Home price scenario update and beta model with enhanced servicer effects

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At the close of business on Friday December 7, 2012, we will be updating the non-agency RMBS calculator to incorporate changes to the existing Barclays home price scenarios, add three new scenarios intended to mimic the Federal Reserve CCAR scenarios, and add a beta version of the non-agency model with enhanced servicer specific adjustments and a servicer override option.

- **We have updated the Barclays home price scenarios to take into account additional home price data through September 2012. The new scenarios reflect the continuing recovery in housing markets, especially in those states most affected by the housing market collapse of 2008. Our base case projection for 2012 US home price appreciation is now 5.5%, up from 3.1%.**

- **The higher home prices in the new scenarios result in lower projected defaults and losses and higher loss adjusted yields, especially in the stress scenarios. Collateral cohorts with high LTVs and large percentages of performing borrowers benefit the most from the higher home prices (eg, 2007 jumbo and alt-A mortgages). For subprime cohorts, which have extremely high percentages of delinquent borrowers, the effect of higher home prices is most reflected in lower severities.**

- **We are also adding three new home price scenarios intended to mimic the Federal Reserve CCAR scenarios. The new home price scenarios distribute the national level CCAR Baseline, adverse and severely adverse home price scenarios published by the Federal Reserve across states, CBSAs and zip codes using the Barclays Regional Home Price Model.**

- **In addition to updating our home price scenarios, we are also releasing a beta version of the non-agency credit model with servicer-specific adjustments to roll rates affecting foreclosure timelines, short sales, and mortgage modifications, along with updates to the servicer effects in our P&I advance rate model. The enhanced features of the beta model also include the addition of a servicer override option. Users can simulate the effect of servicing transfers on individual securities by selecting the target servicer from a drop-down list in the preferences screen. We encourage users to test out the new beta model and welcome any feedback.**

Home price scenario update

Figure 1 displays online versus updated home price projections across scenarios for the US and key states. Continuing the theme of an improving housing market established in our July release, this update features strong near-term appreciation for the boom/bust states of California, Arizona, Nevada, and Florida. With the exception of Florida, where a large overhang of distressed properties has tempered the pace of the housing recovery, near-term base case projections for these states has increased relative to the better-than-average projections already imbedded in the online scenarios.

The improvement reflects the inclusion of stronger-than-expected home price data between May and September (May 2012 represents the last actual data point for the online scenarios) and an improved near-term outlook. For example, year-to-date seasonally adjusted home price appreciation for California has been 8.2%, well above the national average of 5.6%. The full-year 2012 base case projection for California is 7.2% (October through December are seasonally weak months) and 5.2% for 2013. Recent and projected home price appreciation is even higher for Arizona and Nevada. The housing recovery is also reflected in changes to the various stress scenarios. For example, the 2012 projection for US home price appreciation in the severe stress scenario has increased from -0.7% to 4.2%.

This release also includes the addition of three new scenarios intended to mimic the Federal Reserve CCAR scenarios. The new home price scenarios distribute the national level CCAR baseline, adverse and severely adverse home price scenarios published by the Federal Reserve across states, CBSAs and zip codes using the Barclays Regional Home Price Model.

A look at these reveals that they align fairly well with Barclays base case, severe stress, and down 20% scenarios, respectively. The primary difference appears to be that the home price declines in the Fed stress scenarios are concentrated in the first two years, whereas in the corresponding Barclays scenarios, home price declines are shallower but extend over four years.

