

Pre Beta V1.36.4: Incorporating FHA MIP changes

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After the close of business on Friday, January 9, 2015, we will introduce a new Pre Beta agency fixed rate prepayment model on Barclays Live. The new model incorporates recent changes in the FHA premium structure announced by the Obama Administration on January 7, 2015, and detailed in *HUD Mortgagee Letter 2015-01*. Accordingly, the changes affect only prepayment projections for GNMA 30-year pools with origination dates after May 2009. The new model can be accessed by setting the “FR Model Version” to Pre Beta (V1.36.4) in the Preferences tab on the mortgage calculator.

After the close of business on Friday, January 23, 2015, Pre Beta (V1.36.4) will become the production agency fixed rate prepayment model in Barclays’ mortgage calculators (Single Security Analysis, Multiple Security Analysis), replacing the current production model, Prod (V1.23). Model version V1.23, along with Pre Beta (V1.36) and Pre Beta (V1.35), will be available for a limited time following the update.

- **FHA annual MIP reduced by 50bp:** HUD Mortgagee Letter 2015-01 reduces the annual MIP by 50bp for FHA mortgages with case numbers assigned on or after January 26, 2015. For a typical FHA-endorsed single-family mortgage, this implies a reduction in the annual MIP paid from 135bp to 85bp. The new model version incorporates the lower premiums into its GNMA prepayment projections.
- **Base case GNMA prepayment projections increase 2-7 CPR:** Incorporating the MIP changes increases 1 year GNMA prepayment projections by 2-7 CPR. The largest changes are on recently originated cohorts with 4.0% and 4.5% coupons.

Updates to the FHA MIP Structure

As part of the Obama Administration’s “Make Homeownership More Accessible and Sustainable,” initiative, the Federal Housing Administration (FHA) has announced a 50bp reduction in the annual mortgage insurance premiums charged borrowers with FHA endorsed mortgages, from 1.35 percent to 0.85 percent.

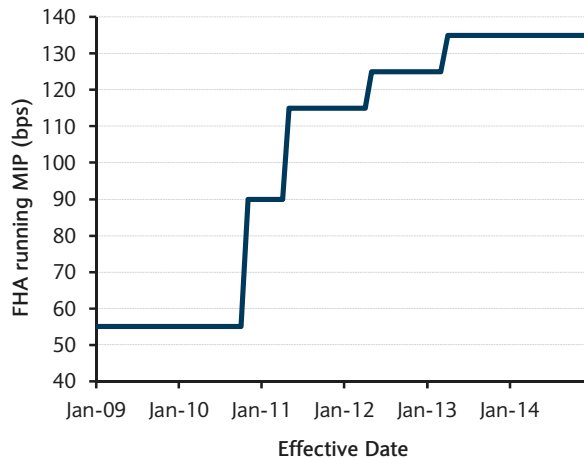
Over the past several years, the FHA has increased up-front and annual mortgage insurance premiums (MIPs) in response to deficits in the FHA’s capital reserve account. Annual MIPs were increased from 55bp in early 2010 to 135bp in early 2013 (Figure 1). Given the ongoing recovery in the US housing market and improving outlook for the FHA mortgage insurance fund, the recently announced change suggests a policy shift toward normalising fees and promoting credit availability.

Figure 2 displays current FHA insurance premiums, as well as the new MIP structure that we are incorporating into the model. There are several points to note:

- The annual MIP on new >95 and ≤ 95 LTV mortgages will be 85bp and 80bp, respectively, down from 135bp and 130bp before the change.
- The policy change has no effect on FHA mortgages originated before June 2009. The annual MIP paid by these mortgages upon refinancing into a new FHA mortgage is already lower than the proposed guidelines; consequently, no changes have been made.
- Higher cost loans (>625K) will continue to pay an annual MIP 20bp higher than loans with original balance ≤625K. Accordingly, the annual MIP on high cost loans with >95 LTV and ≤ 95 LTV will fall to 105bp and 100bp from 155bp and 150bp, respectively.

FIGURE 1

30y FHA annual mortgage insurance premiums over time



Source: HUD, Barclays Research

FIGURE 2

Current and new FHA MIP structure

Loan Type	Origination Date	LTV	Upfront MIP (bps)	Running MIP	New Running MIP
30Y	before June 2009	> 95	1	55	55
		<= 95	1	55	55
	after May 2009	> 95	175	135	85
		<= 95	175	130	80
30Y High Cost	after May 2009	> 95	175	155	105
		<= 95	175	150	100
15Y	after May 2009	> 90	175	70	70
		<= 90	175	45	45

Note: new MIP structure applies to mortgages with case numbers assigned on or after January 26, 2015. Source: HUD, Barclays Research

- For 15y collateral, there were no changes to annual MIP. 15y MIPs remain at 45bp for loans with <= 90 LTV and 70bp for loans with > 90 LTV.

Incorporating a new FHA MIP structure in the Agency Model

The model incorporates the FHA MIP structure through the economic incentive (EI) used in the refi and turnover functions. We measure EI as the percentage change in monthly payment, assuming the borrower refinances into another loan with similar maturity at prevailing mortgage rates. The balance and prevailing rates are adjusted for well-defined factors such as delivery fees, origination costs and, in the case of FHA mortgages, the structure of mortgage insurance premiums.

The economic incentive for an FHA to FHA refinance thus becomes:

$$EI_{FHA} = \frac{PMT(WAC, WAM, UPB) + FHA_{MI \text{ At Origination}} * UPB}{PMT(MTGRate, WAM, New Balance) + FHA_{MI} * New Balance} - 1$$

where $New Balance = (1 + Upfront MIP) * UPB$ for FHA loans

Within the model, we also incorporate the possibility of an FHA to conventional refinance. This is done by modifying the economic incentive calculation to include a portion of the additional incentive provided by an FHA-to-conventional refinance. This additional incentive is a function of borrower FICO, LTV, and origination year.

$$EI = EI_{FHA} + f(FICO, LTV, OYEAR) * \max(EI_{CONV} - EI_{FHA}, 0)$$

The final EI calculation therefore captures the incentives for an FHA-to-FHA refinance and an FHA-to-conventional refinance.

