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Mr. Robert E. Feldman  
Executive Secretary  
Attention: Comments  
Federal Deposit Insurance Corporation  
550 17<sup>th</sup> Street, NW  
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RIN3064-AD70

Ms. Jennifer J. Johnson  
Secretary  
Board of Governors of the Federal Reserve  
System  
20<sup>th</sup> Street and Constitution Avenue, NW  
Washington, D.C. 20551  
Docket No. R-1401  
RIN 7100-AD61

**RE: Risk-Based Capital Guidelines: Market Risk; Alternative Guidelines to Credit Ratings for Debt and Securitization Positions**

Ladies and Gentlemen:

Andrew Davidson & Co., Inc. (AD&Co) welcomes the opportunity to comment on the proposed methodologies for calculating specific risk capital requirements for securitization positions under the market risk capital rules in the amendment of the January 2011 NPR. We are a fixed-income research, analytics and consulting firm, specializing in MBS, ABS and structured securities. We provide prepayment, credit and valuation models, and consulting services to over 150 financial institutions. Approximately one-third of our clients are depository institutions.

The comments herein relate primarily to securitized assets, which fall under our area of expertise.

## Executive Summary

We continue to support the overall goal of reducing reliance on external credit ratings in calculating risk-based capital requirements for securitization exposures. However, any alternative method should be an improvement to the current system. We believe that the proposed SSFA method is fundamentally flawed because the formula relies on inappropriate drivers for differentiating credit risk within the same asset class. The SSFA has the unintended consequence of grossly underestimating the amount of required capital necessary to protect a firm against unexpected losses.

## Fundamental Flaws of SSFA

- $K_g$ , a key input to SSFA, is highly insensitive to the underlying risk exposure of the securitization.
- The supervisory floor ratio does not take into consideration the lag between rapidly rising delinquencies and realized losses and therefore, grossly underestimates required capital of underperforming assets.
- SSFA does not take into consideration structural features (i.e. trigger mechanisms, reserve accounts, payment rules), which could potentially reduce capital charges for higher risk positions.
- SSFA does not give credit to assets held at a discount to par. The discount presumably provides additional protection against further losses.

## Recommended Approach: A Multi-Scenario Cash Flow Method

We recommend that risk-based capital (RBC) be determined by analytical measures of risk, derived from multi-scenario cash flows. A cash flow approach has several advantages over the proposed SSFA, which we highlight below.

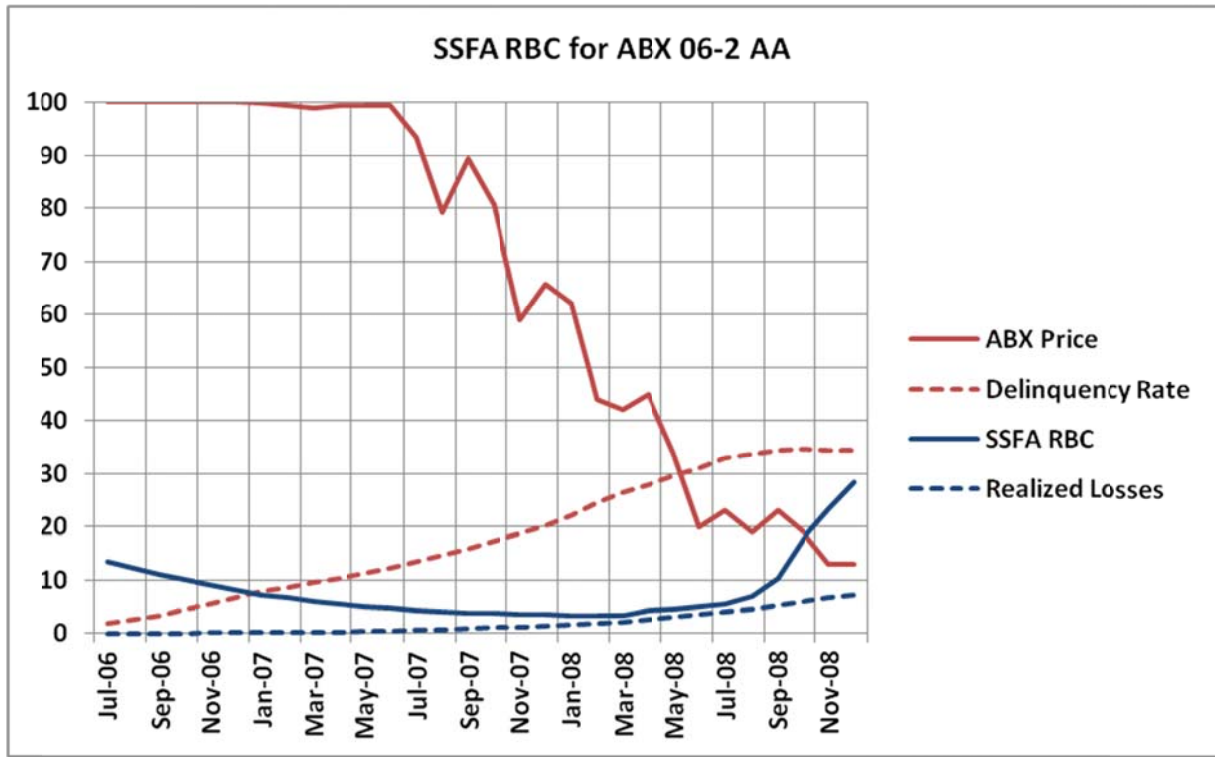
A multi-scenario cash flow method:

- better distinguishes the credit risk within the same asset class.
- is the best approach for capturing the structural complexity of securitizations such as trigger mechanism, payment rules, seniority in the capital structure, and tranche thickness.
- is more effective at capturing the lag between rapidly rising delinquencies and realized losses and thus adjusts risk-based capital requirements to reflect underperforming assets in a more timely manner.
- better evaluates tail risk, which is a better measure of excess capital required to protect firms against insolvency.

We believe it is imprudent to adopt the SSFA approach, which sacrifices risk sensitivity over simplicity, and results in inferior approximations of credit risk compared to the credit ratings approach currently in effect.

**Example 1: What if the SSFA were in effect during the credit crisis of 2007-09?**

**Exhibit 1. SSFA RBC for ABX 06-2 AA**



Source: Intex, Bloomberg, AD&Co

Exhibit 1 above shows the price and collateral performance of ABX 06-2 AA from the beginning months of the crisis through the end of 2008. In addition, it shows the RBC that would have been required by the SSFA, assuming a  $K_g$  of 8%.

As delinquencies on the mortgages underlying the ABX increased faster than expected, investors realized that losses on subprime RMBS could be significantly greater than originally anticipated. As a consequence, ABX prices fell precipitously during the period between mid-2007 to mid-2008. Over the same period, senior bonds were paid down resulting in increased credit support of junior tranches. The increase in credit support causes the SSFA RBC to decline as shown in the graph. It is not until the second half of 2008 that the SSFA RBC starts to “catch up” to realized losses. By this time, the ABX had lost 80% of its value.

When contrasting the theoretical performance of the SSFA to current ratings-based method, the ratings-based method did a better job of assigning RBC during the credit crisis. The first credit downgrade of one of the underlying bonds of ABX 06-2 AA occurred in August 2007. By March 2008, half of the underlying securities of the ABX 06-2 AA had already been downgraded, and the majority of these downgrades were below investment grade levels. That same month, the SSFA capital charge would have reached its nadir. By October 2008, 14 of the 20 of the ABX 06-2 securities were rated below investment grade by at least one rating agency. It took longer for

the SSFA to begin to adjust to deteriorating performance of the ABX, which is one of the principal reasons we believe that adopting the SSFA would be a serious step backwards.