FIGURE 1

Changes to HPA scenarios for US and key states

State	Act HPA Jan - Sep 2012 SA	Projections (% / year) New 2012	2013	2014	2015	Online 2012	2013	2014	2015
Strong Recovery									
US	5.6	6.9	8.7	8.2	9.3	7.0	8.6	9.7	10.3
AZ	16.9	16.6	15.2	8.9	9.6	16.1	11.5	10.5	10.6
CA	8.2	9.4	12.2	7.3	9.9	10.7	10.8	10.0	11.4
FL	6.9	6.1	10.8	8.0	9.9	12.4	11.2	11.5	12.5
NV	11.5	10.6	12.0	10.2	11.4	9.2	12.7	12.1	11.5
Recovery									
US	5.6	6.4	6.9	6.5	6.6	5.7	6.8	7.9	5.9
AZ	16.9	16.0	13.1	7.4	6.6	14.2	9.4	8.4	5.0
CA	8.2	8.7	9.9	5.8	6.8	8.6	8.3	7.7	5.0
FL	6.9	5.5	8.7	6.3	6.6	10.5	8.9	9.3	6.6
NV	11.5	10.0	9.9	8.5	8.3	7.5	10.5	10.0	6.0
Base Case									
US	5.6	5.5	3.5	3.0	4.0	3.1	3.4	4.4	5.0
AZ	16.9	14.7	9.0	4.5	3.6	10.6	5.2	4.3	3.6
CA	8.2	7.2	5.2	2.9	3.5	4.4	3.3	2.9	3.4
FL	6.9	4.3	4.5	3.0	3.3	6.8	4.5	4.8	5.1
NV	11.5	8.8	5.8	4.9	5.2	4.2	6.2	5.8	4.8
Stress									
US	5.6	4.6	0.2	-0.3	1.5	0.6	0.0	1.0	4.1
AZ	16.9	13.4	5.4	1.8	2.5	7.1	1.4	1.2	3.0
CA	8.2	5.7	0.8	-0.2	2.6	0.2	-1.4	-0.9	2.6
FL	6.9	3.1	0.7	0.2	2.1	3.2	0.3	1.1	4.1
NV	11.5	7.7	1.9	1.6	3.2	1.0	2.1	2.2	3.9
Severe Stress									
US	5.6	4.2	-1.5	-2.0	-1.0	-0.7	-1.6	-0.7	-0.1
AZ	16.9	12.8	3.4	0.8	1.2	5.5	-0.4	-0.1	-0.7
CA	8.2	5.0	-1.5	-1.3	1.3	-1.7	-3.6	-2.7	-2.3
FL	6.9	2.5	-1.2	-0.8	0.9	1.6	-1.6	-0.5	-0.4
NV	11.5	7.1	0.0	0.1	1.1	-0.5	0.2	0.5	-0.8
Down 20%									
US	5.6	2.9	-9.9	-5.2	-2.2	-4.9	-6.3	-5.0	-2.9
AZ	16.9	11.0	-6.9	0.6	2.9	0.4	-5.7	-3.1	-2.4
CA	8.2	2.9	-13.7	-0.9	3.9	-7.6	-10.4	-7.1	-5.1
FL	6.9	0.8	-11.4	-0.9	2.6	-3.7	-7.4	-4.6	-3.2
NV	11.5	5.4	-10.1	-1.8	1.2	-5.2	-5.4	-4.0	-4.1
Fed Baseline									
US	5.6	6.2	2.5	3.0	3.1	-	-	-	-
AZ	16.9	15.6	7.7	4.6	2.7	-	-	-	-
CA	8.2	8.3	3.6	3.0	2.4	-	-	-	-
FL	6.9	5.2	3.1	3.1	2.3	-	-	-	-
NV	11.5	9.7	4.5	5.0	4.2	-	-	-	-
Fed Adverse									
US	5.6	5.8	-6.5	-4.1	3.6	-	-	-	-
AZ	16.9	15.1	-2.9	-0.2	5.8	-	-	-	-
CA	8.2	7.7	-9.0	-2.3	6.8	-	-	-	-
FL	6.9	4.7	-7.5	-1.8	5.5	-	-	-	-
NV	11.5	9.2	-6.1	-1.6	6.1	-	-	-	-
Fed Severely Adverse									
US	5.6	4.2	-11.9	-8.9	1.7	-	-	-	-
AZ	16.9	12.8	-9.6	-2.7	6.8	-	-	-	-
CA	8.2	5.0	-16.7	-4.8	8.8	-	-	-	-
FL	6.9	2.5	-14.0	-4.2	6.6	-	-	-	-
NV	11.5	7.1	-12.6	-5.7	5.6	-	-	-	-