Examining the effect on GNMA prepayments

Now that we have reviewed how the model incorporates MIPs into its economic incentive calculation, it is worth examining how the announced MIP decrease affects projected prepayments. For an FHA-to-FHA refinance, the 50bp decrease will result in a significant increase in economic incentive. That said, with the conventional rate remaining unchanged, the reduction in MIP also lowers the incentive for an FHA-to-conventional refinance. From a

prepayment perspective, this means that lower MIP will increase overall speeds in GNMA, while generally decreasing the FHA to conventional effect.

Figure 3 shows that incorporating the 50bp MIP reduction for selected G2SF cohorts increases 1y CPR projections by 2-7 CPR. Two points are worth noting:

- Projected prepayments increase most in the higher coupons. G2SF 4-5s increased by 4-7 CPR, while lower coupons increased by 1-3 CPR.
- Generally, 1y CPR increases are highest in newer vintages.

It is also interesting to examine how FHA-to-conventional refs have changed as a result of the MIP change. We can examine this by turning off the FHA-to-conventional effect in the model and examining the magnitude of prepayment differences under the existing and new MIP structure. We show these results in Figure 3.

- In general, FHA-to-conventional prepayments are reduced 0-3 CPR as a result of the decrease in the running FHA MIP, with the size of the decline affected by the coupon, current MIP, accumulated home price appreciation and FHA percentage.
- The largest reductions in FHA-to-conventional prepayments tend to be in more seasoned vintages. This makes sense, as these borrowers will have experienced more HPA and are, thus, in a better position to refinance conventionally. This also explains why overall speed increases due to the MIP change are larger for newer vintages.

OAS effect on most affected coupons 15-25bp

Based on the model, for GN2 4s through 5s, we see 15-25bp of OAS tightening resulting from the MIP changes. Figures 8 and 9 in the appendix contain a complete OAS and prepayment effect of the latest MIP change for GN cohorts.

FIGURE 3
Effect of FHA MIP Changes on 1y GNMA II CPRs

Coupon	Vintage	MIP Change			V1.36			V1.36.4		
		V1.36	V1.36.4	Effect	V1.36	V1.36 no g2c	G2C effect	V1.36.4	V1.36.4 no g2c	G2C effect
3.0	TBA	10.9	12.5	1.6	10.9	9.4	1.5	12.5	11.6	0.9
	2013	11.2	12.9	1.7	11.2	9.4	1.8	12.9	11.7	1.2
	2012	12.5	14.4	1.9	12.5	9.8	2.7	14.4	12.6	1.8
3.5	TBA	21.5	25.8	4.3	21.5	21.4	0.1	25.8	25.8	0.0
	2014	19.3	24.3	5.0	19.3	19.2	0.1	24.3	24.3	0.0
	2013	14.2	17.8	3.6	14.2	12.8	1.4	17.8	16.1	1.7
	2012	15.2	19.2	4.0	15.2	12.3	2.9	19.2	15.5	3.7
	2011	16.4	21.4	5.0	16.4	14.1	2.3	21.4	18.3	3.1
4.0	TBA	18.7	23.8	5.1	18.7	18.7	0.0	23.8	23.8	0.0
	2014	20.1	26.6	6.5	20.1	20.1	0.0	26.6	26.6	0.0
	2013	24.8	31.3	6.5	24.8	23.0	1.8	31.3	31.3	0.0
	2012	15.9	19.9	4.0	15.9	13.9	2.0	19.9	18.0	1.9
	2011	20.2	24.7	4.5	20.2	16.4	3.8	24.7	22.4	2.3
4.5	TBA	22.8	27.0	4.2	22.8	17.7	5.1	27.0	25.1	1.9
	2014	18.7	24.5	5.8	18.7	18.7	0.0	24.5	24.5	0.0
	2013	23.9	30.2	6.3	23.9	23.5	0.4	30.2	30.2	0.0
	2011	21.8	25.8	4.0	21.8	16.9	4.9	25.8	24.0	1.8
	2010	19.8	25.2	5.4	19.8	16.0	3.8	25.2	21.5	3.7
5.0	TBA	21.4	21.4	0.0	21.4	21.4	0.0	21.4	21.4	0.0
	2010	20.5	24.6	4.1	20.5	15.9	4.6	24.6	22.4	2.2

