

GSE Reform – A Better Solution

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Finding a solution to replacing mortgage purchasers and guarantors Fannie Mae (FNMA) and Freddie Mac (FHLMC) has proved elusive. A successful structure, one that provides the lowest interest rates for mortgagors and a “backstop” against credit (home) losses must incent security purchasers and prospective guarantor/investors who must provide abundant capital. A simple structure that leverages the pluses of the existing GSE structure and redirects loan servicing fees and guarantor fees to cover home losses will solve the reform conundrum.

Successful mortgage backed security and guarantor structures required for GSE reform must leverage the positives of the current system, specifically:

- (1) A Government backstop is necessary to attract security investors and raise equity to develop guarantors/insurers for credit losses.
- (2) RMBS Security Structures should remain mostly unchanged with the same:
 - Fannie Mae (FNMA) or Freddie Mac (FHLMC) seller/servicer guidelines and operations.
 - Trading, settlement dates and remittance reporting.
- (3) Agency financing necessary to support GSEs and future Residential Mortgage Guarantors.
- (4) Private Mortgage Insurers (PMIs) maintain their current role of minimizing mortgage loan losses by subsidizing low down payment loans.

The modifications necessary to reform the system, include:

- (1) Reducing the loan servicing fee on residential mortgage loans from 25 to 12.5 basis points with 12.5 basis points remitted to the new United States Housing Insurer (USHI) to help backstop credit losses. The credit payment is required for loan originators to continue to sell loans to United States Mortgage Association (USMA) guarantors.
- (2) United States Mortgage Association (USMA) guarantors will contribute 12.5 basis points of the guarantor fee charged to investors to the United States Housing Insurer (USHI) as a membership fee that includes the benefit of insuring mortgages, agency financing, and a “reinsurance” backstop.

Proposed versus Current Security Structure – Will RMBS Investors Care?

Let's compare the new security structure, the United States Residential Mortgage Backed Security (USRMBS) with that of the current Residential Mortgage Backed Security (RMBS) structure. *Note that both the loan servicer and the guarantor (USMA) each pay .125% of a borrowers note rate to the USHI, however the original note rate and the security coupon do not change. Investors should be indifferent between the proposed and current structure. The USMA will adopt the FNMA or FHLMC Seller/Servicer Guides, lenders will continue their role and originator and servicer, and trading and reporting will be identical. The new security will be called the United States Residential Mortgage Backed Security (USRMBS).*

USRMBS versus FNMA/FHLMC RMBS			
Mortgage Security Component	Proposed Structure	Current Structure	Comments
Mortgage Note Rate	4.000%	4.000%	Current 30 Year Fixed Mortgage Loan Rates
Loan Servicing Fee	0.125%	0.250%	Lower Loan Servicing Fees still support servicing operations
Loan Credit Fee	0.125%	0.000%	Credit Fee remitted to USHI
Guarantor Fee	0.450%	0.575%	Charge to Investors for covering losses
USHI Insurance	0.125%	0.000%	USMA pays fee to USHI for Government backstop
Excess Servicing	0.175%	0.175%	Excess Servicing "Strip" retained by loan originator/servicer
Security Coupon	3.000%	3.000%	Current Security Coupon (Priced @ 100-20)

Industry participants might be curious as to the impact on servicing values if servicing fees are reduced to .125%. Appendix A contains servicing valuations for both .125% and .25% loan servicing fees. Generally, average loan balances have risen since the .25% requirement was determined and additionally most industry participants (other than correspondent sellers) will benefit from lower capital requirements and interest rate risk. Plus loan servicer's receive excess servicing fees on most loan originations. Frankly, it's long overdue for the industry to shift from interest rate (or loan servicing value loss) to credit (or loan loss) risk.

United States Mortgage Association (USMA) – Will They Attract Capital?

The USMA will cover the initial losses incurred on an insured pool of USRMBS loans. Next, loan losses will be covered by the USMI and then the United States Treasury. Appendix B covers a number of loss scenarios and the waterfall of loss coverage.

