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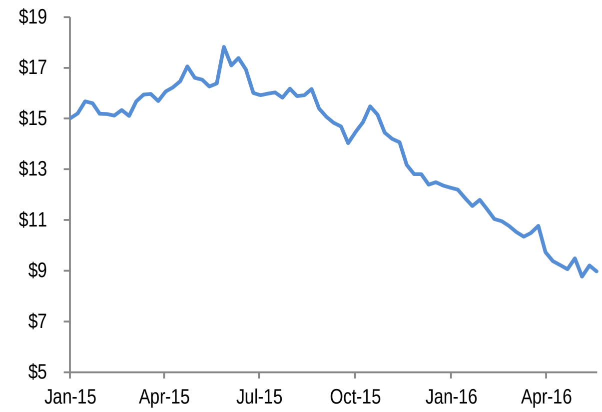
Non-agency RMBS and Home Price Commentary

- **The $8.5 billion Countrywide RMBS settlement is largely expected to be paid out on June 25th. This new expectation of demand could be a positive catalyst to push credit spreads tighter. One clear risk to this could be the opposing force from a realized Brexit**
- **CLO and CMBS sectors are likely to benefit from the demand spill over. Jumbo 2.0, RPL and CRT sectors could see some benefit too as asset managers may have specific mandates to maintain an allocation to non-agency RMBS (mortgage credit)**
- **The latest home price indices again posted solid growth as national home prices continued to see over 5% growth year over year**
- **In our recently released CRT model, actual loss high LTV deals have lower severities than low LTV deals due to the presence of mortgage insurance**
- **With our new model we can highlight the impact on MI on projected losses and how much MI is worth to specific CRT tranches**
- **MI coverage determines what fraction of the total defaulted balance (i.e. inclusive of lost interest and expenses) is paid by the MI provider**
- **Turning off MI pushes loss 2-3x higher in high LTV deals because defaults stay the same but severities increase**
- **MI behavior though is highly HPA path dependent as once loans amortize below 78% of the original home value, MI coverage is automatically cancelled**
- **In terms of valuations, MI has the biggest impact on the class B bonds where DMs on the B tranches would be 200-300bp lower without MI**
- **CAS and STACR M2s are extended slightly when we turn off MI as higher losses lead to triggers being hit more frequently, which redirects principal to senior bonds**

Exhibit 1: Primary net dealer positions of non-agency RMBS have been on a steady decline



Source: NY Fed

Market Commentary

The long awaited Countrywide RMBS settlement for $8.5bn should largely be paid out to investors on June 25th (excluding 18 contested Trusts). There are a few things to consider with this amount of money coming back to the markets. First, not all of it can easily be re-invested back into legacy RMBS. The average daily volume of customer sells over the past 3-months is roughly $300-$500 million. Additionally, there have been more buyers than sellers so dealer inventories or declining (Exhibit 1). Investors can choose to sit on cash or close funds and return money to investors, but we would expect this to be the least likely set of outcomes. More than likely, investors will look to other sectors to re-invest and we think CLO and CMBS are the most likely candidates. Of course, some asset managers may have specific mandates to maintain an allocation to non-agency RMBS (mortgage credit) so there could be spillage into jumbo 2.0, RPL and CRT markets. Regardless, there simply isn't enough supply to meet even half of the $8.5bn demand.

Over the past few months we've been writing about how it will be a challenge for mortgage credit spreads to meaningfully tighten from current levels. There hasn't been a catalyst to push spreads tighter. Volatility is already low, supply and demand are in line and liquidity is still a challenge. However, this new expectation of demand could be the positive catalyst to push credit spreads tighter. One clear risk to this could be the opposing force from a realized Brexit.

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Silver lining in the playbook?

Recent housing data has been mostly encouraging. We continued to see strong net demand in previously owned homes and we were pleasantly surprised by the uptick in new home sales. The latest home price indices also posted solid growth. National home prices continued to see over 5% growth year over year. One surprise in recent economic data was last week's jobs report. While we cannot conclude anything based on only one data point, it did result in the market readjusting Fed expectations.

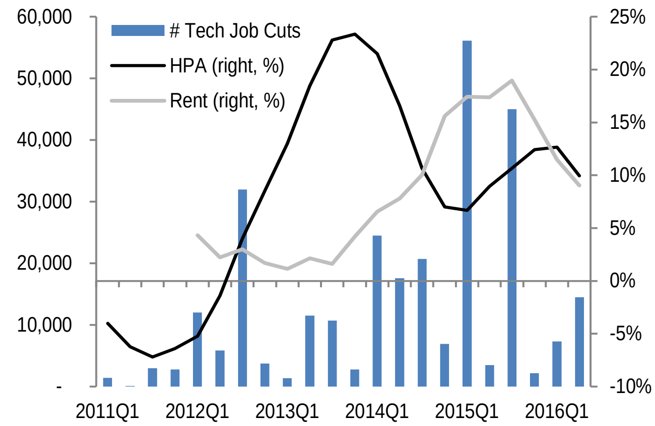
While housing fundamentals remained strong, there is still concern about how long it can last with HPA doubling wage growth. Some suggest that affordability is still quite high due to low mortgage rates, but the longer this dynamic persists, the more the housing market becomes vulnerable to interest rates. We continue to see home prices moderate in the years ahead.