Source: Barclays Research

Appendix: OAS Effect of Model Changes, Pre Beta V1.36 vs. Pre Beta V1.36.4

FIGURE 4

FN 30y, Market Rates: NY 3PM Close of Thu, Jan 8, 2015

V1.36											V1.36.4											Change							
Coupon	Vintage	Price	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life			
3.0	TBA	102-06	2.67	55	9	6.0	6.6	6.5	6.9	8.1	2.67	55	9	6.0	6.6	6.5	6.9	8.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.0	2013	102-06	2.67	55	12	6.1	6.7	6.7	7.1	8.0	2.67	55	12	6.1	6.7	6.7	7.1	8.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.0	2012	102-12	2.64	53	10	6.0	6.6	6.9	7.1	8.0	2.64	53	10	6.0	6.6	6.9	7.1	8.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	TBA	104-30+	2.48	67	-5	4.4	5.7	11.2	13.8	14.2	2.48	67	-5	4.4	5.7	11.2	13.8	14.2	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	2013	104-30+	2.68	68	18	5.2	6.2	8.7	9.4	10.0	2.68	68	18	5.2	6.2	8.7	9.4	10.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	2012	104-30+	2.66	67	19	5.1	6.0	9.4	9.8	10.0	2.66	67	19	5.1	6.0	9.4	9.8	10.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	2011	104-30+	2.58	66	11	4.6	5.7	11.1	11.5	11.6	2.58	66	11	4.6	5.7	11.1	11.5	11.6	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	2010	104-30+	2.49	64	6	4.1	5.4	13.2	13.2	13.1	2.49	64	6	4.1	5.4	13.2	13.2	13.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	TBA	107-00+	2.39	76	12	3.9	5.3	15.1	17.0	16.3	2.39	76	12	3.9	5.3	15.1	17.0	16.3	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	2013	107-00+	2.38	74	8	3.2	5.1	18.1	17.5	16.4	2.38	74	8	3.2	5.1	18.1	17.5	16.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	2012	107-00+	2.75	81	42	4.8	5.7	11.5	11.5	11.0	2.75	81	42	4.8	5.7	11.5	11.5	11.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	2011	107-00+	2.54	78	19	3.5	5.2	15.2	14.7	13.7	2.54	78	19	3.5	5.2	15.2	14.7	13.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	2010	107-00+	2.46	75	14	3.3	5.0	16.2	15.5	14.6	2.46	75	14	3.3	5.0	16.2	15.5	14.6	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	2009	107-00+	1.89	59	-13	1.7	4.2	23.8	22.5	21.7	1.89	59	-13	1.7	4.2	23.8	22.5	21.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.5	TBA	108-15+	2.07	77	12	2.2	4.4	22.9	22.0	20.9	2.07	77	12	2.2	4.4	22.9	22.0	20.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.5	2013	108-15+	2.39	90	33	2.9	4.8	20.3	19.2	18.0	2.39	90	33	2.9	4.8	20.3	19.2	18.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.5	2012	108-19+	2.83	98	67	4.7	5.4	12.9	12.9	12.5	2.83	98	67	4.7	5.4	12.9	12.9	12.5	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.5	2011	108-17+	2.39	89	30	2.7	4.8	19.4	18.9	17.4	2.39	89	30	2.7	4.8	19.4	18.9	17.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.5	2010	108-17+	2.23	84	22	2.3	4.6	20.5	20.0	18.9	2.23	84	22	2.3	4.6	20.5	20.0	18.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.5	2009	108-15+	2.12	80	15	1.9	4.3	21.8	20.9	20.1	2.12	80	15	1.9	4.3	21.8	20.9	20.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.0	TBA	110-16	1.26	12	-20	1.5	3.5	29.1	28.0	26.8	1.26	12	-20	1.5	3.5	29.1	28.0	26.8	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.0	2011	110-24	2.33	86	42	2.9	4.7	19.4	19.1	17.7	2.33	86	42	2.9	4.7	19.4	19.1	17.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.0	2010	110-20	2.14	79	32	2.5	4.4	21.0	20.7	19.5	2.14	79	32	2.5	4.4	21.0	20.7	19.5	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.0	2009	110-16	2.05	74	28	2.2	4.3	22.5	21.8	20.3	2.05	74	28	2.2	4.3	22.5	21.8	20.3	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.0	2008	110-16	1.38	20	-13	1.6	3.6	28.5	27.3	25.8	1.38	20	-13	1.6	3.6	28.5	27.3	25.8	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.0	2005	110-20	1.71	38	9	2.2	3.8	24.4	23.6	22.0	1.71	38	9	2.2	3.8	24.4	23.6	22.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.0	2004	110-26	2.03	56	30	2.8	4.1	20.5	19.6	18.4	2.03	56	30	2.8	4.1	20.5	19.6	18.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.0	2003	111-00	2.08	59	35	3.0	4.2	18.9	17.9	17.0	2.08	59	35	3.0	4.2	18.9	17.9	17.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.5	TBA	111-30	1.10	-6	-27	1.3	3.3	30.5	29.0	27.8	1.10	-6	-27	1.3	3.3	30.5	29.0	27.8	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.5	2008	111-30	1.53	26	2	1.6	3.6	28.0	26.4	24.8	1.53	26	2	1.6	3.6	28.0	26.4	24.8	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.5	2007	111-30	1.40	14	-8	1.6	3.5	28.9	27.2	25.7	1.40	14	-8	1.6	3.5	28.9	27.2	25.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.5	2006	111-30	1.65	32	9	1.9	3.6	26.4	25.2	23.6	1.65	32	9	1.9	3.6	26.4	25.2	23.6	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.5	2005	112-08	1.97	54	31	2.4	3.9	22.0	21.5	20.2	1.97	54	31	2.4	3.9	22.0	21.5	20.2	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.5	2004	112-18	2.13	61	41	2.9	4.1	20.0	19.1	17.9	2.13	61	41	2.9	4.1	20.0	19.1	17.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.5	2003	112-18	2.18	64	46	3.0	4.1	18.8	17.8	16.9	2.18	64	46	3.0	4.1	18.8	17.8	16.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
6.0	TBA	113-15	0.73	-37	-49	1.1	3.1	32.6	31.0	29.9	0.73	-37	-49	1.1	3.1	32.6	31.0	29.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
6.0	2008	113-15	1.73	40	22	2.1	3.6	26.2	25.0	23.6	1.73	40	22	2.1	3.6	26.2	25.0	23.6	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
6.0	2007	113-15	1.54	25	8	1.9	3.5	27.5	26.1	24.7	1.54	25	8	1.9	3.5	27.5	26.1	24.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
6.0	2006	113-15	1.77	43	25	2.1	3.6	25.5	24.3	22.9	1.77	43	25	2.1	3.6	25.5	24.3	22.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
6.5	TBA	114-06	1.08	-11	-21	1.3	3.0	31.8	30.2	29.0	1.08	-11	-21	1.3	3.0	31.8	30.2	29.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
6.5	2008	114-06	2.34	87	72	2.6	3.8	23.4	22.4	21.2	2.34	87	72	2.6	3.8	23.4	22.4	21.2	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
6.5	2007	114-06	2.20	73	60	2.5	3.6	23.9	23.1	22.0	2.20	73	60	2.5	3.6	23.9	23.1	22.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
6.5	2006	114-06	2.30	83	70	2.6	3.7	22.9	22.0	21.1	2.30	83	70	2.6	3.7	22.9	22.0	21.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0			