The first USMA franchise, USMA – Washington will be owned/supervised by the Federal Housing Finance Agency (FHFA). The structure may be a segregate pool of risk within FNMA and FHLMC. The USMA – Washington will begin with an outstanding maximum risk pool of \$1 Trillion dollars. No reason to capitalize the entity as it’s a continuation of the current operations of FNMA and FHLMC.

Four Additional USMA franchises, King, Lincoln, Reagan, and Roosevelt will be formed. Each of these entities will have a maximum risk pool of \$250 billion. The entities will be capitalized based on a “high risk” home loss threshold. A suggested “high risk” home loss level, to be determined by the FHFA, might be 7.5%; the product of a 25% default rate multiplied by a 30% loan loss severity. The 7.5% cumulative loss threshold is nearly twice the loss rate realized in the Great Recession.

FNMA Historical Loss Rates			
Source: FNMA Loss/Severity Summary Characteristics			
	Default	Loss	Loan
Year	Rate	Severity	Losses
2002	1.0%	31.0%	0.3%
2003	1.5%	32.0%	0.5%
2004	2.8%	38.0%	1.1%
2005	5.8%	43.0%	2.5%
2006	8.0%	47.0%	3.8%
2007	8.4%	42.0%	3.5%
2008	4.2%	33.0%	1.4%
2009	0.6%	28.0%	0.2%
2010	0.2%	24.0%	0.0%
2011	0.1%	22.0%	0.0%
2012	0.0%	18.0%	0.0%
2013	0.0%	12.0%	0.0%
2014	0.0%	11.0%	0.0%
2015	0.0%	7.0%	0.0%
Total	1.7%	38.0%	0.6%

The result is a “high risk” loss level of \$18.750 billion of which an initial 15% capital investment will be required. In the first three years loan losses should be small (given the historical timing of home losses) allowing each of the four new USMAs to grow their capital to \$5 billion (or \$20 billion in total) which is about 30% of the “high risk” level.

That’s an initial capital raise of \$2.8125 billion per entity or \$11.2 billion in total. The total maximum risk pool will be two trillion dollars.

The five USMAs will bid monthly on a *pro-rata* share of newly originated loans mortgage loans in terms of amount insured and the guarantor fee charged. Remember the Seller/Service

guide will be controlled by the FHFA so loan acceptance will be based on guidelines that are the same for all USMAs.

USMA operations would focus on claims research and payment as well as balance sheet risk management. To jump start the launch of the USMA franchises USMA – Washington should be given a group of non-portfolio FNMA/FHLMC operations employees including accounting/finance, remittance reporting, claims payment and denial, and trading. That group could be leveraged as new USMAs emerge to “farm out” operations until each franchise can hire staff.

A USMA capital investor benefits from:

- The right to insure conventional loan originations/receive guarantor fees
- The backstop/reinsurance provided by the USHI
- Agency financing for advances and risk-transfer assets

What are the economics of a new privately capitalized USMA? The following is a summary of various projections, two of which are detailed in Appendix C. Key assumptions include a guarantor fee (net of .125% paid to the USHI) of 45 basis points on total risk, operating costs of five basis points on balances insured, advance financing is provided at 1% (by continued agency issuances) and no distributions of capital can be made until total capital is \$5 billion dollars.

USMA Economics				
25% Tax Rate				
		Pre-Tax Return on Equity	Cumulative Default Rate	Retained Earnings (billions)
Loan	0.50%	21.5%	2.0%	\$ 6.2
Losses	0.75%	18.0%	3.4%	\$ 5.7
	1.00%	15.1%	4.4%	\$ 5.3
	1.25%	11.9%	5.6%	\$ 4.9
	1.50%	9.1%	6.6%	\$ 4.5
	2.00%	3.7%	8.9%	\$ 3.6
	3.00%	-2.8%	13.4%	\$ 2.1
	4.00%	-3.5%	17.8%	\$ 2.0
	5.00%	-4.2%	22.4%	\$ 1.5
	6.50%	-7.3%	28.9%	\$ (0.5)

This return profile should be attractive to credit investors. Of course, tail risk exists but the USHI and government backstop provides an asymmetric profit profile. Additionally USMAs should be incented to utilize the Credit Risk Transfer (CRT) transactions via the benefit of lower capital ratios and agency financing for retained CRT bonds.