Source: CoreLogic, Barclays Research

Projected losses

Figures 2 and 3 illustrate that the home price scenario update on projected defaults and losses results in lower projected defaults and losses, especially in the stress scenarios. Collateral cohorts with high LTVs and large percentages of performing borrowers benefit the most from the higher home prices (eg, 2007 jumbo and alt-A mortgages). For subprime cohorts, which have extremely high percentages of delinquent borrowers, the effect of higher home prices is most reflected in lower severities. For example, projected defaults in the Down 20% scenario on 2007 jumbo fixed rate mortgages decreases from 52% to 49% as a result of the scenario update, with a corresponding reduction in projected losses from 29% to 26%. In contrast, projected defaults for 2007 subprime mortgages are relatively unchanged at 84%, but losses decline from 69% to 67% as a result of lower severities. Projected defaults and losses in the Fed baseline, adverse and severely adverse scenarios are similar to those in the Barclays base case, severe stress and down 20% scenarios, as expected.

FIGURE 2

Projected cumulative defaults and losses, new HPA scenarios

			Barclays Scenarios								Fed CCAR Scenarios					
			Down 20%		Severe Stress		Base Case		Strong Recovery		Severely Adverse		Adverse		Baseline	
Sector	Issue Yr	UCLTV	Default	Loss	Default	Loss	Default	Loss	Default	Loss	Default	Loss	Default	Loss	Default	Loss
Jumbo Fixed	2004	67	15	6	11	4	8	3	7	2	15	6	12	5	8	3
	2005	92	33	16	24	11	17	7	14	5	33	16	26	12	17	8
	2006	104	45	24	35	18	26	12	21	9	45	24	38	19	26	12
	2007	106	49	26	38	19	28	13	23	10	48	25	40	20	28	13
Jumbo Hybrid	2004	74	15	6	12	5	10	3	9	3	15	6	12	5	10	4
	2005	94	29	14	22	10	16	7	14	5	29	14	23	10	16	7
	2006	106	44	22	34	16	25	11	21	8	44	22	37	17	26	11
	2007	106	55	28	44	21	34	15	28	12	54	28	46	22	34	15
Alt-A Fixed	2004	75	32	19	25	13	20	9	18	7	32	19	27	14	20	10
	2005	96	48	30	39	22	31	16	27	13	48	29	41	23	31	17
	2006	110	65	45	56	36	47	28	42	23	65	44	58	37	48	29
	2007	108	66	44	58	35	49	28	43	22	66	43	59	36	49	28
Alt-A Hybrid	2004	89	37	18	30	13	24	10	21	7	37	18	31	14	25	10
	2005	110	55	32	47	25	39	19	33	14	55	31	48	26	40	19
	2006	124	71	46	64	38	56	31	49	25	71	46	65	39	56	32
	2007	121	75	48	68	41	60	33	53	27	75	48	69	42	61	34
Alt-A Negam	2004	89	46	24	39	19	34	15	30	12	46	24	41	20	34	15
	2005	112	63	40	56	34	50	28	45	23	63	40	58	35	50	28
	2006	129	75	50	69	44	63	37	58	32	75	50	70	45	63	38
	2007	127	78	50	73	44	66	37	60	31	78	50	73	45	66	37
Subprime 1st Lien	2004	85	58	43	49	33	42	26	38	21	57	42	51	34	42	26
	2005	106	73	58	66	48	58	39	53	32	73	57	67	49	58	39
	2006	120	83	68	76	59	69	49	63	41	82	68	77	60	69	50
	2007	118	84	67	77	58	69	48	63	40	83	67	78	59	70	48
Second Lien	2004	88	36	35	29	28	24	23	21	20	36	36	30	29	24	23
	2005	106	53	52	45	44	37	36	32	30	53	52	46	45	38	36
	2006	114	58	57	50	49	42	40	36	34	58	57	51	50	42	41
	2007	117	60	59	53	51	44	42	37	35	60	59	53	52	44	43

Note: Projections are as of November 2012 remittance reports for a sample of loans taken from each sector and issue year. Includes balance forgiven.