FIGURE 5

IOS, Market Rates: NY 3PM Close of Thu, Jan 8, 2015

V1.36												V1.36.4								Change									
Security	Coupon	Price	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life			
IFN-33012 IO	3.0	19-20*	3.17	320	106	-13.0	5.4	7.0	7.2	8.2	3.17	320	106	-13.0	5.4	7.0	7.2	8.2	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-33013 IO	3.0	19-25*	3.32	330	124	-12.4	5.5	6.6	7.0	8.1	3.32	330	124	-12.4	5.5	6.6	7.0	8.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-33510 IO	3.5	18-15*	0.57	390	112	-26.3	4.8	13.8	14.0	13.7	0.57	390	112	-26.3	4.8	13.8	14.0	13.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-33512 IO	3.5	20-15	2.16	361	154	-17.7	5.1	10.2	10.6	10.9	2.16	361	154	-17.7	5.1	10.2	10.6	10.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-33513 IO	3.5	19-31*	2.86	438	229	-17.9	5.0	10.0	10.6	10.9	2.86	438	229	-17.9	5.0	10.0	10.6	10.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-34009 IO	4.0	17-21*	-1.38	366	137	-33.1	4.3	20.8	19.5	18.4	-1.38	366	137	-33.1	4.3	20.8	19.5	18.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-34010 IO	4.0	19-18	0.17	321	135	-26.6	4.6	17.7	16.8	15.5	0.17	321	135	-26.6	4.6	17.7	16.8	15.5	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-34011 IO	4.0	20-00*	0.57	341	160	-25.4	4.7	17.0	16.3	14.9	0.57	341	160	-25.4	4.7	17.0	16.3	14.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-34013 IO	4.0	18-11	-0.37	376	223	-31.4	4.6	21.7	20.0	17.7	-0.37	376	223	-31.4	4.6	21.7	20.0	17.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-34509 IO	4.5	18-07	-3.38	265	130	-33.7	4.1	24.8	23.4	22.1	-3.38	265	130	-33.7	4.1	24.8	23.4	22.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-34510 IO	4.5	19-30*	-0.85	302	176	-26.2	4.3	20.5	19.6	18.3	-0.85	302	176	-26.2	4.3	20.5	19.6	18.3	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-34511 IO	4.5	20-29	-0.45	296	163	-24.8	4.5	19.3	18.6	17.2	-0.45	296	163	-24.8	4.5	19.3	18.6	17.2	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-35003 IO	5.0	20-02	0.01	177	155	-12.1	3.7	19.5	18.4	17.4	0.01	177	155	-12.1	3.7	19.5	18.4	17.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-35005 IO	5.0	19-14*	-3.76	-104	-33	-19.9	3.9	24.6	23.9	22.4	-3.76	-104	-33	-19.9	3.9	24.6	23.9	22.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-35008 IO	5.0	16-15*	-2.05	145	295	-23.3	3.5	27.8	26.7	25.4	-2.05	145	295	-23.3	3.5	27.8	26.7	25.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-35009 IO	5.0	19-14*	-1.52	263	249	-23.4	3.9	23.6	22.8	21.5	-1.52	263	249	-23.4	3.9	23.6	22.8	21.5	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-35010 IO	5.0	20-23*	0.03	321	286	-19.6	4.1	20.5	20.0	18.9	0.03	321	286	-19.6	4.1	20.5	20.0	18.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-35503 IO	5.5	20-17*	2.08	272	306	-8.8	3.4	19.5	18.3	17.3	2.08	272	306	-8.8	3.4	19.5	18.3	17.3	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-35505 IO	5.5	21-05*	-1.79	-34	47	-15.1	3.8	23.1	22.4	21.0	-1.79	-34	47	-15.1	3.8	23.1	22.4	21.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-35508 IO	5.5	19-02*	-3.22	-104	78	-21.2	3.7	28.4	26.8	25.3	-3.22	-104	78	-21.2	3.7	28.4	26.8	25.3	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-36008 IO	6.0	20-17*	-2.04	-69	94	-15.6	3.7	27.7	26.2	24.7	-2.04	-69	94	-15.6	3.7	27.7	26.2	24.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IFN-36567 IO	6.5	22-25	-1.05	-65	47	-10.1	3.6	25.4	24.3	23.1	-1.05	-65	47	-10.1	3.6	25.4	24.3	23.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
IG2-34010 IO	4.0	18-13*	2.09	311	237	-19.0	4.5	17.1	17.0	14.8	-1.34	92	15	-27.7	4.7	20.5	20.9	18.1	-3.43	-219	-223	-8.7	0.2	3.4	3.9	3.3			
IG2-34510 IO	4.5	18-15*	2.06	362	305	-21.8	4.2	20.4	20.2	17.1	-2.28	50	30	-28.4	4.5	25.8	25.2	21.5	-4.35	-312	-274	-6.6	0.3	5.4	5.0	4.4			
IG2-35010 IO	5.0	19-00	3.61	509	468	-18.0	3.9	21.5	20.8	17.4	-0.11	204	218	-21.6	4.2	25.8	24.6	21.0	-3.72	-305	-250	-3.6	0.2	4.3	3.8	3.6			