Most likely politicians will see this profile as too attractive but the USMAs will probably have to lower guarantor fees to attract future business reform without incenting investors to cover credit losses (and providing a government backstop) will result in significantly higher mortgage rates.

United States Housing Insurer (USMI) – How Does the Taxpayer Fare?

The USHI will be owned/supervised by the FHFA. Each of these new USMA units and mortgage originators will be paying insurance premiums of .125% each to the USHI. USHI Economic projections are included in Appendix D. This entity, designed to mitigate home loan losses to the taxpayer in times of crisis, should be tax exempt and initial capital is not necessary. The USHI covers losses after losses on a pool of insured mortgages exceeds the guarantor fees plus claims paid (i.e. reimbursed losses) to the USHA. If the USHI does not have retained earnings (i.e. capital) to pay loan losses in a specific period then the US Treasury pays losses at that time.

On a \$250 Billion pool of loans the following is a summary of loss payments in various loss scenarios.

USHI Economics/Loss Coverage							
\$250 Billion Mortgage Pool							
		Estimated	Total	USMA	USHI	US Treasury	USHI
		Default	Losses	Loss	Loss	Loss	Retained
		Rate	(billions)	Coverage%	Coverage%	Coverage%	Earnings
							(billions)
Loan	0.50%	2.1%	\$ 1.2	100.0%	0.0%	0.0%	\$ 5.6
Losses	0.75%	3.4%	\$ 1.9	100.0%	0.0%	0.0%	\$ 5.6
	1.00%	4.4%	\$ 2.5	100.0%	0.0%	0.0%	\$ 5.6
	1.25%	5.6%	\$ 3.1	100.0%	0.0%	0.0%	\$ 5.6
	1.50%	6.6%	\$ 3.7	100.0%	0.0%	0.0%	\$ 5.6
	2.00%	8.9%	\$ 5.0	100.0%	0.0%	0.0%	\$ 5.6
	3.00%	13.4%	\$ 7.6	97.0%	3.0%	0.0%	\$ 5.3
	4.00%	17.8%	\$ 10.0	75.0%	25.0%	0.0%	\$ 3.1
	5.00%	22.4%	\$ 12.6	65.0%	31.0%	4.0%	\$ 1.7
6.50%	28.9%	\$ 16.2	60.0%	25.0%	15.0%	\$ 1.5	

The USHI does not start paying claims on home losses exceed 2%; the United States Treasury does not start paying claims until losses reach 5%. The USHI is not initially capitalized; in all scenarios, however retained earnings are positive. Since the USHI and United States Treasury are one in the same (as both are owned by the taxpayer) these earnings offset losses incurred by the taxpayer. If this structure had been in place during the great recession the US Treasury would not have incurred losses as the highest cumulative loss year was 3.8%.

Will Mortgage Rates Increase?

This structure will increase mortgage rates somewhat. Lenders will be receiving lower loan servicing fees which initially will be offset by lower prices/higher mortgage rates to consumers. It's possible that rates might be unchanged over time because lower loan servicing fees reduce the capital and interest rate risk costs for larger originators. The strategy proposed is far better for the consumer than changing the security structure and/or eliminating the government loss guarantee both/either of which will result in meaningful higher mortgage rates. ***If a government guarantee is not provided by an adopted GSE Reform strategy, do we really believe the government will not come to the rescue in crisis?***

Reforming the GSE's requires keeping the positives of the current system, refining an antiquated loan servicing structure, and forming an insurance entity to collect premiums and offset larger home loss years. Reducing the current loan servicing compensation from 25 to 12.5 basis points along with transferring 12.5 basis points from the GSE guarantor (i.e. USMA) "seeds" a government run insurer (i.e. USHI) who makes security investors whole and "backstops" the GSEs. There is no reason to delay implementation as this structure is a reordering of current fees collected; to begin (until the other USMAs raise capital) the USMA – Washington purchases and backs conventional mortgages originated.

