

## Prepayment Update – May 08

### New Prepayment Model Tuning Recommendations Released

By Sanjeeban Chatterjee & Dan Szakallas

In this article we recommend new tuning parameter recommendations for Non-Agency and Agency Collateral.

#### Prepayment Model Tuning Recommendations for Non-Agency Collateral

By Sanjeeban Chatterjee

The mortgage market is going through turbulent times. Lenders are tightening underwriting standards, and it is getting harder to refinance especially for sub-prime borrowers. This and other factors have led to a slowdown in speeds for all non-agency collateral types.

To reflect the current environment, we are recommending a set of tuning parameters for AD&Co’s suite of non-agency prime and sub-prime prepayment models. These tunings are based on prepayment speeds that we have seen since the middle of 2007. Prior to the middle of 2007, these tunings will cause the model to under-predict speeds. We also realize that speeds should return to historical averages once the markets stabilize. So we tried to tune the models in a way such that current model speeds maintain a balance between what happened prior to the crisis period, the current period, and our expectations of some return to normalcy in the near future.

AS shown in the chart below, the models are slowed down using a combination of tunings for Turnover, Slide, Refi and Aging. The basic idea is to slow down turnover and refinancing. Tunings for Slide and Refi change the shape and position of the refinancing S-curve. Turnover and Aging slow down turnover and dampen some features of the ARM model such as the hump in speeds observed during the first 12-month period and the peak reset speeds.

	Fixed Rate			ARM / Hybrid			
Tuning	Non-Agency Prime	Sub-Prime		Non-Agency Prime	Sub-Prime		Option - ARM
Turnover	0.85	0.85		0.85	0.85		0.85
Slide	50	100		125	125		125
Refi	0.5	0.5		1	0.5		0.5
Aging				0.2	0.2		1

This is not a good time to re-optimize the models based on recent data. We do not know how long the current crisis is going to last and what structural changes there might be in the markets. We plan to recommend tuning parameters on a regular basis as the markets evolve and return to some form of normalcy.

If you have any questions, please contact Sanj Chatterjee at 212-274-9075 or at sanj@ad-co.com.

## Prepayment Model Tuning Recommendations for Agency Collateral

By Dan Szakallas

In December, we issued some tuning parameters that we felt should be implemented until we were able to study more recent data and analyze it across different model versions. Now that we have had some time to digest a few more months' worth of data and spend a significant amount of time analyzing the performance of our fixed-rate prepayment models, we are ready to issue updated tuning parameter recommendations. These tunings reflect not only what has happened in regards to the ongoing credit crisis, but also address issues in older version of models that have not been analyzed in awhile. Overall, prepayments have remained slower than historical averages for most Agency collateral.

We focus here on 10YR, 15YR, 20YR and 30YR FNMA and FHLMC collateral, and on GNMA 15YR and 30YR collateral. The goal is to improve model fit over the last 6 months using our Dynamic Performance Reports (<http://dynamic.ad-co.com/performance/>), and also to assure that lifetime CPR forecasts and Weighted Average Life (WAL) values do not change in an overly sensitive way.

The models are adjusted using a combination of tunings for Turnover, Slide, Refi and Burnout. The basic idea is to slow down Turnover and Refinancing in the v5.1f/v5.2 (all letter versions) models for 30YR collateral, as they were overstating prepayments over the last 6 months, especially for coupons 6.0% and above. For shorter term collateral, like the 15YR and 10YR, the models were actually a bit slow, so Turnover was slightly positively adjusted. For v5.02b, which was last estimated in 5/2003, Refi was dampened noticeably, while Turnover was positively adjusted. The parameters for the different versions are listed below.

### Agency Prepayment Model v5.1f & v5.2 (all letter versions)

Loan Type	Slide	Turnover	Refi
FNMA, FHLMC 10	0	1.25	1
FNMA, FHLMC 15	0	1.15	1
FNMA, FHLMC 20	0	1	1
FNMA, FHLMC 30	0	0.75	0.75
GNMA 15	-50	1	1
GNMA 30	0	1	0.75

### Agency Prepayment Model v5.0.2b

Loan Type	Slide	Turnover	Refi	Burnout
FNMA, FHLMC 10	1	1.75	0.25	1
FNMA, FHLMC 15	1	0.75	0.75	1
FNMA, FHLMC 20	1	1.4	0.15	1
FNMA, FHLMC 30	0.99	1	0.5	1
GNMA 15	1	1.35	1	1
GNMA 30	1	1.25	1	0.25

If these values are entered into the Dynamic Performance Reports (<http://dynamic.ad-co.com/performance/>) the results will show how these recommendations improved model fit over the

last 6-8 months. We have also provided a table below that shows how the tunings for versions 5.1f and 5.2 (all letter versions) affect the lifetime CPR forecasts and WALs for newly originated collateral.

