

NET PRESENT VALUE ANALYSIS AND LOAN MODIFICATIONS - AN OBJECTIVE METHODOLOGY TO ASCERTAIN WHAT IS IN THE BEST INTEREST OF INVESTORS

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What is Net Present Value or NPV?

$$NPV = \sum_{t=1}^T \frac{C_t}{(1+r)^t} - C_0$$

Clear?

NPV is the total present value of a time series of cash flows. It is a formula used to take each cash flow expected in the future and discount it back to its present value. Each present value is then added together and the sum (minus any outflow) is the net present value of the cash flows at the rate used to discount it back.

Any clearer?

Essentially, NPV compares the value of a dollar today to the value of that same dollar in the future.

So, what has this got to do with mortgage banking and loan modifications?

The Problem:

In June 2007, the American Securitization Forum (“ASF”) published its Statement of Principles, Recommendations and Guidelines for the Modification of Securitized Subprime Residential Mortgage Loans (the “ASF Guidance”). The ASF observed that most, if not all, pooling and servicing agreements in use in public securitizations allow the servicer to modify terms of the loans only if it would be in the best interest of the investors. But, to date, there had been no clear direction to loan servicers as to how to make that determination. A related concern is that different classes of investors would benefit differently from a decision to foreclose and receive cash soon or to modify and to continue to see cash over time.

The Potential Solution:

The ASF Guidance provides that in evaluating a loan modification the servicer should compare the anticipated recovery under the loan modification with the anticipated recovery through foreclosure on a net present value basis, and that whichever action maximizes recovery should be deemed in the best interests of investors. It also indicated that the standard “in the best interests of” the investors should be interpreted by reference to the investors in that securitization in the aggregate, without regard to the specific impact on any particular class of investors.

Further Support

California SB 1137, signed into law by Governor Schwarzenegger on July 8, 2008, added a new provision to the California Civil Code to provide that:

Under specified circumstances, mortgage lenders and servicers are authorized under their pooling and servicing agreements to modify mortgage loans when the modification is in the best interest of the investors. Generally, that modification may be deemed to be in the best interest of investors when the net present value of the income stream of the modified loan is greater than the amount that would be recovered through the disposition of the real property security through a foreclosure sale. (Section 1(c))

And the Feds have now joined in. Congress recently passed comprehensive housing legislation, entitled “HOPE for Homeowners Act of 2008,” which had been sponsored by Barney Frank. The statute adds a new section 129 to the Truth in Lending Act, which provides as follows:

(a) In General- Except as may be established in any investment contract between a servicer of pooled residential mortgages and an investor, a servicer of pooled residential mortgages--

(1) owes any duty to maximize the net present value of the pooled mortgages in an investment to all investors and parties having a direct or indirect interest in such investment, not to any individual party or group of parties; and

(2) shall be deemed to act in the best interests of all such investors and parties if the servicer agrees to or implements a modification or workout plan,...provided that any mortgage so modified meets the following criteria:

(A) Default on the payment of such mortgage has occurred or is reasonably foreseeable.

(B) The property securing such mortgage is occupied by the mortgagor of such mortgage.

(C) *The anticipated recovery on the principal outstanding obligation of the mortgage under the modification or workout plan exceeds, on a net present value basis, the anticipated recovery on the principal outstanding obligation of the mortgage through foreclosure.*
(italics added for emphasis)

So what does this all mean?

Okay, so investors, through the ASF, have instructed servicers to use NPV, and legislators have attempted to provide some assurance that use of an NPV test to justify modifications would be upheld if challenged (although these are really just declarations of legislative opinion and may not be binding on courts). How do servicers apply this test?

And the Answer Is...

- First, a loan servicer should determine the net present value of the proceeds expected to be received from liquidation and sale of the mortgaged property for the loan under consideration, if the servicer were to foreclose on the loan, taking into account, based on reasonable estimates where applicable:
 - (i) the current market value as indicated by a broker's price opinion, automated valuation methodology, or appraisal;
 - (ii) the costs to foreclose, repair and maintain the mortgaged property;
 - (iii) the time to dispose of the mortgaged property if not sold to a third party bidder at the foreclosure sale;
 - (iv) the costs that will be incurred to market and sell the property as real estate owned; and
 - (v) the net sales proceeds. The discount rate to be used to calculate the net present value might be the net mortgage rate due to the investors.

The resulting number is the "Liquidation Proceeds NPV."

- Next, the servicer should calculate the NPV of the cash flows expected from a loan modification that is successfully paid. This obviously assumes that the payment is affordable – we'll get to that in a bit. Then, everything else being equal, the servicer should select whichever results in the higher NPV. Sometimes, that solution will be to foreclose because, based on the arithmetic and some assumptions, the servicer has determined that it makes sense to liquidate, take the hit now and pay the investors the proceeds and move on. Other times, especially in a declining real estate market where the property's value has significantly deteriorated since the loan was originated, the NPV test will show that it may make better economic sense to modify the loan drastically and keep the borrower in the home and continue some cash flow.