Most important, all participants must embrace the government guarantee that attracts investment rather than find ways to eliminate it.

Appendix A - Will the Servicer Be Paid Enough?

If we reduce loan servicing fees many industry participants will assume that the servicer will not be paid enough cover costs. First, excess servicing fees are collected on most if not all loans sold to the GSE's. Second, even with a conservative set of assumptions a .125% servicing fee will cover costs on nearly all loan originations. Given a seven percent annual prepayment rate, no earnings credit for escrow funds collected, and a mere \$5/loan ancillary income collection rate only loans with a \$50,000 average loan balance and an annual cost to service of \$75/Loan result in a negative servicing value.

Servicing Value as a % of Unpaid Principal Balance					
		Servicing Cost/Loan			
		\$50/Loan	\$50/Loan	\$75/Loan	\$75/Loan
Loan	\$ 50,000	0.95%	0.26%	0.59%	-0.10%
Balance	\$ 100,000	1.17%	0.48%	0.98%	0.30%
	\$ 150,000	1.24%	0.55%	1.12%	0.42%
	\$ 200,000	1.27%	0.58%	1.18%	0.49%
	\$ 250,000	1.30%	0.61%	1.22%	0.53%
	\$ 300,000	1.31%	0.62%	1.25%	0.56%
7% Annual Prepayment Rate					
\$5 Ancillary Income/Loan					
No Earnings on Escrow Funds					

The combination of conventional home loan balances at \$50,000 and associated servicers having a \$75/cost per loan is minimal. Correspondent sellers, or those smaller originators that sell their mortgage loans to larger mortgage aggregators are the losers in this scenario. I don't believe larger mortgage lenders would be unhappy even though their revenue is cut in half. The reason being the current large capital requirements necessary to hold loan servicing assets on the balance sheet and significant costs of hedging the interest rate risk associated with larger than expected loan prepayments.

Appendix B – Who Pays Losses on Home Loans?

Losses on a pool of residential loans is determined by multiplying the percentage of loans that default by the severity of the loss. For example on \$1 trillion dollars of loans if four percent of the loans default and the average loss on the loan sales is 25% of the property value the loss on the pool is 1% ($2\% \times 25\%$) or \$10 billion dollars. Who pays for these losses and in what order do they pay?

First the United States Mortgage Associations (USMAS) will cover losses as long as the guarantor fees plus claims collected on a pool exceed the losses incurred on the pool.

Second the United States Housing Insurer (USHI) covers losses to the extent retained earnings exceed losses.

Third, the US Treasury (the taxpayer) covers losses.

Note that Private Mortgage Insurers (PMIs) play an important role minimizing the severity of loan losses as the PMIs continue to subsidize low down payments decreasing the effective loan to value ratio and decreasing loan loss severity.

Let's take the example above of a \$1 Trillion dollar pool of loans that incur 100 basis points in loss or \$10 billion dollars. In percentage terms losses will be covered as follows: (1) USMA 100.0 %, (2) USHI 0 %, and (3) United States Treasury 0%.

A \$1 Trillion dollar pool with a cumulative loss rate of 3.0%, 96.6% of the losses are paid by the USMAs, 3.4% by the USHI, and 0% by the United States Treasury.

A \$1 Trillion dollar pool with a cumulative loss rate of 6.5%, 60% of the losses are paid by the USMAs, 25% by the USHI, and 15% by the United States Treasury.

