ALLIANCEBERNSTEIN

September 2021

Market Update – Fixed Income Trading Liquidity
For the Week Ended 17 September 2021

Liquidity management has been a heightened focus for AllianceBernstein for years, as we recognized the reduced liquidity in the marketplace after the 2008-2009 financial crisis. We view liquidity management as a business imperative.

In an effort to provide timely updates for our clients on fixed income market trading liquidity, we have developed the following update, aggregated from our traders at the end of each week.

Sector	Liquidity Trading Comment	Bid-Ask Spreads
US Treasuries	• The global developed market interest rate complex sold off again during the week ended September 17, with European government bond yields leading the way higher. 10-year UK gilts were the worst performer for the third straight week, selling off 9bp. The UK employment data and inflation backdrop have both been strong vs expectations. • Yield curves were mostly flatter across the globe as market participants continued to price in the notion that central banks are past "peak QE" and that tighter central bank policy is on the horizon. • Markets are pricing in the first full 25 bp rate hike by the FOMC in March 2023. • Transaction costs, as measured by bid-offer spreads, and trading volumes have normalized after the summer holiday period. Liquidity in terms of market depth in on-the-run cash 5-year and 10-year Treasuries has improved 80-90% from the challenges seen in February 2021. Market depth in the 30-year part of the curve has improved ~80% since February. • Observable bid-offer spreads are in line with historical averages in the most liquid bonds. Transaction costs in off-the-run bonds are wider but have improved meaningfully since late February. • Nominal Treasury bid-ask spreads are trading in line with recent historical averages of 3/8 to 1/2 tick wide in 5-year notes, 1/2 tick wide in 10-year notes, and between 1/2 to 1 tick wide in 30-year notes depending on the size (a tick is 1/32 of a percent). • In TIPS, on-the-run bond bid-offer spreads are 1-2 ticks wide during the most liquid parts of the day; off-the-run bonds in 5-10 year maturities are ~3-4 ticks wide; longer-maturity TIPS are trading 6-8 ticks wide. • Federal Reserve bond purchases continue at $80 billion US Treasuries and $40 billion MBS per month.	

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<tr><th>Sector</th><th>Liquidity Trading Comment</th><th>Bid-Ask Spreads</th></tr>
<tr><td>Investment Grade (IG) Corporates</td><td>US IG
Following the $70bn of new issue supply that priced the prior week, the primary market remained busy with another $40 bn pricing during the week ended September 17.
The technicals remained supportive, as deals were 2.8x oversubscribed and priced with little to negative concession. Despite a weaker macro tone, spreads held in well with the index closing 1bp tighter week-over-week.
In the secondary market, investors sold net $2.5bn of bonds to dealers early in the week against the $40bn of supply, but as supply quieted down in the latter part of the week, dealers were net lifted of $2.1 bn of bonds.
Overnight, Asia remained net buyers of long-maturity bonds. Overnight flows are expected to quiet down in the near term with holidays during the week ended September 24.
The positive momentum on flows continued with another $3 bn inflow this week. Looking ahead, supply is expected to slow down to $20-25bn next week.
Euro IG
In the Euro IG market, there was a firm tone during the week ended September 17, despite supply remaining reasonably heavy. There was an underlying theme of capital structure compression and robust underlying technicals. Spreads ground tighter with reports of a few buying programs in the market.
Subordinated financial deals (RT1/AT1) continue to get done at aggressive levels despite low resets implied, as investors are called out of older bonds.
REIT Preferreds
Liquidity in the REIT preferred market is typically limited under more normal conditions given the retail nature of the investor base.
Dealers are only providing balance sheet capacity on select issuers, so for many issuers, trades must be done on an agency basis; trading is therefore limited.</td><td>Bid/ask conditions in the IG market are back to normal</td></tr>
<tr><td>High Yield (HY) Corporates</td><td>US HY
Investor focus was again on the primary market during the week ended September 17 with $9.325 bn pricing across 12 deals. While more than the $5.2bn that priced the prior week, the new issue calendar underwhelmed the $12-15bn the market was expecting. Deals were significantly oversubscribed (5-6x) and well supported in the secondary market, trading up on the break.
Secondary market activity was quiet again with a firm tone, as cash balances remain elevated.</td><td>Bid/ask spreads vary by issuer but generically:

BB-rated securities: 0.75 point, which is in line with normal market conditions

B-rated securities: 1 point, which is in line</td></tr>
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	• The energy sector outperformed with crude ending the week near $72 and natural gas breaking through $5.3. • US HY index spreads ended the week 5bp tighter week-over-week at 274 bp. The CCC-BB spread difference was 14bp tighter to 312 bp. **EUR HY** • Euro HY was broadly firm with a focus on supply during the week ended September 17. 2bn+ in new deals priced in the first week of primary market supply for euro HY after the summer months. Books were well oversubscribed, and deals traded up on the break, with new issuers performing best. • Cash was also put to work in the secondary market, with a particular bid for high-yielding retail and travel/leisure names. • There was not much pressure late in the week from the macro volatility as dealers seem under-risked, supply has been slow to get going and investor cash balances are high. • Bid/ask spreads are normal, but there has been an uptick in single issuer volatility, as earnings misses/negative sell-side pieces are causing greater volatility than typical of late. **CDX HY** • CDX HY traded weaker during the week ended September 17, but underperformed stocks. This was not surprising as macro volatility picked up, as CDX HY has been trading with lower beta compare to stocks. • Trading volumes were slightly above the 30-day average amid macro volatility.	with normal market conditions CCC-rated and below: 1.5 points which is in line with normal market conditions CDX HY bid/ask is in line with normal conditions.
Emerging Market Debt (EMD)	**Hard Currency EM** • EM credit index spreads were only a few basis points wider overall during the week ended September 17, but the second half of the week saw the softest tone in months. Weakness was driven by a combination of souring global macro sentiment with fears stemming from Evergrande contagion risk, a continued decline in iron ore prices, interest rates backing up after a beat in retail sales, along with EM credit supply indigestion. • 90% of Latin America sovereign and corporate new issues that came to market over the previous 2 weeks closed the week below re-offer levels. • In Argentina, the incumbent party fared poorly in Sunday's Paso election leading the curve to gap up 4 points before supply came throughout the week and headlines about changes in the cabinet and increased spending over the next two months led the curve to close the week unchanged. • Flows (per EPFR) continued to be positive, but that data does not include Thursday and Friday when the market seemed under pressure.	EM IG and HY sovereigns and EM IG and HY corporates are back to normal market conditions

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Asia	**Asia Hard Currency** • There was large supply within the Asia credit primary market during the week ended September 17, with 22 bn in issuance, taking month-to-date supply to ~34bn, ahead of the Asia holiday calendar during the week ended September 24. • Macau gaming was in the spotlight amid heightened regulation, including around license renewals, ownership reviews and junket operations. High yield bonds dropped 4-9 points depending on the issuer before US and local investor buying curbed further declines. • Sovereign and corporate bond spreads in general were marginally wider on the week, but seemed more US Treasury driven than based on any sector-specific stress. There did not seem to be spillover from the China/Macau high yield weakness. • Concerns about Huarong now seem largely behind the market. Profit-taking appears the main theme, with the curve 1-2 points lower as the company repaid the 200mn bonds due on September 20. • China HY property stress continued under concerns about Evergrande, with spillover to both weaker China property issuers (down 8-16 points on the week) as well as better-quality property names (down 1-6 points on the week). So far that was contained to China HY while non-China HY was stable, although demand was not as robust. **Asia Local Currency** • Thailand was in focus as the government is to raise the public debt cap to 70% of GDP form 60%, and the Public Debt Management Office announced it will increase debt issuance to THB 1.1trn – 1.3 trn from 840 trn this year. The planned increase in supply led to a dramatic selloff across the bond curve, which was 8-15bphigher with the 10-year trading around 1.79%.	Liquidity conditions are normal for Asia hard currency IG credit. HY liquidity is more challenging especially in China HY with spreads 1.5x wider than normal. Dealer balance sheets appear more risk averse. Two-way flow continues as there are differentiated market views/expectations. Liquidity conditions are normal for Asia local currency debt
Securitized	**ABS** • The ABS primary market priced twelve transactions for the week ended September 17 totaling $12.2 bn across credit cards, student loan, auto lease and prime and non-prime auto loan sectors. ABS year-to-date supply now stands at $188.3 bn compared to $131.2 bn and $174.4 bn recorded over the same period in 2020 and 2019, respectively. • The forward calendar has nine deals totaling $4.8bn pre-marketing for the week ended September 24. ABS spreads largely remained unchanged during the week except for the marketplace loan sector which saw 5bp and 20bp of tightening, down the capital stack across BBB and BB segments, respectively. In addition, collateral pool	