Equity Residential (ticker: EQR), a Chicago based REIT, lowered revenue guidance for a second time this year as a result of soft performance in their New York and San Francisco portfolio[1]. EQR is a major player focusing on acquiring, developing and managing apartment complexes in coastal cities. The supply glut in New York has put pressure on rents and vacancy rates. However, San Francisco is facing a demand-side issue, where we've seen increasing number of earnings misses and job cuts from technology companies. Based on data we gathered from Bloomberg and Zillow, it seems that the problems in the technology sector have finally started weighing in on housing affordability (Exhibit 2).

Rental markets typically move with home prices. As we have seen in recent months, New York and San Francisco housing prices have indeed seen signs of weakening. However, the national rental vacancy rate has remained at historical lows, and no signs of lower occupancy appeared in the rental securitization quarterly performance updates.

Exhibit 2: There seems to be some meaningful correlation between tech job cuts and San Francisco home price and rental growth

Left axis: Announced job cuts in Russell 2000 technology companies headquartered in North America;
Right axis: Home price and rental appreciation of all homes



Source: Bloomberg, Zillow, J.P. Morgan

Exhibit 3: Mortgage insurance covers lost interest and other expenses

Defaulted UPB	($100,000)
Lost Interest	($5,000)
Expenses	($5,000)
Total	($110,000)
Net Sales Proceeds	$80,000
Gross Loss	($30,000)
MI Benefit @ 25% MI Coverage	$27,500
Net Loss	($2,500)

Source: J.P. Morgan, FannieMae

Impact of mortgage insurance on our CRT projections

In our recently released CRT model, actual loss high LTV deals have lower severities than low LTV deals. These lower severities are explained by the mortgage insurance coverage in high LTV transactions. In prior publications, we had shown the impact of MI on historical defaults using the GSEs' disclosure data. With our new model we can highlight the impact on MI on projected losses and how much MI is worth to specific CRT tranches.

1 http://investors.equityapartments.com/file.aspx?IID=103054&FID=34572365

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Before we dig into our model results, it is worth briefly revisiting how mortgage insurance is treated in CRT transactions. Greater than 80 LTV loans typically require a minimum MI coverage that varies based on their OLTV range. For example, 80-85 LTV need 6% of MI coverage, while 95-97 LTV loans need 18% MI coverage. In practice, MI coverage levels exceed the GSE charter minimum.

The MI coverage determines what fraction of the total defaulted balance (i.e. inclusive of lost interest and expenses) is paid by the MI provider. For example, assuming that the defaulted balance is $100,000 and lost interest and expenses each make up $5,000, the total defaulted balance of the loan is $110,000. MI coverage of 25% would therefore translate to the MI provider paying $27,500 (= 25% * $110,000). Assuming that sales proceeds are $80,000, the loss to the investor inclusive of the MI payment would be roughly $2,500 (Exhibit 3). Our model calculates the MI coverage payment using the same methodology. Note that CRT investors are not taking on the MI providers' credit risk because if the mortgage provider becomes insolvent the GSEs will make up the MI coverage payment.

Using our model, we run all of the high LTV deals by turning on and off MI in our repeat crisis and base case home price appreciation scenarios (Exhibit 4). Turning off MI pushes loss 2-3x higher. While defaults stay the same, losses move higher because severities worsen. Turning off MI increases severities by roughly 10 to 15 points across all the deals. For comparison, MI coverage in these deals is typically around 25%.

MI behavior though is highly HPA path dependent. Typically, once loans amortize below 78% of the original home value, MI coverage is automatically cancelled. Therefore, theoretically, if home prices remain stable for a prolonged period of time and then drop, investors may not realize the benefit of mortgage insurance as defaults will occur after MI cancellation. Our model is designed to capture this MI cancellation behavior.

To highlight this, we ran all the deals through a flat 2% annualized HPA scenario. Given the benign HPA growth, severities in the deal should be relatively flat over the life of the transaction. However, because at a certain point, many of the loans hit their MI cancellation thresholds, severities in this scenario actually move sharply higher. This increase in the severity rate is seen in all of the high LTV deals, but we show it in two where it is the most clearly visible (Exhibit 5).

In terms of valuations, MI has the biggest impact on the class B bonds in our base case scenario (Exhibit 6). Running all of the high LTV deals with MI turned on and off suggests that the DMs on the B tranches would be 200 -300bp lower without MI. Naturally, if defaults are higher than our base case, MI would also help the STACR M3s and the CAS M2s. Note that the CAS and STACR M2s are extended slightly when we turn off MI. This is because higher losses lead to triggers being hit more frequently, which redirects principal to senior bonds.