### Example 2 – RBC for an ABX 06-2 Transaction

#### Exhibit 2. Credit Profile of CWABS 2006-8 – Priced at Par

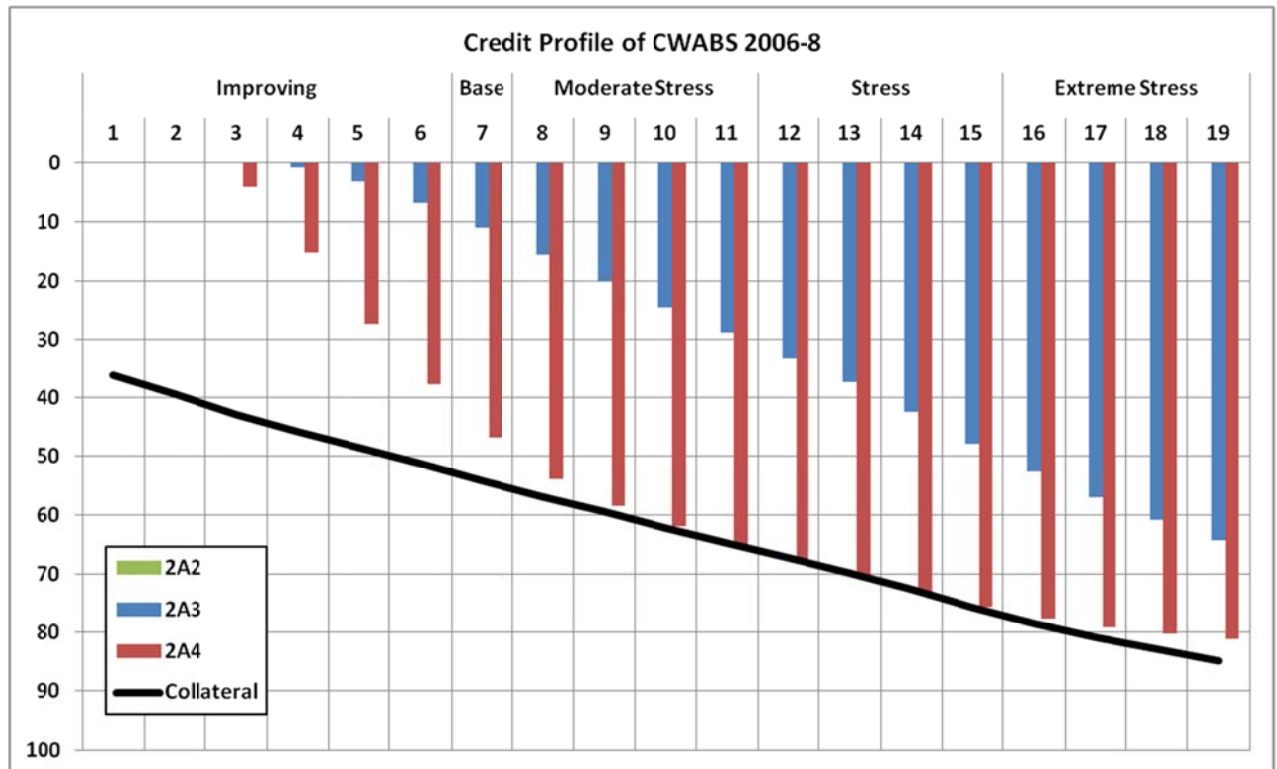


Exhibit 2 shows our estimated credit losses for the three remaining senior tranches of CWABS 2006-8, a component of ABX 2006-2, across 19 scenarios of increasing economic stress. The estimates are as of December 2011. The results are generated by using AD&Co's LoanDynamics™—our residential mortgage credit model—to project loan level cash flows and losses across a variety of economic scenarios. These loan level cash flows are fed into the deal cash flow waterfall model to project cash flows and losses for each tranche. The tranche credit losses are shown in present value terms assuming a holding price of par.

All three tranches have current credit support of 27%. Yet because of their sequential payment rules their credit risk varies substantially. 2A4 credit losses vary from 50%-80% across the stress scenarios; 2A3 varies from 15%-60%; 2A2 does not incur credit losses in any scenario.

When presented with a credit profile such as that presented in Exhibit 2, it is almost elementary to set capital requirements in a consistent and accurate manner. One simply chooses the confidence level (e.g. "I want to survive scenarios 1-17") and sets capital requirement accordingly. In the examples below we demonstrate a method that assigns capital based on a

metric called Expected Shortfall (ES), which is the weighted-average credit loss in the four 'Extreme Stress' scenarios<sup>1</sup>.