Source: Barclays Research

FIGURE 6

FN 15y, Market Rates: NY 3PM Close of Thu, Jan 8, 2015

V1.36											V1.36.4											Change							
Coupon	Vintage	Price	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life			
2.5	TBA	102-16	1.92	14	-2	4.2	4.5	7.3	8.1	8.8	1.92	14	-2	4.2	4.5	7.3	8.1	8.8	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
2.5	2013	102-16	1.92	14	2	4.3	4.5	7.3	8.0	8.8	1.92	14	2	4.3	4.5	7.3	8.0	8.8	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
2.5	2012	102-20	1.85	12	-1	4.0	4.2	8.2	8.8	9.4	1.85	12	-1	4.0	4.2	8.2	8.8	9.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.0	TBA	104-13*	2.01	24	0	4.1	4.7	7.7	9.9	10.3	2.01	24	0	4.1	4.7	7.7	9.9	10.3	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.0	2013	104-13*	1.95	21	4	3.9	4.3	9.5	10.0	10.3	1.95	21	4	3.9	4.3	9.5	10.0	10.3	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.0	2012	104-13*	1.87	18	5	3.7	4.0	9.5	9.8	10.4	1.87	18	5	3.7	4.0	9.5	9.8	10.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.0	2011	104-13*	1.80	16	1	3.4	3.8	10.6	10.9	11.3	1.80	16	1	3.4	3.8	10.6	10.9	11.3	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	TBA	105-27	1.65	15	-1	2.6	3.3	15.1	14.6	14.5	1.65	15	-1	2.6	3.3	15.1	14.6	14.5	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	2013	105-27	2.08	37	20	3.7	4.2	10.8	10.9	11.1	2.08	37	20	3.7	4.2	10.8	10.9	11.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	2012	105-31	1.93	28	17	3.7	3.9	10.3	10.6	11.1	1.93	28	17	3.7	3.9	10.3	10.6	11.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	2011	106-01	1.79	20	7	3.2	3.6	12.0	12.1	12.4	1.79	20	7	3.2	3.6	12.0	12.1	12.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	2010	105-31	1.68	15	2	2.9	3.4	12.9	13.1	13.2	1.68	15	2	2.9	3.4	12.9	13.1	13.2	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	TBA	106-05	-0.29	-111	-113	1.3	1.5	15.1	14.8	14.9	-0.29	-111	-113	1.3	1.5	15.1	14.8	14.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	2011	106-23	1.99	46	32	3.0	3.5	13.4	13.5	13.6	1.99	46	32	3.0	3.5	13.4	13.5	13.6	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	2010	106-21	1.87	39	27	2.8	3.3	14.1	14.2	14.2	1.87	39	27	2.8	3.3	14.1	14.2	14.2	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	2009	106-21	1.67	26	15	2.5	3.0	15.4	15.3	15.3	1.67	26	15	2.5	3.0	15.4	15.3	15.3	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.5	TBA	105-06	0.72	-11	-13	1.3	1.5	15.4	15.0	15.1	0.72	-11	-13	1.3	1.5	15.4	15.0	15.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.5	2010	106-22	2.29	84	72	2.7	3.2	14.5	14.6	14.8	2.29	84	72	2.7	3.2	14.5	14.6	14.8	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.5	2009	106-22	2.13	73	62	2.5	3.0	15.4	15.5	15.6	2.13	73	62	2.5	3.0	15.4	15.5	15.6	0.00	0	0	0.0	0.0	0.0	0.0	0.0			

Source: Barclays Research

FIGURE 7

FN 20y, Market Rates: NY 3PM Close of Thu, Jan 8, 2015

V1.36											V1.36.4											Change							
Coupon	Vintage	Price	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life			
3.0	TBA	103-10	2.30	45	-2	4.5	5.3	6.7	9.5	11.9	2.30	45	-2	4.5	5.3	6.7	9.5	11.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.0	2013	103-10	2.35	45	15	4.8	5.3	6.7	7.6	9.4	2.35	45	15	4.8	5.3	6.7	7.6	9.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.0	2012	103-10	2.30	46	13	4.5	5.0	7.4	8.7	10.7	2.30	46	13	4.5	5.0	7.4	8.7	10.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	TBA	105-16	2.15	52	-1	3.5	4.8	13.7	15.8	15.7	2.15	52	-1	3.5	4.8	13.7	15.8	15.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	2013	105-16	2.30	54	16	4.0	4.9	11.4	11.9	12.3	2.30	54	16	4.0	4.9	11.4	11.9	12.3	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	2012	106-00	2.11	42	5	3.7	4.7	11.4	12.9	13.0	2.11	42	5	3.7	4.7	11.4	12.9	13.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	2011	105-16	2.08	48	8	3.3	4.4	13.0	16.0	15.2	2.08	48	8	3.3	4.4	13.0	16.0	15.2	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
3.5	2010	105-16	2.01	43	8	3.1	4.1	15.4	17.4	15.8	2.01	43	8	3.1	4.1	15.4	17.4	15.8	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	TBA	107-20+	2.31	63	21	3.6	5.0	12.1	13.4	13.4	2.31	63	21	3.6	5.0	12.1	13.4	13.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	2013	107-20+	2.14	51	12	3.1	4.5	17.2	15.8	15.2	2.14	51	12	3.1	4.5	17.2	15.8	15.2	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	2012	108-04+	2.17	46	18	3.8	4.7	12.2	12.4	12.4	2.17	46	18	3.8	4.7	12.2	12.4	12.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	2011	107-28+	1.91	38	1	2.8	4.2	16.6	17.4	16.1	1.91	38	1	2.8	4.2	16.6	17.4	16.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	2010	107-20+	1.85	35	1	2.5	3.9	18.9	18.7	17.1	1.85	35	1	2.5	3.9	18.9	18.7	17.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.0	2009	107-20+	1.86	32	5	2.6	3.8	18.7	16.6	15.9	1.86	32	5	2.6	3.8	18.7	16.6	15.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.5	TBA	108-27	2.78	99	68	4.5	5.3	6.9	9.2	10.7	2.78	99	68	4.5	5.3	6.9	9.2	10.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.5	2011	109-27	1.71	37	1	2.3	4.0	18.2	19.1	18.0	1.71	37	1	2.3	4.0	18.2	19.1	18.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.5	2010	108-27	1.81	46	15	2.2	3.7	21.1	20.4	19.1	1.81	46	15	2.2	3.7	21.1	20.4	19.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
4.5	2009	108-27	1.89	47	21	2.5	3.7	19.7	18.0	17.5	1.89	47	21	2.5	3.7	19.7	18.0	17.5	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.0	TBA	110-16	1.53	24	6	2.3	3.4	21.1	20.5	20.5	1.53	24	6	2.3	3.4	21.1	20.5	20.5	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.0	2003	110-16	1.01	-23	-31	2.1	2.8	17.3	17.5	17.3	1.01	-23	-31	2.1	2.8	17.3	17.5	17.3	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.5	TBA	112-06	1.47	16	4	2.3	3.3	21.5	20.8	20.7	1.47	16	4	2.3	3.3	21.5	20.8	20.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0			
5.5	2003	112-06	0.79	-44	-48	2.0	2.7	18.3	18.3	18.1	0.79	-44	-48	2.0	2.7	18.3	18.3	18.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0			