The 6.5% loss level is higher than that experienced in the Great Recession. *Over the life of the pool the USHI does make money, in fact nearly 60% of the losses paid by the United States Treasury are offset by USHI earnings. The early timing of losses are such that claims will need to be paid by the United States Treasury because the USHI has not built up monies for payment. However, as losses slow the USHI is profitable.* See the 6.5% loss projection in Appendix D.

The United States Treasury will not pay for loan losses until losses are approximately 4.6%.

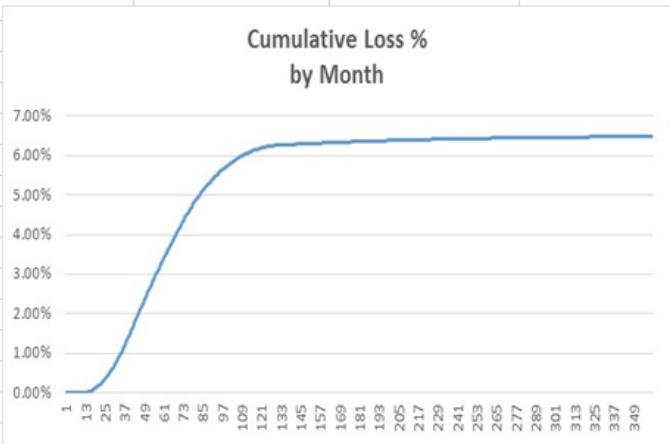
Appendix C – USMA Economics

The two following USMA projections were calculated based on 1% and 6.5% cumulative losses. Both 1% and 6.5% levels are higher than most book years; the Great Recession high cumulative loss rate was nearly 4%. At a 1% Loss rate the USMA returns 15% on a pre-tax basis and retained earnings grows from \$2.8 billion to \$7.8 billion.

USMA Economic Projection (1% Cumulative Losses)									
Assumptions:									
Loans Insured in Billions	\$250								
Loss Lag	12 months								
Annual Prepayment Speed	7.00%								
Guarantor Fees (net)	0.450%								
Corporate Tax Rate	25.00%								
Operating Costs (on UPB)	0.05%								
Cumulative Loan Losses	1.00%								
Initial Capital	\$2,812,500,000								
High Risk Threshold	\$18,750,000,000								
High Risk Default Rate	25.0%								
High Risk Severity	30.0%								
Initial Capital Required	15.0%								
Lifetime Pre-Tax ROE	15.0%								
	Year(s)								
	1					2	3	4-10	11-30
Revenue:									
Guarantor Fees	\$1,079,829,651	\$985,971,505	\$898,627,619	\$3,893,039,070	\$3,585,354,371				
Loss Recoveries (USHI)	\$0	\$0	\$0	\$0	\$0				
Total Revenue	\$1,079,829,651	\$985,971,505	\$898,627,619	\$3,893,039,070	\$3,585,354,371				
Loan Loss Payments	\$0	\$116,137,387	\$304,527,330	\$1,883,899,236	\$192,592,856				
Operating Costs	\$119,981,072	\$109,552,389	\$99,847,513	\$432,559,897	\$398,372,708				
Advance Expense	\$1,805,691	\$10,274,568	\$18,708,976	\$86,561,497	\$7,507,108				
Total Expenses	\$121,786,763	\$235,964,344	\$423,083,819	\$2,403,020,630	\$598,472,672				
Pre-Tax Net Income	\$958,042,888	\$750,007,162	\$475,543,799	\$1,490,018,439	\$2,986,881,699				
Taxes	\$239,510,722	\$187,501,790	\$118,885,950	\$372,504,610	\$746,720,425				
After-Tax Net Income	\$718,532,166	\$562,505,371	\$356,657,850	\$1,117,513,830	\$2,240,161,274				
Retained Earnings (ending)	\$3,531,032,166	\$4,093,537,537	\$4,450,195,387	\$5,567,709,216	\$7,807,870,490				
% of High Risk Level	19%	22%	24%	30%	42%				

At 6.5% Cumulative Losses a USMA losses money over the life of a pool. However, its capital base remains positive mostly because of the loss recoveries from the USHI). This is a good outcome given the backdrop of 1 in 4 borrowers defaulting and a loss severity of 55% (25% paid by PMI companies).