### Exhibit 3. CWABS 2006-8 RBC Using Ratings, SSFA and Cash Flow Methods

Tranche	Current Credit Support (%)	Median Credit Rating	Assumed Holding Price	ES	SSFA Submetrics		RBC (%)		
					K <sub>ssfa</sub>	Supervisory Minimum	Ratings	SSFA	CFM
2A2	27.2	A	100	0.00	0.04	8.00	4.00	8.00	0.56
2A3	27.2	CCC	100	55.76	0.04	8.00	100.00	8.00	55.76
2A4	27.2	C	100	78.59	0.04	8.00	100.00	8.00	78.59

Exhibit 3 compares the RBC assigned by three methods: a ratings approach, SSFA and a scenario-based cash flow method (CFM). The ratings method, which takes into account structural features and payment rules, differentiates the credit risk of the 2A2 and lower classes. It assigns 4% capital to 2A2 and 100% to both the 2A3 and 2A4. These capital requirements are sufficient to protect all 19 scenarios shown in Exhibit 2.

In contrast, the SSFA method assigns a capital charge of 8% to all three tranches. All three tranches have identical credit support of 27%. Because this amount of credit support is high relative to base  $K_g$  (assuming 8%), the resulting  $K_{ssfa}$  for each tranche is only 0.04%. Since the  $K_{ssfa}$  is less than the supervisory minimum risk weighting of 8%, the supervisory minimum goes into effect. The supervisory minimum risk weight is based on cumulative losses of the underlying securities of 6.11%. In our opinion, the SSFA RBC of 8% probably overstates the credit risk of 2A2, but grossly understates the credit risk of the 2A3 and 2A4 tranches. In the most extreme stress scenarios depicted in Exhibit 2, 2A3 and 2A4 would be undercapitalized by at least 40% and 70%, respectively.

As stated earlier, the CFM assigns RBC based on the ES measure. Class 2A2 experiences no losses in any scenario as shown in Exhibit 2, and therefore is assigned a regulatory capital floor of 56bp. The capital charge for tranches 2A3 and 2A4 are set to the ES of 55% and 78%, respectively, which provides sufficient capital to survive all but scenarios 18 and 19.

Of all three methods, we believe that the multi-scenario cash flow method is the best approach for evaluating RBC. While we do not favor ratings as a tool for evaluating RBC, the ratings based method at least differentiates between the credit risks of 2A2 and lower classes. The ratings based method also requires more than sufficient capital for the 2A2 and all classes to survive a severe economic downturn compared to the RBC assigned by the SSFA. The SSFA method neither differentiates credit risk nor allocates sufficient capital to the 2A2 or A3 classes.

<sup>1</sup> Scenario weights are based upon a loss distribution called '3-Part Vasicek'. It is an extension of Oldrich Vasicek's model for loan-portfolio losses. For more on 3-Part Vasicek, see "Credit Loss Distribution: Credit OAS vs. Vasicek", parts [1](#), [2](#), and [3](#).

We should mention that our example uses 19 stress scenarios. We believe that regulators should choose the economic scenarios used to determine capital levels, as they did during the Supervisory Capital Assessment Program (SCAP).

Finally, we did not ‘cherry-pick’ securities that make the SSFA method look bad. Any security that has

- collateral with delinquency pipelines greater than those anticipated by  $K_g$ , but with most losses not yet realized **or**
- payment rules other than credit support that effect tranche credit risk

is at risk of being undercapitalized under the SSFA methodology. We should also mention that the payment rule highlighted in this transaction, sequential principal paydowns, is both common and relatively straightforward compared to other, more esoteric, payment rules such as triggers, step-downs, and implied write-down features. Any method of assigning capital that does not adjust to collateral credit performance and utilize the transaction’s cash flow waterfall, risks being undercapitalized, sometimes critically so.

### Example 3: RBC and Discount Securities

The loss projections for the CWABS 06-8 securitization in the previous example assume that the securities were held by an investor at a price of par. In this example, we assume that the investor marks his holdings in 2A3 and 2A4 down to prices of \$50 and \$25, respectively.

