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North America

Short-End Notes

Repo, REITs and Rates

- **REITS keep repo elevated –** REITs relatively inelastic demand for term repo financing is putting upward pressure on MBS GC repo rates which have hovered around 30bp. Balance sheet constraints prevent dealers from bridging the gap between suppliers of cash who will accept low rates, and those in need of financing who pay higher rates. The recent decline in REIT valuations makes REITs less likely to raise new capital and may slightly relax the upward pressure on repo. However, we maintain our view that repo rates will move down toward 15bp only as balance sheet constraints are relaxed over the first half of 2013.

- **A soft landing for LIBOR –** LIBOR has been declining at almost twice the pace of the lower tail of LIBOR submissions. This leads us to expect that the pace of LIBOR decline will slow substantially over the remainder of the year. We forecast that LIBOR will settle in around 25-27bp in the last weeks of December 2012.

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Repo, REITs and Rates

REITs financing MBS keep repo elevated

REIT demand for MBS financing has kept mortgage repo elevated at around 30bp.

Our view is that repo rates will fall to around 15bp in the first half of 2013 as collateral moves off of dealer balance sheets.[1] In October rates have remained elevated with MBS GC repo hovering around 30bp. A key driver of persistently high repo rates has been the relatively inelastic collateral supply from REITs which are typically around 8x levered and need to finance their MBS positions.

Figure 1. REITs prefer term repo and face higher borrowing costs

	Repo Outstanding Percent	($MM)	Rate (bp)
<1m	13%	8,903	40
1-3m	28%	19,795	40
4-6m	31%	21,549	41
7-9m	18%	12,690	45
10-12m	4%	2,930	50
13-24m	5%	3,129	56
25-36m	1%	544	71
Total / Avg	100%	69,540	42
Total number of repo counterparties			31

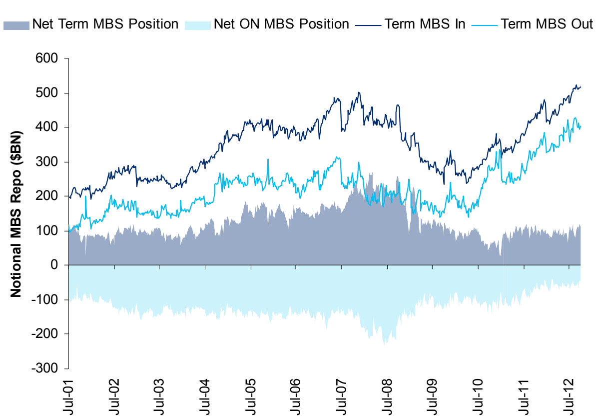
Source: Citi Research, Reported in the Q2 2012 investor presentation for American Capital Agency Corp

Between Q1 2009 and Q2 2012, REITs have increased repo financing for agency MBS by about $200 billion.[2] Mortgage REITs raised $25 billion in net capital over the same period, which given an 8x leverage ratio implies $200 billion in MBS purchases and explains the increase in repo activity.[3] This has likely driven the $197 billion increase in notional MBS repos in the tri-party market since May 2010.[4]

$200 billion is a significant amount of collateral for dealers to absorb relative to the $67 billion in net agency MBS collateral on their repo books.[5] For liquidity reasons, REITs prefer to do term repo, and term agency MBS repo is at a 12 year high of $517 billion notional MBS taken in by primary dealers. One large REIT reports 59% of its repos have maturities greater than 3 months. (Figure 1) Even for short term repo, REITs report paying about 10bp above MBS GC rates and an even bigger spread to the Fed which recently reversed out MBS at 24bp.

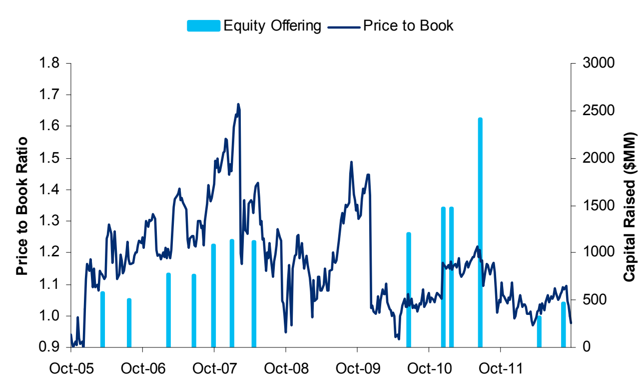
In the pre-crisis world, dealers would arbitrage away these dislocations in repo rates by taking collateral from investors like REITs who borrow cash at high rates and repoing it out to investors like money funds who are willing to lend at lower rates. When demand for term MBS repo last peaked in late 2007, dealers took the term collateral on their books and financed it by repoing it out overnight, increasing balance sheets. (Figure 2) Post-crisis, dealers are under pressure to keep balance sheets lean, pushing collateral onto smaller counterparties who are unable to cheaply execute the arbitrage and keeping repo rates elevated. This dynamic is clear in the tri-party repo data which shows the share of the top 3 dealers in agency MBS repo has dropped from over 45% in May 2010 to under 30% currently.