Source: CoreLogic, Barclays Research

FIGURE 3

Projected cumulative defaults and losses, online HPA scenarios

			Barclays Scenarios							
			Down 20%		Severe Stress		Base Case		Strong Recovery	
Sector	Issue Yr	UCLTV	Default	Loss	Default	Loss	Default	Loss	Default	Loss
Jumbo Fixed	2004	69	17	8	12	5	8	3	7	2
	2005	94	37	20	27	13	18	8	14	5
	2006	106	49	28	38	20	27	13	21	9
	2007	108	52	29	41	21	29	14	23	10
Jumbo Hybrid	2004	75	16	8	12	5	10	4	9	3
	2005	96	32	17	24	11	17	7	14	5
	2006	108	49	27	38	19	27	12	21	8
	2007	108	59	33	48	24	36	16	28	12
Alt-A Fixed	2004	76	34	21	26	14	20	10	17	7
	2005	98	50	33	41	24	32	17	27	13
	2006	111	66	47	58	38	48	29	42	23
	2007	110	69	47	60	38	50	28	43	22
Alt-A Hybrid	2004	91	40	21	33	15	26	10	21	7
	2005	113	58	36	50	28	41	20	34	14
	2006	127	74	50	67	42	58	33	49	25
	2007	124	79	53	72	44	62	35	54	27
Alt-A Negam	2004	91	50	28	42	22	35	16	31	12
	2005	114	67	45	59	37	51	29	45	23
	2006	131	78	55	72	47	64	39	58	32
	2007	130	81	55	75	47	68	38	61	31
Subprime 1st Lien	2004	86	58	44	50	34	42	26	38	21
	2005	108	74	59	67	50	59	39	53	32
	2006	122	83	70	77	61	69	50	63	41
	2007	119	84	69	78	59	70	49	63	40
Second Lien	2004	89	37	36	31	30	25	23	21	19
	2005	108	54	52	46	45	38	37	32	30
	2006	116	59	58	51	50	43	41	36	34
	2007	119	61	60	54	52	45	43	37	36

Note: Projections are as of November 2012 remittance reports for a sample of loans taken from each sector and issue year. Includes balance forgiven.
Source: CoreLogic, Barclays Research

Loss adjusted yields

Figures 4 and 5 display average loss-adjusted yields for a sample of 2007 vintage non-agency securities. Similar to its effect on projected losses, the effect of the home price scenario update on loss-adjusted yields is most pronounced in the stress scenarios. Base case yields increase only slightly (10-20bp), while yields in the severe stress and down 20% scenarios increase 50-100bp, on average.

FIGURE 4

Loss-adjusted yields (%), new HPA scenarios

		Barclays Scenarios				Fed CCAR Scenarios		
Sector	Price	Down20	Severe Stress	Base Case	Strong Recovery	Severely Adverse	Adverse	Baseline
Jumbo Fixed	92	0.6	2.2	3.6	4.3	0.5	1.7	3.5
Jumbo ARM	85	1.5	3.0	4.3	5.1	1.4	2.7	4.3
Alt-A Fixed	74	(0.3)	2.1	4.2	5.8	(0.2)	1.7	4.2
Alt-A ARM	76	0.7	2.6	4.2	5.4	0.8	2.4	4.1
Negam	67	1.4	3.5	5.5	7.3	1.4	3.2	5.4
Subprime LCF	47	(1.4)	2.1	5.2	7.2	(1.3)	1.7	5.0

Source: Barclays Research

Beta non-agency model with enhanced servicer effects

There are several aspects of mortgage performance that are driven primarily by the actions of servicers. In terms of the delinquency roll rates that form the basis of most quantitative approaches to loss modelling and security valuation, servicers have the greatest effect on advances rates of principal and interest on delinquent borrowers, modification rates, short sale rates, and foreclosure push through rates (i.e. 60+-to-fcl and fcl-to-reo rates).