### Exhibit 4. Credit Profile of CWABS 2006-8—Discounted Prices

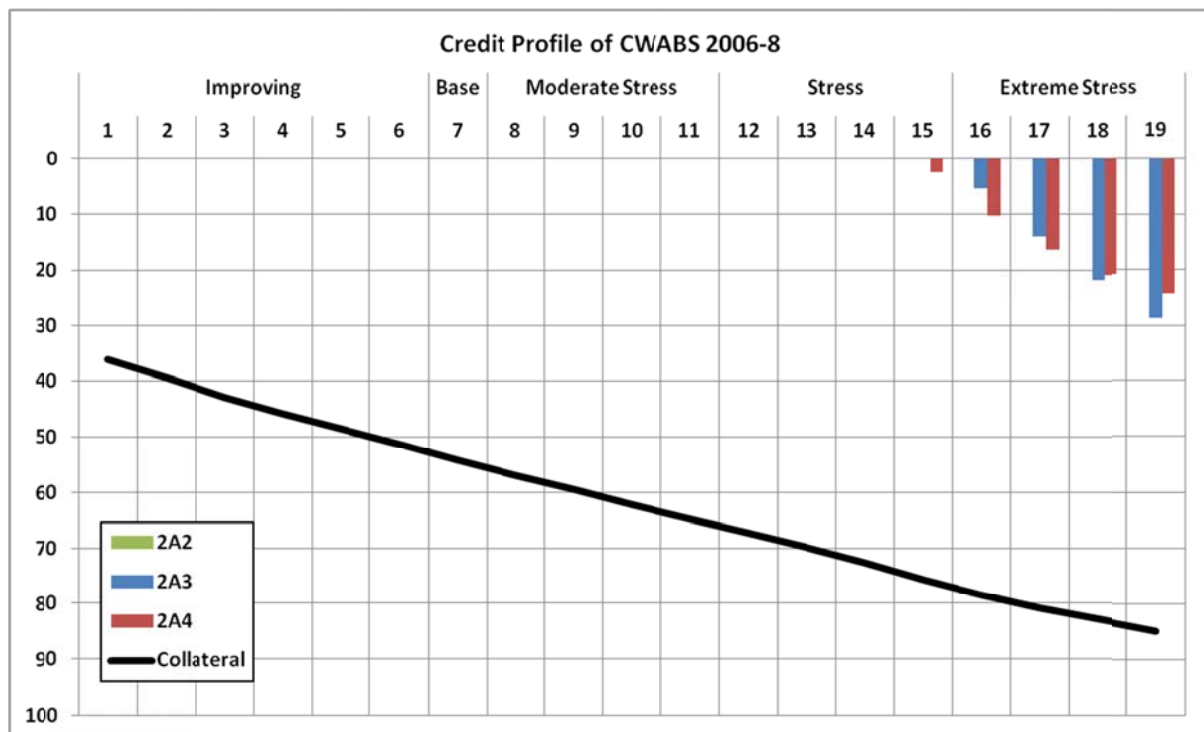


Exhibit 4 shows the credit profile of the securities, adjusting for their lower marks. In most scenarios the investor no longer incurs credit losses. In those scenarios where losses occur, they are significantly lower than those shown in Exhibit 2.

**Exhibit 5. CWABS 2006-8 RBC using Ratings, SSFA and Cash Flow Methods – Discounted Prices**

Tranche	Current Credit Support (%)	Median Credit Rating	Assumed Holding Price	ES	SSFA Submetrics		RBC (%)		
					Kssfa	Supervisory Minimum	Ratings	SSFA	CFM
2A2	27.2	A	100	0.00	0.04	8.00	4.00	8.00	0.56
2A3	27.2	CCC	50	55.76	0.04	8.00	100.00	8.00	11.53
2A4	27.2	C	25	78.59	0.04	8.00	100.00	8.00	14.36

Exhibit 5 again compares the RBC assigned by SSFA to those assigned using the ratings and cash flow methods. The cash flow method, which is based on comparing cash flows to holding prices, seamlessly adjusts capital levels to holding prices; CFM capital requirements are significantly lower than those shown in Exhibit 3. The SSFA assigns the same capital to each security, regardless of the price at which the investor holds the security. The ratings based method also does not adjust RBC to holding price, but again it does a better job of differentiating the credit risk of the tranches. It also does not undercapitalize any of the securities.