Source: Barclays Research

FIGURE 8

GN2 30y, Market Rates: NY 3PM Close of Thursday, January 8, 2015

V1.36											V1.36.4								Change							
Coupon	Vintage	Price	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life
3.0	TBA	102-31+	2.45	45	4	5.3	5.8	10.9	11.8	11.5	2.41	45	0	5.0	5.5	12.5	13.5	12.8	-0.04	0	-4	-0.3	-0.4	1.6	1.7	1.3
3.0	2013	103-00+	2.44	44	3	5.3	5.8	11.2	12.0	11.6	2.39	44	-1	5.0	5.4	12.9	13.8	13.0	-0.05	0	-4	-0.3	-0.4	1.7	1.8	1.4
3.0	2012	103-02+	2.41	43	1	5.1	5.6	12.5	13.0	12.2	2.35	43	-4	4.8	5.2	14.4	15.1	13.8	-0.05	0	-5	-0.3	-0.4	1.9	2.1	1.6
3.5	TBA	105-08	2.08	49	-14	3.1	4.7	21.5	21.3	19.6	1.91	40	-22	2.6	4.3	25.8	25.9	22.3	-0.18	-9	-8	-0.5	-0.4	4.3	4.6	2.7
3.5	2014	105-08	2.22	52	-9	3.2	4.9	19.3	18.2	17.3	2.05	45	-18	2.6	4.4	24.3	22.9	19.9	-0.17	-8	-9	-0.5	-0.4	5.0	4.7	2.6
3.5	2013	105-09	2.42	55	6	4.3	5.3	14.2	14.4	13.6	2.25	50	-3	3.8	4.9	17.8	18.3	16.5	-0.18	-5	-9	-0.5	-0.4	3.6	3.9	2.9
3.5	2012	105-12	2.36	51	3	4.1	5.2	15.2	15.5	14.0	2.18	46	-7	3.6	4.7	19.2	19.5	17.0	-0.18	-6	-10	-0.5	-0.4	4.0	4.0	3.0
3.5	2011	105-12	2.33	49	1	3.9	5.0	16.4	16.5	14.6	2.13	42	-8	3.4	4.5	21.4	21.0	17.7	-0.19	-7	-9	-0.5	-0.4	5.0	4.5	3.1
4.0	TBA	106-29+	2.06	60	3	3.2	4.5	18.7	21.3	20.7	1.70	39	-14	2.6	4.0	23.8	27.2	25.0	-0.36	-21	-17	-0.6	-0.5	5.1	5.9	4.3
4.0	2014	106-29+	2.16	62	6	3.2	4.6	20.1	20.4	19.3	1.81	41	-12	2.5	4.1	26.6	26.3	23.5	-0.35	-21	-17	-0.7	-0.6	6.5	5.9	4.2
4.0	2013	106-30	1.93	50	-7	2.5	4.2	24.8	24.6	22.0	1.63	29	-24	2.0	3.8	31.3	28.9	25.5	-0.30	-21	-17	-0.5	-0.5	6.5	4.3	3.5
4.0	2012	106-29+	2.57	73	31	4.2	5.2	15.9	15.7	13.5	2.33	63	18	3.6	4.8	19.9	19.8	16.7	-0.24	-10	-13	-0.6	-0.5	4.0	4.1	3.2
4.0	2011	107-01+	2.29	60	14	3.3	4.7	20.2	19.9	16.8	2.03	47	0	2.8	4.3	24.7	23.8	19.9	-0.26	-13	-13	-0.5	-0.4	4.5	3.9	3.1
4.0	2010	107-09+	2.37	60	17	3.5	4.9	17.2	17.2	15.0	2.09	50	1	2.7	4.4	21.0	21.4	18.5	-0.28	-10	-16	-0.8	-0.5	3.8	4.2	3.5
4.5	TBA	108-29	2.16	61	17	2.7	4.4	22.8	22.0	18.6	1.81	40	-2	2.2	4.0	27.0	25.7	22.1	-0.35	-21	-19	-0.4	-0.4	4.2	3.7	3.5
4.5	2014	108-29	2.24	71	23	3.2	4.6	18.7	20.5	18.3	1.86	45	2	2.6	4.1	24.5	24.8	22.1	-0.38	-26	-21	-0.6	-0.5	5.8	4.3	3.8
4.5	2013	108-29	1.89	49	2	2.5	4.2	23.9	24.1	21.7	1.49	19	-21	2.0	3.7	30.2	28.3	25.5	-0.40	-29	-23	-0.5	-0.5	6.3	4.2	3.8
4.5	2011	109-02+	2.22	63	19	2.9	4.6	21.8	21.0	17.6	1.88	43	1	2.4	4.1	25.8	24.6	21.0	-0.34	-20	-18	-0.4	-0.4	4.0	3.6	3.4
4.5	2010	109-15	2.22	58	15	2.7	4.6	19.8	19.6	16.7	1.76	37	-9	1.9	4.1	25.2	24.7	21.0	-0.46	-22	-24	-0.8	-0.5	5.4	5.1	4.3
4.5	2009	109-06	2.28	63	21	2.8	4.6	19.6	19.5	16.5	1.84	42	-2	2.0	4.1	25.0	24.6	20.9	-0.44	-21	-23	-0.8	-0.5	5.4	5.1	4.4
5.0	TBA	109-12	2.65	93	73	3.7	4.3	21.4	19.8	17.0	2.65	93	73	3.7	4.3	21.4	19.8	17.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.0	2010	111-06	2.32	71	33	2.8	4.6	20.5	19.7	16.5	1.90	47	10	2.2	4.2	24.6	23.5	20.1	-0.42	-24	-23	-0.5	-0.4	4.1	3.8	3.6
5.0	2009	110-09	2.52	88	51	2.9	4.5	20.3	19.6	16.4	2.08	63	26	2.3	4.1	25.0	23.9	20.3	-0.44	-25	-24	-0.6	-0.4	4.7	4.3	3.9
5.0	2005	110-16	2.33	69	47	3.2	4.3	20.4	18.9	16.6	2.33	69	47	3.2	4.3	20.4	18.9	16.6	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.0	2004	110-28	2.54	78	64	4.0	4.6	16.0	15.0	13.3	2.54	78	64	4.0	4.6	16.0	15.0	13.3	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.0	2003	111-04	2.52	75	63	4.1	4.6	15.0	14.0	12.5	2.52	75	63	4.1	4.6	15.0	14.0	12.5	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.5	TBA	111-03+	2.10	62	41	2.6	3.7	26.9	24.9	22.0	2.10	62	41	2.6	3.7	26.9	24.9	22.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.5	2008	111-03+	2.10	62	41	2.6	3.7	26.9	24.9	22.0	2.10	62	41	2.6	3.7	26.9	24.9	22.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.5	2005	112-01+	2.46	81	64	3.3	4.3	20.2	18.7	16.4	2.46	81	64	3.3	4.3	20.2	18.7	16.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.5	2004	112-21+	2.65	89	77	4.0	4.6	15.9	14.9	13.2	2.65	89	77	4.0	4.6	15.9	14.9	13.2	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.5	2003	112-31+	2.60	83	73	4.0	4.6	15.1	14.1	12.7	2.60	83	73	4.0	4.6	15.1	14.1	12.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.0	TBA	113-11+	2.12	57	42	2.8	3.8	25.2	23.4	20.9	2.12	57	42	2.8	3.8	25.2	23.4	20.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.0	2008	113-11+	2.13	58	43	2.9	3.8	25.1	23.4	20.9	2.13	58	43	2.9	3.8	25.1	23.4	20.9	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.0	2007	113-17+	2.04	50	36	2.8	3.7	24.8	23.6	21.0	2.04	50	36	2.8	3.7	24.8	23.6	21.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.0	2006	113-29+	2.18	59	46	3.0	3.9	22.8	21.6	19.1	2.18	59	46	3.0	3.9	22.8	21.6	19.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.0	2004	114-21+	2.72	95	86	4.0	4.6	15.8	14.8	13.2	2.72	95	86	4.0	4.6	15.8	14.8	13.2	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.0	2003	115-03+	2.65	88	80	4.1	4.6	14.8	14.1	12.7	2.65	88	80	4.1	4.6	14.8	14.1	12.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.5	TBA	114-17	2.52	88	76	3.1	3.9	23.8	21.8	19.4	2.52	88	76	3.1	3.9	23.8	21.8	19.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.5	2008	114-25	2.36	74	63	3.0	3.8	24.5	22.5	20.0	2.36	74	63	3.0	3.8	24.5	22.5	20.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0