Figure 6 displays differences in these roll rates across servicers for a sample of subprime mortgages. While the data do not adjust for differences in the characteristics of the underlying mortgages (the new beta model does), they do provide a useful illustration of the potentially wide variation in practices across servicers. For example, delinquent subprime mortgages serviced by JPMorgan Chase and its affiliates (WAMU and EMC), Nationstar, and Ocwen were modified at higher-than-average rates, while those serviced by Bank of America/Countrywide, PNC and Wells Fargo were modified at lower-than-average rates. Noticeable differences also exist in principal and interest advance rates, with Bank of America, Nationstar and Ocwen at the low end and many of the large bank servicers such as Wells Fargo at the high end.

In an attempt to capture the effect of these differences on security valuation, we are releasing a beta version of the non-agency credit model with servicer-specific adjustments to roll rates affecting foreclosure timelines, short sales, and mortgage modifications, along with updates to the servicer effects in our P&I advance rate model. Users can access the beta model by selecting it from the Non-Agency Model Version drop-down menu in the non-agency RMBS calculator preference screen (Figure7).

In addition to running the beta model as is, users can override the servicer used by the model by selecting any one of the servicers covered by the model from a drop-down list in the preference screen. Among other experiments, this allows users to simulate the effect of servicing transfers on individual securities. We encourage users to test out the new beta model and welcome any feedback.

FIGURE 5

Loss-adjusted yields (%), online HPA scenarios

		Barclays Scenarios			
Sector	Price	Down20	Severe Stress	Base Case	Strong Recovery
Jumbo Fixed	92	0.0	1.8	3.5	4.4
Jumbo ARM	85	0.4	2.4	4.1	5.1
Alt-A Fixed	74	(1.0)	1.5	4.1	5.9
Alt-A ARM	76	(0.6)	1.8	4.0	5.5
Negam	67	(0.2)	2.5	5.1	7.4
Subprime LCF	47	(2.2)	1.4	4.9	7.1