We believe that regulators should encourage banks to recognize credit losses earlier rather than later. Allowing capital relief as banks write down the value of their investments is one way of doing so. Additionally, banks should be allowed to invest in securities bought at a discount, if management can demonstrate that credit losses will be low even in stressed scenarios and the bond meets the bank's investment objectives.

**Considerations for Adopting a Multi-Scenario Cash Flow Method for Determining RBC**

We recognize there is an implementation cost in considering the adoption of a multi-scenario cash flow approach for determining RBC. However, we believe that it is imprudent to settle on an approach that sacrifices risk sensitivity for the sake of simplicity. Most large banks already use multi-scenario cash flows in their internal risk assessment. For smaller community banks that do not have the internal capacity, there are commercially available tools for performing cash flow analysis.

Any movement away from the simple formula as set forth by the proposed regulations to a more sophisticated multi-scenario cash flow method will necessarily entail a certain level of validation of third party or internal analytic systems on the part of regulators. The OCC's recently issued

guidance on model validation<sup>2</sup> could serve as a sound foundation for the type of validation that should be applied to internal analyses or third party analytical vendors.

As part of this validation process, regulators should be actively involved and responsible for both validating the inputs (such as severity of the economic stresses) as well as the models used to estimate losses. If the regulators choose not to house such validation staff in-house, we believe that such validation could also be performed by external parties that are independent of the firms whose models were being validated, as long as the validation guidelines are clearly established.

#### Example 4: Model Validation

In this section we give two examples of validation reports that regulators should ask banks and third-party vendors to provide to support their analytics.

#### Exhibit 6. Historical Model Performance Report

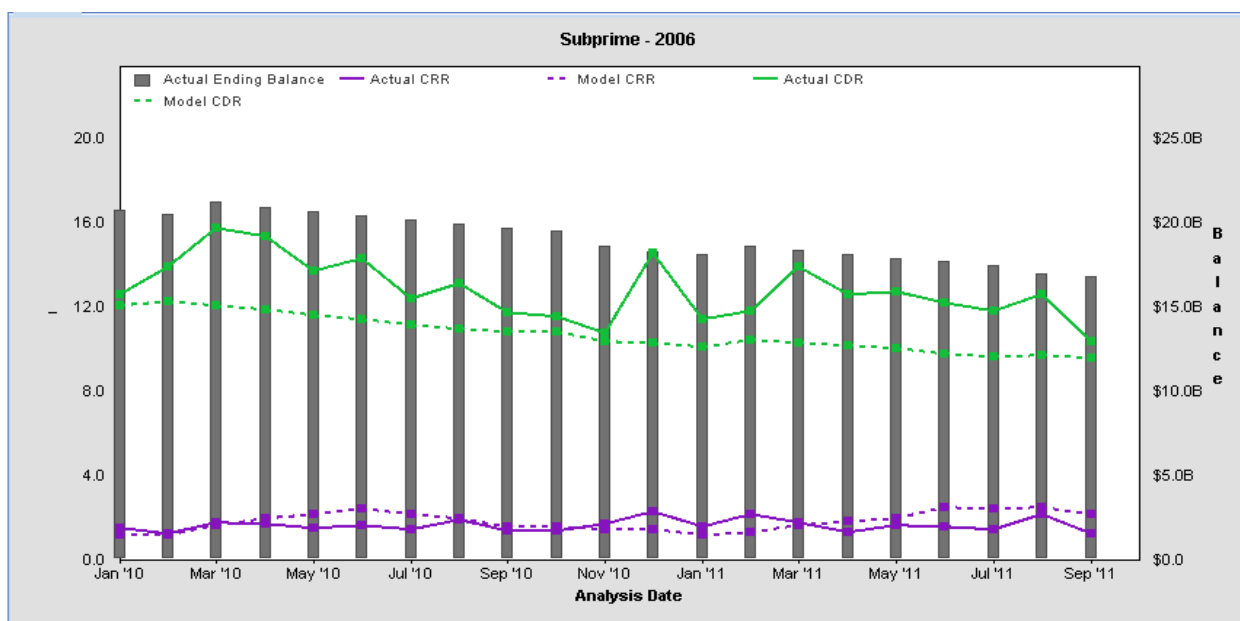


Exhibit 6 is an example of the type of historical validation report that regulators should request. It compares actual-versus-model comparisons of 2006-originated subprime voluntary prepayment (CRR) and default (CDR) rates across time. This is only one of dozens of historical performance reports that could be generated quarterly to determine the performance of empirical models. Analytical providers should be required to demonstrate that analytical models calibrated to historical data provide both good in- and out-of sample fits across a variety of dimensions.