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	characteristics remain stable for unsecured consumer ABS, for both marketplace loan and private credit student loans. **CMBS** • Secondary market CMBS spreads were tighter throughout the capital stack during the week ended September 17. AAA through A-rated classes tightened 2-3bp, while BBB-rated classes were tighter by 5bp. As expected, new issuance picked up with two conduit and two single asset/single borrower deals pricing totaling $5.9bn of new supply. Supply was met with robust demand and many classes priced tighter than initial price guidance. New issuance is expected to continue to be a theme in the market for the foreseeable future. While current market technicals remain positive, the amount of expected supply could challenge that in the near term. • CMBS bid/offer spreads in AAA to A rated tranches have retraced their post-COVID widening, while BBB rated classes remain 2x the historical average. • CMBX performance was mixed in series 8-14. However, as was the case the prior week, spread levels were materially wider in series 6. A/BBB-/BB tranches were 54/132/198 bp wider week-over-week, albeit on meager trading. CMBX bid/offer spreads remain unchanged and have retraced all the post-COVID widening. **CRTs** • The secondary CRT market returned to normal during the week ended September 17, with volumes building as the week progressed. Macro volatility picked up later in the week, but spreads held in well across the capital stack. • On Wednesday, the FHFA put out a notice of a proposed rule that will increase capital relief to the GSEs if adopted. The news was widely anticipated since Director Calabria left earlier in the year and should pave the way for Fannie Mae to return to the market. Fannie's return will meaningfully increase supply, but this seems to be in most market participants' projections already, and is expected to be healthy for the CRT markets and supportive of liquidity. • Secondary market liquidity is robust, and bid/ask spreads remain tight, around pre-covid levels. **Legacy Non-Agency RMBS** • Legacy RMBS continue to trade well. After having widened to the 1000-1200 bp range in March 2020, spreads are currently trading inside 200 bp discount margin. **CLOs**	

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	• Generic primary market clearing levels on the week stood roughly at 116-120 bp for AAA-rated spreads; AA-rated spreads at around 160-165 bp; A-rated at 195-205 bp; BBB-rated at 290-310 bp; and BB at 600-650 bp. • Liquidity remains robust in the CLO market. Bid/ask spreads remain at or around pre-crisis levels. **Agency MBS** • Bid/ask spreads in Agency MBS remain well supported, given the Fed purchases of $40bn per month. Current coupon bonds are trading at 0.5-1 tick wide and the rest of the coupon stack is wider by 3-4 ticks. Higher coupons trade less frequently.	
Money Market	• The Fed Reverse Repo facility (RRP) usage was ~$1.2 trn. • 1-month LIBOR set at 0.084%; 3-month LIBOR set at 0.125%. • SOFR set at 0.05%. Effective Federal Funds Rate set at 0.08%. • Treasury Secretary Yellen warned congress that the US Treasury will run out of 'extraordinary measures' before the end of October. Congress must raise or suspend the debt ceiling to avoid default. • Government money market funds had $31 billion of outflows in the week ended September 17. Prime funds had $4bn of outflows over the same period.	
US Municipals	• During the week ended September 17, the municipal market was firm despite US Treasury volatility, with the benchmark AAA curve unchanged in most spots except 1bp higher in long maturities. The majority of the focus has been on the new issue calendar with over $13bn in deals, but the market was able to digest it easily with order books oversubscribed and strong follow through once the deals freed up. • Besides the Fed meeting in the upcoming week, market participants have been focused on the news coming out of DC as to what components will be included in the Democrats $3.5 trillion stimulus plan. Besides higher anticipated tax rates, other programs such as the reinstatement of tax exempt advanced refundings as well as Build America Bond issuance would all have a meaningful impact on the municipal market. • In terms of liquidity, odd lot bid discounts have generally been between 0.5pt to 1pt depending on size which is indicative of strong liquidity.	
Canadian Market	**Federal** • Liquidity is best in benchmark issues for block sizes of <=CAD25 million. Bank of Canada (BOC) is "buying at least $2 billion of Canadian government bonds a week until the recovery is well underway.'' It should continue to support market liquidity. "Purchases of longer-maturity bonds have a greater impact, dollar-for-dollar spent, by removing more term risk from markets and putting downward pressure on	Federal: bid/ask was at 4 cents in the 10-year area, but for the long end of the curve, it remains relatively wider at up to 12 cents given the recent higher volatility. For example – the latest ultra-long