Source: Barclays Research

FIGURE 9

GN 30y, Market Rates: NY 3PM Close of Thursday, January 8, 2015

V1.36											V1.36.4								Change							
Coupon	Vintage	Price	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life	Yield	ZV	OAS	OAD	OASD	1-Yr	3-Yr	Life
3.0	TBA	103-00+	2.42	45	6	5.4	5.7	12.1	13.0	12.3	2.38	45	3	5.1	5.4	14.0	14.9	13.7	-0.05	0	-3	-0.3	-0.3	1.9	1.9	1.4
3.0	2013	103-01	2.43	44	6	5.5	5.7	12.4	12.9	12.1	2.38	45	3	5.2	5.4	14.1	14.8	13.4	-0.04	0	-3	-0.3	-0.3	1.7	1.9	1.3
3.0	2012	103-03	2.43	43	7	5.5	5.8	12.3	12.7	11.6	2.39	43	4	5.3	5.5	13.8	14.3	12.7	-0.04	0	-3	-0.2	-0.3	1.5	1.6	1.1
3.5	TBA	105-11	2.33	49	6	4.4	5.0	16.3	16.5	14.8	2.22	45	-1	4.0	4.7	19.0	19.0	16.7	-0.11	-4	-7	-0.4	-0.4	2.7	2.5	1.9
3.5	2014	105-11	2.54	60	18	5.3	5.9	9.6	11.8	11.6	2.46	57	13	4.9	5.6	12.0	14.3	13.1	-0.09	-3	-5	-0.4	-0.4	2.4	2.5	1.5
3.5	2013	105-11	2.53	57	22	5.2	5.8	12.5	12.6	11.4	2.45	54	15	4.8	5.4	14.2	14.5	12.9	-0.08	-3	-7	-0.4	-0.4	1.7	1.9	1.5
3.5	2012	105-14	2.42	51	13	4.7	5.4	14.8	14.8	13.0	2.32	47	6	4.3	5.0	17.2	17.1	14.6	-0.10	-4	-7	-0.4	-0.4	2.4	2.3	1.6
3.5	2011	105-14	2.35	49	5	4.3	5.1	16.1	16.1	14.1	2.23	44	-3	3.8	4.7	19.3	18.9	16.1	-0.12	-5	-8	-0.5	-0.4	3.2	2.8	2.0
4.0	TBA	107-08	2.21	52	5	3.2	4.5	20.7	20.2	17.4	1.90	38	-10	2.6	4.1	25.7	24.5	21.0	-0.30	-14	-15	-0.6	-0.4	5.0	4.3	3.6
4.0	2014	107-08	2.69	78	39	5.1	5.8	10.5	12.5	11.7	2.51	70	30	4.5	5.4	14.7	16.3	14.0	-0.18	-8	-9	-0.6	-0.4	4.2	3.8	2.3
4.0	2013	107-08	2.67	75	38	4.9	5.7	12.5	13.2	11.8	2.49	69	30	4.4	5.3	16.0	16.5	14.1	-0.18	-7	-9	-0.5	-0.4	3.5	3.3	2.3
4.0	2012	107-09	2.65	71	40	4.9	5.6	14.3	13.6	11.7	2.46	65	31	4.4	5.2	17.4	16.6	14.2	-0.19	-6	-9	-0.5	-0.4	3.1	3.0	2.5
4.0	2011	107-12	2.39	59	16	3.7	4.9	18.3	17.7	14.8	2.11	48	3	3.1	4.5	23.1	21.8	18.1	-0.27	-11	-13	-0.6	-0.4	4.8	4.1	3.3
4.0	2010	107-22	2.33	54	13	3.7	5.0	17.0	16.7	14.6	2.12	44	-2	3.0	4.5	20.0	19.9	17.1	-0.22	-10	-15	-0.7	-0.4	3.0	3.2	2.5
4.5	TBA	109-01	2.06	45	17	3.2	4.1	23.2	22.1	19.1	2.06	45	17	3.2	4.1	23.2	22.1	19.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0
4.5	2014	109-01	2.86	98	69	5.2	5.9	10.6	12.9	11.7	2.71	88	61	4.9	5.5	14.0	15.2	13.2	-0.14	-10	-8	-0.3	-0.4	3.4	2.3	1.5
4.5	2013	109-01	2.78	93	64	4.9	5.6	13.2	14.2	12.4	2.64	82	55	4.6	5.3	16.8	16.4	13.9	-0.14	-11	-8	-0.3	-0.3	3.6	2.2	1.5
4.5	2011	109-06	2.52	77	36	3.6	5.0	18.8	17.5	14.4	2.20	61	21	3.1	4.6	22.8	21.2	17.7	-0.32	-16	-16	-0.4	-0.4	4.0	3.7	3.3
4.5	2010	109-21	2.33	60	19	3.1	4.8	18.8	18.1	15.3	1.97	44	-2	2.3	4.3	23.2	22.3	18.7	-0.35	-16	-21	-0.9	-0.4	4.4	4.2	3.4
4.5	2009	109-11	2.26	58	17	2.8	4.5	20.1	19.4	16.5	1.89	41	-5	1.9	4.1	24.5	23.7	20.0	-0.36	-17	-23	-0.9	-0.4	4.4	4.3	3.5