Below is a chart that shows a complete calculation to compare the Liquidation Proceeds NPV and the NPV of a loan modification.

UPB Reduction / Deferral:		20%	
	Scenario		
	As Is	Modification	Loan Default Liquidation
UPB	\$483,339.66	\$386,671.73	\$483,339.66
Interest Rate	9.4%	9.4%	9.4%
Term	340	340	340
Monthly Payment	\$4,073.08	\$3,258.46 *	\$4,073.08
Market Value	\$507,506.64	\$507,506.64 *	\$507,506.64
Discount Rate	9.4%	9.4%	9.4%
NPV	\$483,339.66	\$393,481.28	\$253,596.46

Month	Investor Cash Flow	Investor Cash Flow	Investor Cash Flow
20	\$4,073.08	\$3,258.46	\$4,073.08
21	\$4,073.08	\$3,258.46	\$4,073.08
22	\$4,073.08	\$3,258.46	\$4,073.08
23	\$4,073.08	\$3,258.46	\$4,073.08
24	\$4,073.08	\$3,258.46	\$4,073.08
25	\$4,073.08	\$3,258.46	\$4,073.08
26	\$4,073.08	\$3,258.46	\$4,073.08
27	\$4,073.08	\$3,258.46	\$4,073.08
28	\$4,073.08	\$3,258.46	\$4,073.08
29	\$4,073.08	\$3,258.46	\$4,073.08
30	\$4,073.08	\$3,258.46	\$4,073.08
31	\$4,073.08	\$3,258.46	\$4,073.08
32	\$4,073.08	\$3,258.46	\$4,073.08
33	\$4,073.08	\$3,258.46	\$4,073.08
34	\$4,073.08	\$3,258.46	\$4,073.08
35	\$4,073.08	\$3,258.46	\$4,073.08
36	\$4,073.08	\$3,258.46	\$4,073.08
37	\$4,073.08	\$3,258.46	\$217,502.85
38	\$4,073.08	\$3,258.46	
39	\$4,073.08	\$3,258.46	
40	\$4,073.08	\$3,258.46	
⋮	⋮	⋮	
⋮	⋮	⋮	
⋮	⋮	⋮	
⋮	⋮	⋮	
⋮	⋮	⋮	
360	\$4,073.08	\$3,258.46	
Balloon (20% UPB):	\$0.00	\$96,667.93	

} Variables which can be Modified

Difference in NPV between mod & liquidation
\$139,884.81

Default in month 20
(\$814.62)
 Difference in monthly payment

(Scheduled P&I advanced to investor)

→ Net sale proceeds at REO sale after paying the servicer back its advances, and after maintenance, taxes and marketing, brokerage and other costs in connection with the sale.

} Liquidated loan, no more payments

* This payment is based on amortization of the reduced UPB at the note rate; balloon does not accrue interest.

What variables can be plugged into the NPV test for a loan mod?

- The chart above used a principal deferral of 20%. The ASF has pointed out that there are several different ways to modify a loan within the parameters of most pooling and servicing agreements. Among these are reducing the interest rate or converting an ARM to a fixed rate product, forgiving principal, capitalizing arrearages, and extending the maturity dates (within REMIC limits.) Many servicers also reduce the interest rate for some period, such as five years, re-amortize the amount due over a longer amortization period, creating a balloon, or defer some amount of principal without charging interest on the deferred portion.
- Any of these will affect the cash flow and if plugged into the NPV formula will result in a different NPV result, which can be compared to the Liquidation Proceeds NPV.

With NPV we can establish fairly objectively whether it makes sense to mod or to foreclose. How do we know if the borrower can afford the mod terms? Couldn't a servicer be challenged by investors or regulators for entering into a non-sustainable mod, thus delaying the inevitable in a deteriorating real estate market?

- Certainly, servicers need to be aware of the risk of entering into mods that have terms that the borrower can't afford. However, there is no uniform approach to determine affordability just as there is no uniform approach about how to underwrite a borrower for a loan.
- Some servicers use a debt to income ratio of 35% or 38% or some other percentage of gross income and assume that if the monthly payment of PITI is no more than the specified percentage than that payment is affordable. Other servicers apply their own borrower-specific affordability analysis by comparing monthly income to monthly expenses and reasoning that the monthly payment of PITI must, when added together with all other expenses, leave the borrower with a surplus of \$200 or \$250 or some other absolute or number that slides with the amount of income.

So how do the NPV test and the affordability test fit together?

- The last step is to ensure that if the loan mod terms make sense from an economic/NPV perspective that the borrower can afford to make the monthly payments. So, servicers should underwrite the borrower's ability to make those payments, using whatever prudent methodology they use, and if the payments are deemed to be affordable, then the mod should be done. If not, then the mod should not be done and the loss mitigator would need to counsel the borrower how to get some expenses down to make the monthly payment affordable (if the servicer uses the surplus cash test of affordability) or would need to advise the borrower that he or she will not be able to remain in the house and to discuss other options such as short sale or a deed in lieu.

Questions?