate is lower than that of the model, then your credit spread should be lower than 63.8 bpts. In particular, if the spread is overstated by 20 bpts, then the Clean OAS would increase by 20 bpt to become 108 bpts. The yield attribution is presented below, where 38 bpts of servicing cost are deducted from the loan interests.

Yield Attribution(%)				
YTM	time value	option spread	credit spread	clean OAS
3.014	1.422	0.069	0.638	0.884

The Current Expected Credit Loss (CECL) guidelines will be announced this cycle. For this pool, CECL, the present value of the expected loss over the life time of the loan pool, is estimated to be $3,510, based on $224,786 outstanding balance, or 1.5%.

Numerical Example

Beyond pricing, loan characteristics are important to your whole loan purchase. You should take multiple factors into account. The seller loan tape provides additional information of the mortgagors, as illustrated below:

Geo	City	Property Type	Occupancy	LoanDoc Type	Loan Purpose
OH	GROVEPORT	Single Family	Owner Occupied	Full	Refinance
OH	NEW FRANKLIN	Single Family	Second Home	Full	Purchase

You should only seek loans that meet **your** underwriting standards. The valuation of an ARM loan for your balance sheet should begin with the clean option adjusted spread and not the yield measure. Here are the steps:

Determine the value of an ARM loans	***Numerical Example in determining the Margin***	***bpts***
The Clean Option Adjusted Spread	*Begin with*	*88.4*
Adjustment to the credit spread	*If 100% recovery,the spread added to the Margin*	*63.8*
Adjustment for servicing cost	*If cost is 38 bpt, then there is no adjustments*	*0.0*
Funding cost	*If funded by FHLB rate 30 bpt off Treasury*	*-30.0*
margin	***Risk-adjusted morgin is the sum***	***122.2***

Conclusions

Establish the margin is central to purchase of loan. You need to isolate profitability from multiple factors: credit risk, servicing cost, interest rate risk, and funding cost. The yield of an ARM has many pitfalls in measuring the loan returns. The Post suggests using the clean Option Adjusted Spread to provide a consistent valuation methodology.

Please do not hesitate to contact me if you have any questions about valuation in loan purchase using Risk Officer..

Regards,
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