<b>Loan Type</b>	<b>WAL (months)</b>	<b>Equip CPR</b>
FNMA10YR 4.0 Default	48.9	8.5
FNMA10YR 4.0 FN10 tunings	42.9	12.7
FNMA10YR 4.5 Default	48.4	9.1
FNMA10YR 4.5 FN10 tunings	42.1	13.5
FNMA10YR 5.0 Default	44.2	12.1
FNMA10YR 5.0 FN10 tunings	38.6	16.5
FNMA10YR 5.5 Default	40.7	15.0
FNMA10YR 5.5 FN10 tunings	35.9	19.1
<b>Loan Type</b>	<b>WAL (months)</b>	<b>Equip CPR</b>
FNMA15YR 4.0 Default	71.0	7.0
FNMA15YR 4.0 FN15 tunings	64.8	9.0
FNMA15YR 4.5 Default	67.5	8.3
FNMA15YR 4.5 FN15 tunings	61.0	10.5
FNMA15YR 5.0 Default	59.2	11.4
FNMA15YR 5.0 FN15 tunings	53.4	13.8
FNMA15YR 5.5 Default	49.7	15.7
FNMA15YR 5.5 FN15 tunings	45.5	17.9
<b>Loan Type</b>	<b>WAL (months)</b>	<b>Equip CPR</b>
FNMA20YR 4.5 Default	80.8	8.5
FNMA20YR 4.5 FN20 tunings	80.8	8.5
FNMA20YR 5.0 Default	68.3	11.7
FNMA20YR 5.0 FN20 tunings	68.3	11.7
FNMA20YR 5.5 Default	55.1	16.1
FNMA20YR 5.5 FN20 tunings	55.1	16.1
FNMA20YR 6.0 Default	41.4	22.7
FNMA20YR 6.0 FN20 tunings	41.4	22.7
<b>Loan Type</b>	<b>WAL (months)</b>	<b>Equip CPR</b>
FNMA30YR 5.0 Default	79.9	11.9
FNMA30YR 5.0 FN30 tunings	110.4	7.5
FNMA30YR 5.5 Default	52.5	19.2
FNMA30YR 5.5 FN30 tunings	77.7	12.5
FNMA30YR 6.0 Default	36.2	27.5
FNMA30YR 6.0 FN30 tunings	53.6	18.9
FNMA30YR 6.5 Default	31.6	31.2
FNMA30YR 6.5 FN30 tunings	45.4	22.3
<b>Loan Type</b>	<b>WAL (months)</b>	<b>Equip CPR</b>
GNMA15YR 4.5 Default	65.2	9.0

GNMA15YR	4.5	GN15 tunings	58.2	11.6
GNMA15YR	5.0	Default	65.0	9.3
GNMA15YR	5.0	GN15 tunings	48.6	16.0
GNMA15YR	5.5	Default	59.5	11.4
GNMA15YR	5.5	GN15 tunings	39.1	21.9
GNMA15YR	6.0	Default	51.5	15.0
GNMA15YR	6.0	GN15 tunings	35.0	25.1
<b>Loan Type</b>			<b>WAL (months)</b>	<b>Equip CPR</b>
GNMA30YR	5.0	Default	73.2	13.2
GNMA30YR	5.0	GN30 tunings	73.2	13.2
GNMA30YR	5.5	Default	54.0	18.6
GNMA30YR	5.5	GN30 tunings	59.7	16.8
GNMA30YR	6.0	Default	41.0	24.5
GNMA30YR	6.0	GN30 tunings	48.8	20.8
GNMA30YR	6.5	Default	33.8	29.3
GNMA30YR	6.5	GN30 tunings	41.4	24.4

We plan to monitor these recommendations over the coming months, as well as report the results of the same type of study on our Agency ARM prepayment models in next month's *Pipeline*. Additionally, these recommendations are posted on our web site:

<http://www.ad-co.com/support/user/TPR502b.htm>

<http://www.ad-co.com/support/user/TPR51.htm>

<http://www.ad-co.com/support/user/TPR52.htm>

If you have any questions, please contact Dan Szakallas at 212-274-9075 or at [dans@ad-co.com](mailto:dans@ad-co.com).



*The information contained in The Pipeline is believed to be reliable, but its accuracy and completeness are not guaranteed. All expressions of opinion are subject to change without notice. Pipeline is provided for informational purposes only and is not a solicitation, endorsement or a recommendation for purchase or sale of any particular security. An affiliate of Andrew Davidson & Co., Inc. engages in trading activities in securities that may be the same or similar to those discussed in this publication. All Rights Reserved.*