<sup>2</sup> [Supervisory Guidance on Model Risk Management](#), April 4, 2011



## Exhibit 7. Loss Projections

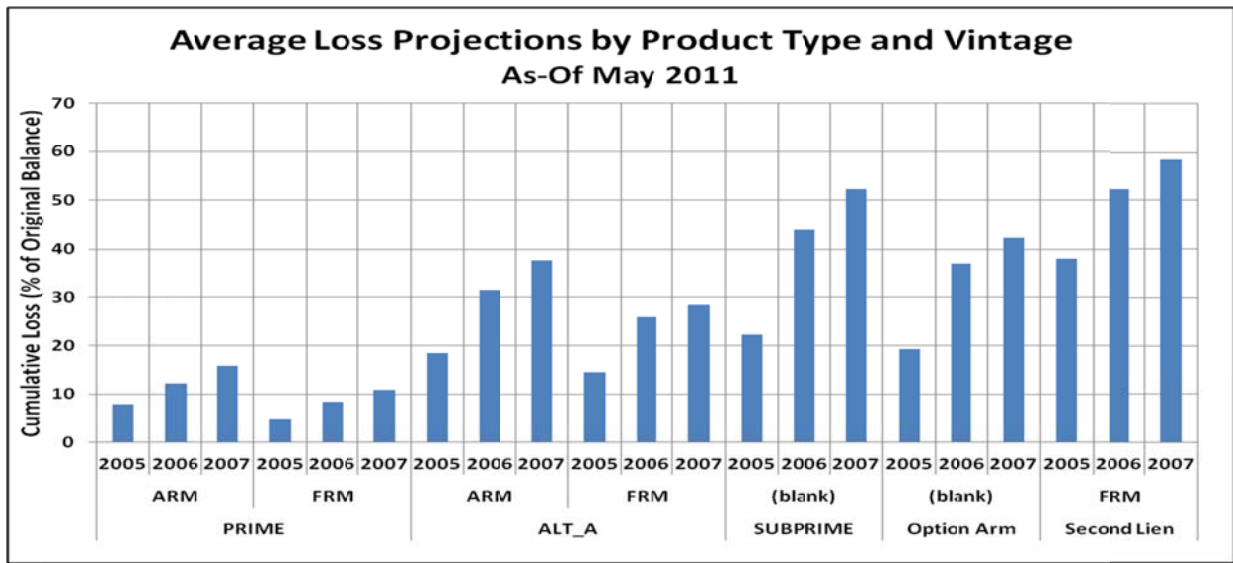


Exhibit 7 shows our model's average loss projections by product type and vintage. Losses are shown as percent of original balance. They are as-of May 2011 (the date of our last model release) using our internal base-case home price (HPI) scenario.

Regulators should define a set of economic scenarios and ask banks and third-party vendors to provide loss forecasts for a standard set of instruments under these scenarios. This would allow regulators to easily identify analytical sources that provide forecasts outside the range of analytical providers.

### Conclusion

While we support the goal of reducing the reliance on ratings when calculating RBC requirements, we believe that the SSFA method presented in the NPR is fundamentally flawed in a manner that will grossly undercapitalize securitization positions. When evaluating the credit risk of securitization exposures, it is critical to use a method that both adjusts to underperforming collateral in a timely manner and takes into consideration all structural features of the transaction. We recommend that regulators adopt a multi-scenario cash flow method in which regulators define a set of stress scenarios and validate the models used to forecast credit losses.

We believe that adoption of the SSFA approach, which sacrifices accuracy for simplicity, will dangerously undercapitalize many securitization exposures and is an inferior method of assigning RBC than the current ratings-based method.

Sincerely,

Andrew Davidson  
President