5.0	TBA	110-06	2.22	61	39	3.2	4.0	24.1	22.4	19.3	2.22	61	39	3.2	4.0	24.1	22.4	19.3	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.0	2010	111-24	2.61	81	48	3.7	5.1	17.1	15.8	13.2	2.24	64	30	3.1	4.7	20.8	19.4	16.3	-0.37	-17	-18	-0.6	-0.4	3.7	3.6	3.1
5.0	2009	110-31	2.45	76	39	2.9	4.5	19.9	18.6	15.8	1.98	54	17	2.3	4.2	24.5	23.1	19.8	-0.47	-22	-22	-0.6	-0.4	4.6	4.5	4.0
5.0	2005	111-06	2.34	66	46	3.5	4.5	18.6	17.2	15.1	2.34	66	46	3.5	4.5	18.6	17.2	15.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.0	2004	111-14	2.52	73	60	4.1	4.7	14.9	14.0	12.4	2.52	73	60	4.1	4.7	14.9	14.0	12.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.0	2003	111-22	2.49	70	58	4.2	4.7	14.0	13.1	11.7	2.49	70	58	4.2	4.7	14.0	13.1	11.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.5	TBA	111-25	1.72	33	13	2.3	3.6	28.1	26.5	23.7	1.72	33	13	2.3	3.6	28.1	26.5	23.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.5	2008	111-25	2.03	55	35	2.7	3.8	25.6	23.9	21.3	2.03	55	35	2.7	3.8	25.6	23.9	21.3	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.5	2005	112-13	2.55	85	70	3.6	4.4	18.7	17.2	15.1	2.55	85	70	3.6	4.4	18.7	17.2	15.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.5	2004	113-13	2.62	82	72	4.2	4.7	14.8	13.9	12.4	2.62	82	72	4.2	4.7	14.8	13.9	12.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0
5.5	2003	113-16	2.57	79	69	4.2	4.7	14.2	13.3	12.0	2.57	79	69	4.2	4.7	14.2	13.3	12.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.0	TBA	112-31+	1.93	44	30	2.5	3.5	27.2	25.5	23.1	1.93	44	30	2.5	3.5	27.2	25.5	23.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.0	2008	112-31+	2.35	76	62	3.0	3.9	24.0	22.5	20.1	2.35	76	62	3.0	3.9	24.0	22.5	20.1	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.0	2007	112-31+	2.28	72	58	2.9	3.8	24.1	22.8	20.4	2.28	72	58	2.9	3.8	24.1	22.8	20.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.0	2006	113-07+	2.39	80	66	3.1	4.0	22.5	21.1	18.8	2.39	80	66	3.1	4.0	22.5	21.1	18.8	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.0	2004	114-11+	2.86	106	100	4.3	4.6	14.8	14.0	12.6	2.86	106	100	4.3	4.6	14.8	14.0	12.6	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.0	2003	114-27+	2.77	97	91	4.3	4.6	14.0	13.3	12.0	2.77	97	91	4.3	4.6	14.0	13.3	12.0	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.5	TBA	113-31	2.51	87	77	3.1	3.7	25.2	22.9	20.4	2.51	87	77	3.1	3.7	25.2	22.9	20.4	0.00	0	0	0.0	0.0	0.0	0.0	0.0
6.5	2008	113-31	2.91	119	109	3.6	4.0	22.0	20.0	17.7	2.91	119	109	3.6	4.0	22.0	20.0	17.7	0.00	0	0	0.0	0.0	0.0	0.0	0.0

Source: Barclays Research

Analyst Certification

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