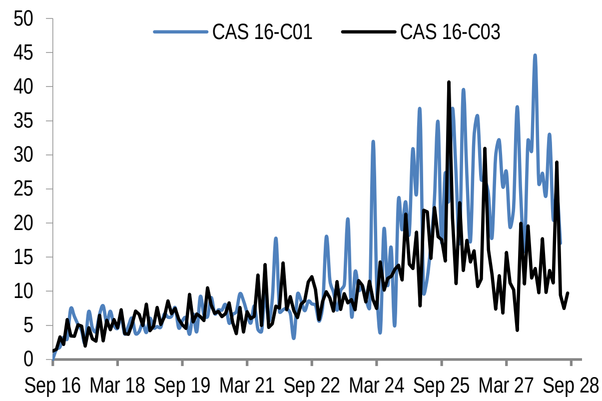
Exhibit 4: Turning off MI in our model pushes losses higher on high LTV deals by increasing severities

	Base			Repeat Crisis		
	% Loss	% Dflt	% Sev	% Loss	% Dflt	% Sev
MI On						
STACR 15-HQA1	0.08%	1.29%	6%	0.63%	3.03%	21%
STACR 15-HQA2	0.11%	1.51%	7%	0.83%	3.69%	22%
STACR 16-HQA1	0.13%	1.79%	7%	0.97%	4.14%	23%
STACR 16-HQA2	0.12%	1.51%	8%	0.95%	4.02%	24%
CAS 16-C01	0.12%	1.52%	8%	0.84%	3.74%	22%
CAS 16-C03	0.15%	1.77%	8%	1.12%	4.64%	24%
MI Off						
STACR 15-HQA1	0.27%	1.29%	21%	1.20%	3.03%	40%
STACR 15-HQA2	0.30%	1.51%	20%	1.47%	3.69%	40%
STACR 16-HQA1	0.37%	1.79%	21%	1.71%	4.14%	41%
STACR 16-HQA2	0.33%	1.51%	22%	1.70%	4.02%	42%
CAS 16-C01	0.31%	1.52%	20%	1.51%	3.74%	40%
CAS 16-C03	0.39%	1.77%	22%	1.96%	4.64%	42%

Source: J.P. Morgan

Exhibit 5: Severities may increase late in the life of the deals due to MI cancellation

% Severity assuming 2% annual HPA growth



Source: J.P. Morgan

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Exhibit 6: MI helps increase DMs by 200bp to 300bp on the STACR and CAS class Bs

Base case home price scenario

		With MI				No MI			
		DM	% Dflt	% Loss	Avg Life	DM	% Dflt	% Loss	Avg Life
CAS 16-C01	2M1	170	1.47	0.11	1.4	170	1.47	0.3	1.4
CAS 16-C01	2M2	488	1.47	0.11	4.52	502	1.47	0.3	4.98
CAS 16-C03	2M1	179	1.76	0.15	1.53	181	1.76	0.4	1.59
CAS 16-C03	2M2	510	1.76	0.15	6.09	518	1.76	0.4	7.09
CAS 16-C03	2B	1048	1.76	0.15	11.5	737	1.76	0.4	9.45
STACR 15-HQA1	M1	108	1.4	0.09	0.36	108	1.4	0.3	0.36
STACR 15-HQA1	M2	168	1.4	0.09	1.72	173	1.4	0.3	1.8
STACR 15-HQA1	M3	489	1.4	0.09	4.88	487	1.4	0.3	5.36
STACR 15-HQA1	B	1050	1.4	0.09	10.09	814	1.4	0.3	9.21
STACR 15-HQA2	M1	113	1.58	0.11	0.5	113	1.58	0.32	0.5
STACR 15-HQA2	M2	180	1.58	0.11	2.13	184	1.58	0.32	2.22
STACR 15-HQA2	M3	507	1.58	0.11	6.54	505	1.58	0.32	7.21
STACR 15-HQA2	B	1022	1.58	0.11	11.27	796	1.58	0.32	9.83
STACR 16-HQA1	M1	146	1.78	0.13	1.2	146	1.78	0.38	1.2
STACR 16-HQA1	M2	224	1.78	0.13	2.89	227	1.78	0.38	3.05
STACR 16-HQA1	M3	511	1.78	0.13	7.97	519	1.78	0.38	8.79
STACR 16-HQA1	B	1084	1.78	0.13	11.51	786	1.78	0.38	9.53
STACR 16-HQA2	M1	115	1.65	0.12	1.01	115	1.65	0.38	1.05
STACR 16-HQA2	M2	211	1.65	0.12	2.56	212	1.65	0.38	2.7
STACR 16-HQA2	M3	512	1.65	0.12	7	512	1.65	0.38	7.97
STACR 16-HQA2	B	1042	1.65	0.12	11.64	728	1.65	0.38	9.52

Source: J.P. Morgan

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