Source: Barclays Research

FIGURE 6

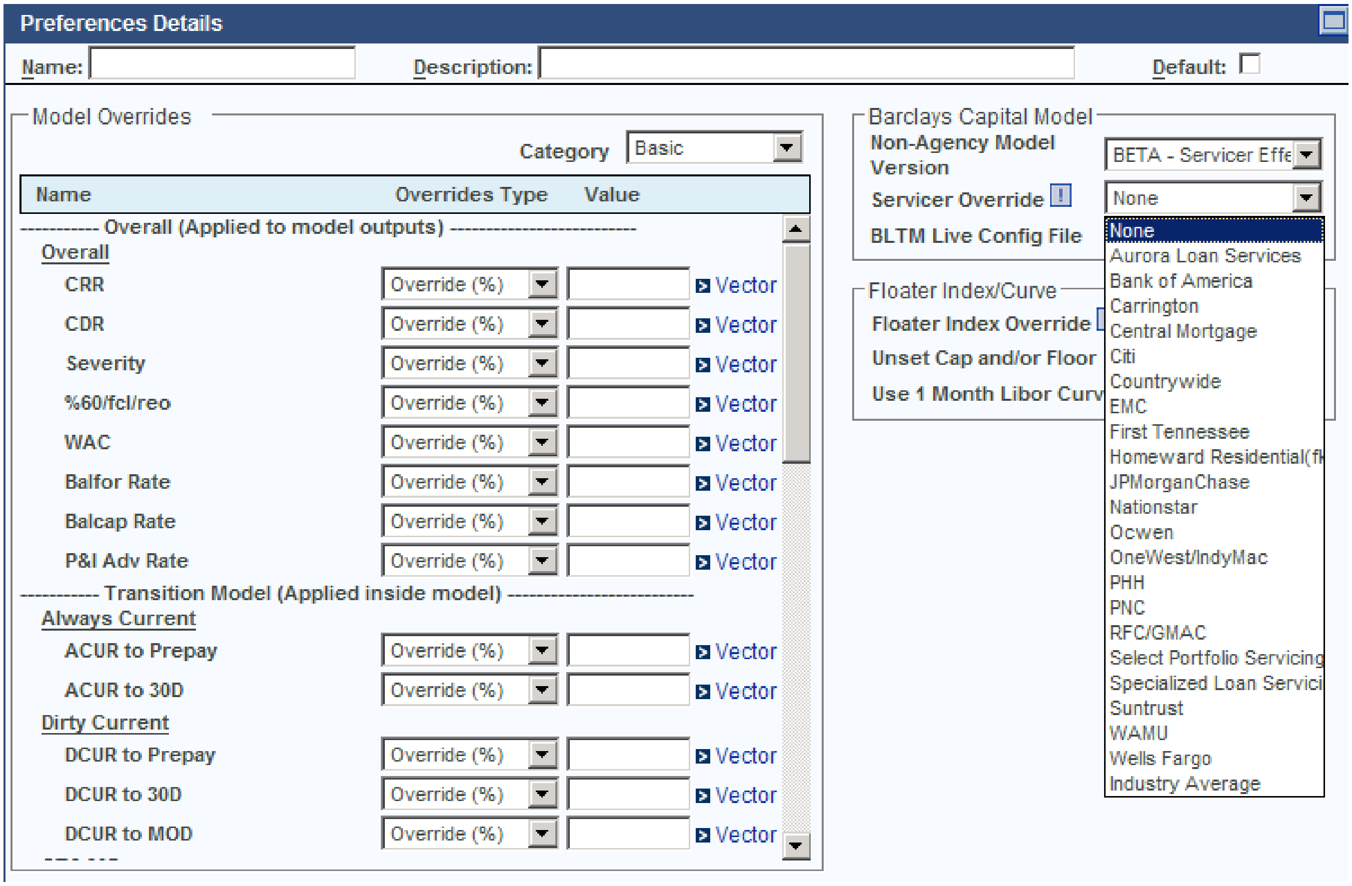
Differences in servicer behavior

	Modifications			Short Sales		Foreclosures		Advance
Servicer	30D-to-Mod	60+-to-Mod	FCL-to-Mod	60+to-Liq	FCL-to-Liq	60+-to_FCL	FCL-to-REO	Rates
All	1.1	3.2	0.5	1.1	0.9	13.5	1.9	55
ALS	0.7	5.1	0.1	1.1	0.4	16.6	1.9	61
BankofAmerica	0.6	1.5	0.0	1.5	0.4	9.1	1.9	25
Carrington	1.1	2.5	0.8	1.0	1.7	26.1	2.3	40
Citi	1.6	3.4	1.2	0.7	1.2	16.4	2.0	88
Countrywide	0.7	1.7	0.0	1.3	0.7	10.3	2.0	56
EMC	0.9	5.4	0.5	1.4	1.0	14.0	0.9	79
Homeward Residential	1.2	3.5	2.2	0.9	1.3	15.8	1.5	50
JPMorganChase	0.9	5.0	1.2	1.1	1.5	15.5	1.0	79
Nationstar	3.1	5.5	1.4	0.5	0.9	21.9	2.4	37
Ocwen	1.5	6.3	0.5	0.6	0.9	17.9	2.2	33
OneWest	0.3	3.1	0.8	0.3	0.7	15.8	0.9	65
Other	1.7	4.7	0.6	0.8	0.9	15.6	2.0	58
PHH	4.4	0.8	0.4	3.6	0.0	25.3	2.1	54
PNC	0.9	1.3	0.0	2.1	0.5	11.1	2.3	62
RFC	0.7	3.6	0.8	1.3	1.6	16.9	1.9	71
SLS	1.5	2.2	1.4	0.1	0.8	30.7	2.4	55
SPS	0.6	3.3	0.1	0.8	1.9	18.8	3.6	61
WAMU	0.5	5.9	0.1	1.3	1.5	14.0	1.0	87
WellsFargo	0.2	1.9	0.0	1.5	0.4	17.9	2.5	82

Source: CoreLogic, Barclays Research. Data are averages over past 12 months for 1st lien subprime mortgages.

FIGURE 7

Accessing the Beta Non-agency Model with Servicer Effects



Source: Barclays Research

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