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	term premiums. Lower term premiums imply lower GoC bond yields, all other things equal.” • The latest BOC balance sheet shows that the central bank continued to support liquidity in Canadian markets (as of September 15). • The Government Bond Purchase Program (GBPP) has resulted so far in $277.34 in net buying (assets minus liabilities minus position at the start of the QE in March 2020). As expected, QE bond buying of $2bn per week was confirmed at the September BOC meeting (no cut). • The BOC was not able to get decent size in high-coupon Canadas in their buying program - they only bought $10m to $20m per security showing limited liquidity. Liquidity is better in on-the-run benchmark Canadas. According to the latest BOC research, Federal debt is the most liquid sector within the Canadian fixed income markets. **Provincial** • Liquidity is best in benchmark bonds from Quebec, Ontario, and British Columbia. • Depending on market tone, concessions may be requested in order for dealers to take less-liquid positions. • Most dealers will not bid aggressively on off-the-run, high coupon provincial issues but will favor agency trades. • The Bank of Canada’s Provincial Bond Purchase Program (PBPP) ended in May. Therefore, the central bank does not provide a back stop to the provincial sector. • Given the large borrowing needs of provinces, the new issue calendar is expected to increase trading activity in coming weeks. Liquidity is best in on-the-run, current coupon bonds in the provincial sector (compared to off the runs). **IG Corporates** • The latest Bank of Canada research highlights the limited liquidity in Canadian corporate bond markets, which can impact pricing; many dealers are maintaining low balance sheet inventories, so may not provide bids in some sectors. • Trading is on an agency basis for issuers affected by mergers and acquisitions. • The Bank of Canada had a buying program (focused on securities of 5-years or less) to support liquidity for corporate bonds rated BBB and higher. As expected, the BOC has ended this Corporate Bond Purchase Program (CBPP) in May 2021. • Dealers expect a busier new issue calendar in September which is expected to bring higher trading volumes and improved liquidity. **Real Return Bonds (RRBs)**	Canada 2064 bid-ask is at 30 cents, reflecting its liquidity issues given this is not a benchmark. Off the run, high coupon Canadas were reported to have limited liquidity given small outstanding size in these securities. Provincial: concession reported to be above average on size > CAD 25 million, particularly at the longer end. In risk-off markets, liquidity is drying up and spreads can widen depending on market tone. BBB- corporates are generally trading by appointment, particularly in the energy sector. Inventories are reduced and dealers are not looking to increase their BBB- exposure. Dealers may refuse to bid in a risk off market with gaps in spreads. Provincial RRBs trading by appointment only and activity is rare. Dealers do not hold these securities on their balance sheet. Bid-ask is not a reliable indicator for trading.

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	• The program to purchase Government of Canada securities in the secondary market – the Government Bond Purchase Program or GBPP – should help liquidity since it includes RRBs. • Trading in Canada RRBs continues to show a continued lack of liquidity. • Finance Department documents indicate that Canada will issue only C$1 billion in RRBs in the current fiscal year with four auctions. This will result in net negative supply (BOC buying program plus maturities less new supply). • The $300mn RRB auction on September 1 was a re-opening of RRB Canada 2054 bond which indicated once again a lack of liquidity. The central bank was not able to complete its $280mn RRB target purchase program again showing challenging liquidity in Canadian RRB markets from tenor of 2041 to 2050. • Liquidity remains challenging, trading by appointment, as dealers hold limited inventories in RRB securities.	