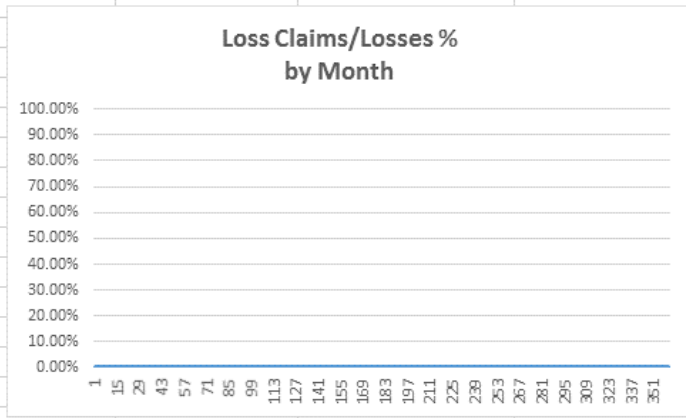
USMA Economic Projection (6.5% Cumulative Losses)					
Assumptions:					
Loans Insured in Billions	\$250				
Loss Lag	12 months				
Annual Prepayment Speed	7.00%				
Guarantor Fees (net)	0.450%				
Corporate Tax Rate	25.00%				
Operating Costs (on UPB)	0.05%				
Cumulative Loan Losses	6.48%				
Initial Capital	\$2,812,500,000				
High Risk Threshold	\$18,750,000,000				
High Risk Default Rate	25.0%				
High Risk Severity	30.0%				
Initial Capital Required	15.0%				
Lifetime Pre-Tax ROE (est)	-0.3%				
	Year(s)				
	1	2	3	4-10	11-30
Revenue:					
Guarantor Fees	\$1,079,847,986	\$985,325,023	\$893,763,588	\$3,753,539,261	\$3,706,915,711
Loss Recoveries (USHI)	\$0	\$0	\$0	\$3,539,834,413	\$954,301,759
Total Revenue	\$1,079,847,986	\$985,325,023	\$893,763,588	\$7,293,373,673	\$4,661,217,470
Loan Loss Payments	\$0	\$769,142,177	\$2,015,162,175	\$10,753,609,767	\$1,255,264,937
Operating Costs	\$119,983,110	\$109,480,558	\$99,307,065	\$417,059,918	\$411,879,523
Advance Expense	\$11,958,353	\$68,031,640	\$103,162,342	\$507,041,043	\$49,465,575
Total Expenses	\$131,941,463	\$946,654,375	\$2,217,631,582	\$11,677,710,728	\$1,716,610,036
Pre-Tax Net Income	\$947,906,523	\$38,670,648	(\$1,323,867,994)	(\$4,384,337,055)	\$2,944,607,434
Taxes	\$236,976,631	\$9,667,662	(\$330,966,999)	(\$1,096,084,264)	\$736,151,858
After-Tax Net Income	\$710,929,892	\$29,002,986	(\$992,900,996)	(\$3,288,252,791)	\$2,208,455,575
Retained Earnings (ending)	\$3,523,429,892	\$3,552,432,878	\$2,559,531,883	(\$728,720,908)	\$1,479,734,667
% of High Risk Level	19%	19%	14%	-4%	8%



Appendix D – USHI Economics

Three USHI projections follow at cumulative loss rates of 1%, 3%, and 6.5%. The percentage of total losses USHI paid in each of these scenarios is 0%, 3.4%, and 25% respectively. The USHI collects insurance premiums from originators and the USMAs, has no initial capital, and is a tax exempt entity set up solely to protect the US Treasury/Taxpayer against higher loan losses.