Figure 2. Dealers unwilling to mismatch repo book to absorb term MBS



Source: Citi Research, Federal Reserve FR 2004

Figure 3. REITs less likely to raise capital at lower P/B ratio



Source: Citi Research, REITs.com, Bloomberg, shown for Annaly Capital Management

[1] See "Fed funds and repo rates headed lower" Sept. 21, 2012
[2] Based on data from US Flow of Funds for Agency and GSE backed securities.
[3] Based on capital offering data from REITs.com
[4] Based on data from the Tri-Party Repo commission compiled by the FRBNY
[5] Sum of net term and net overnight agency MBS positions from Federal Reserve FR 2004

REIT valuation decline likely to have only a slight negative effect on repo rates.

Our long-term view remains unchanged: repo rates will fall significantly as dealer balance sheet constraints are relaxed. In the shorter term, the decline in REIT equity valuations could lead to slightly lower rates as REITs will prefer not to raise capital since their equity is trading cheap relative to book value. (Figure 3) This leaves more MBS in the hands of the Fed, bank portfolios and money managers who have little incentive to lend out collateral in the current environment.

A soft landing for LIBOR

Pace of LIBOR decline will likely slow.

Since the beginning of September 3m USD LIBOR has declined almost 10bp and at 32bp is now 26bp lower on the year. While we think the pace of decline will slow, 3m LIBOR is likely to move another 5-7bp lower to 25-27bp at the end of 2012.

Range of LIBOR submissions has narrowed.

LIBOR is computed as the average submission of an 18 bank panel with the four highest and four lowest submissions discarded. By construction, LIBOR lies in a corridor between the median of the low tail of discarded submissions and the median of the high submissions. While usually this corridor is fairly tight, with the difference between LIBOR and the lower bound averaging 3bp from February to August 2011, it widened substantially in the first half of the year. (Figure 4) As LIBOR has declined, the corridor has also compressed and today LIBOR is only 4bp above the median of the lower tail.

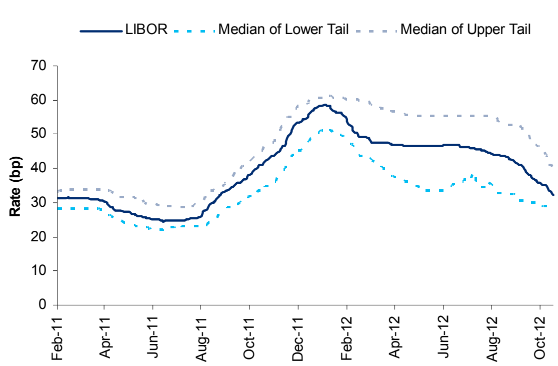
Lower tail of submissions falling slower than LIBOR.

Since August, the lower tail has declined about .6 bp/wk relative to about 1bp/wk for LIBOR. Given this trajectory, LIBOR should regain its historic spread to the lower bound in about 2 weeks. At this point we would expect the pace of decline to become governed by the lower rate submissions and slow to .6bp/wk. Our forecast is that LIBOR will continue declining at this pace until it reaches between 25-27bp in the last weeks of December.

Expect 3m LIBOR to reach 25-27bp in last weeks of December 2012.

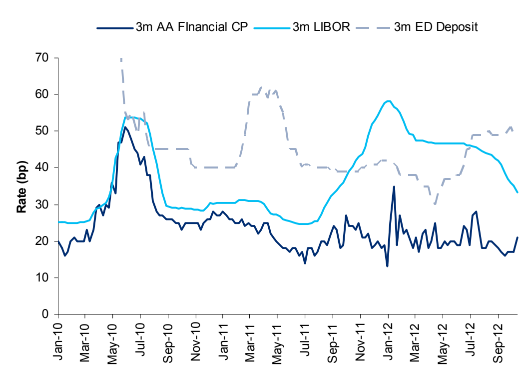
Over the last 2 years LIBOR has stayed above 3m AA financial CP rates, currently at 21bp. Also, barring an increase in credit spreads we expect LIBOR to stay below the 3m Eurodollar rate, currently at 40bp. (Figure 5) We have argued that the expiration of the FDIC TAG program could pressure CP rates as much as 5bp lower over the next few months which would imply 3m AA financial CP trading at around 15bp.[6] While LIBOR moved within 1bp of CP in 2010, we think that following the bank rating downgrades the LIBOR-CP spread will remain closer to 10bp, its tights since May 2011. This implies that LIBOR will stop declining around the 25bp level.

Figure 4. Lower tail submissions are falling slower than LIBOR



Source: Citi Research, Bloomberg

Figure 5. LIBOR likely to settle in above CP at around 25bp



Source: Citi Research, Federal Reserve, Eurodollar rate is from H.15

[6] See "Freeze TAG? Lower T-bill yields as FDIC program ends" Oct. 5, 2012

Appendix A-1

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