USHI Economic Projection (1% Cumulative Losses)					
Assumptions:					
Loans Insured in Billions	250				
Loss Lag	12 months				
Annual Prepayment Speed	7.00%				
Operating Costs (on UPB)	0.01%				
Cumulative Loan Losses	1.0%				
Loan Default Rate (est)	4.4%				
Tax Rate	0.0%				
Initial Capital	\$0				
Ending Capital	\$5,569,685,109				
	Year (s)				
	1	2	3	4-10	11-30
Revenue:					
Insurance Premiums	\$599,905,362	\$547,761,947	\$499,237,566	\$2,162,799,483	\$1,991,863,539
Expenses:					
Claims Paid	\$0	\$0	\$0	\$0	\$0
Operating Expenses	\$23,816,287	\$21,910,478	\$19,969,503	\$86,511,979	\$79,674,542
Total Expenses	\$23,816,287	\$21,910,478	\$19,969,503	\$86,511,979	\$79,674,542
Net Income	\$576,089,075	\$525,851,469	\$479,268,063	\$2,076,287,504	\$1,912,188,998
Retained Earnings	\$576,089,075	\$1,101,940,544	\$1,581,208,607	\$3,657,496,111	\$5,569,685,109



The USHI builds equity in all three of the scenarios, \$5.6 Billion in the 1% loss case, \$5.3 Billion in the 3% scenario, and even \$1.5 Billion with 6.5% cumulative pool losses.

USHI Economic Projection (3% Cumulative Losses)

Assumptions:						
Loans Insured in Billions	250					
Loss Lag	12 months					
Annual Prepayment Speed	7.00%					
Operating Costs (on UPB)	0.01%					
Cumulative Loan Losses	3.0%					
Loan Default Rate (est)	13.4%					
Tax Rate	0.0%					
Initial Capital	\$0					
Ending Capital	\$5,318,358,097					
	Year (s)	1	2	3	4-10	11-30
Revenue:						
Insurance Premiums		\$599,909,064	\$547,631,240	\$498,254,994	\$2,134,725,073	\$2,026,097,087
Expenses:						
Claims Paid		\$0	\$0	\$0	\$256,174,536	\$0
Operating Expenses		\$23,816,489	\$21,905,250	\$19,930,200	\$85,389,003	\$81,043,883
Total Expenses		\$23,816,489	\$21,905,250	\$19,930,200	\$341,563,539	\$81,043,883
Net Income		\$576,092,575	\$525,725,991	\$478,324,794	\$1,793,161,534	\$1,945,053,204
Retained Earnings		\$576,092,575	\$1,101,818,566	\$1,580,143,360	\$3,373,304,894	\$5,318,358,097

USHI Economic Projection (6.5% Cumulative Losses)

Assumptions:						
Loans Insured in Billions	250					
Loss Lag	12 months					
Annual Prepayment Speed	7.00%					
Operating Costs (on UPB)	0.01%					
Cumulative Loan Losses	6.5%					
Loan Default Rate (est)	28.9%					
Tax Rate	0.0%					
Initial Capital	\$0					
Ending Capital	\$1,498,527,699					
	Year (s)	1	2	3	4-10	11-30
Revenue:						
Insurance Premiums		\$599,915,548	\$547,402,791	\$496,535,327	\$2,085,299,589	\$2,059,397,617
Expenses:						
Claims Paid		\$0	\$0	\$0	\$3,559,996,042	\$498,664,874
Operating Expenses		\$23,816,842	\$21,896,112	\$19,861,413	\$83,411,984	\$82,375,905
Total Expenses		\$23,816,842	\$21,896,112	\$19,861,413	\$3,643,408,026	\$581,040,779
Net Income		\$576,098,705	\$525,506,679	\$476,673,914	(\$1,558,108,437)	\$1,478,356,838
Retained Earnings		\$576,098,705	\$1,101,605,384	\$1,578,279,297	\$20,170,861	\$1,498,527,699