

Market Update - Daily Fixed Income Trading Liquidity Update 15 May 2020

In the current markets, volatility has been elevated and liquidity has become reduced across many fixed income instruments including government bond markets. 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 towards the end of the New York trading day.

| Sector | Liquidity Trading Comment | Bid-Ask Spreads |
|--|---|--|
| US Treasuries | The open-ended bond purchase program enacted by the US Federal Reserve (Fed) is having a positive effect on liquidity and market functionality. The Fed has reduced their purchases of US Treasuries to \$6bn per day during the week of May 18 (from \$7bn per day the week of May 11). Market depth on 10-year US Treasuries is averaging 47% of the normal market depth observed from February 2019- February 2020 (pre-Covid) levels. Two important technicals during the week ended May 15 are: Large buying in longer maturities across interest rates, securitizations, and credit from Asia-based investors Large amounts of government supply related to covid-19 stimulus measures. This supply was well-received with demand statistics exceeding their 12-month average subscription levels in the 3-, 10-, and 30-year Treasury auctions | Bid-offer spreads for on-the-run benchmark 2- through 10-year US Treasury notes has improved significantly and are in line with precrisis conditions. For the 30-year note, bid/ask is ~2x wider vs pre-crisis. Off-the-run Treasury bonds still trade significantly wider than on-the run bonds, but bid/offer has compressed. TIPs bid/ask is 2-3x wider vs pre-crisis levels |
| Investment Grade (IG) Corporates | US IG US IG cash bonds traded mostly sideways on May 15. Shorter-maturity bonds continued to trade with a firm tone. New issue supply slowed down, with \$23.6 bn in new issues coming to market between May 13 and 15. The market continues to see some companies that issued last month return to the market. Some of this activity is to refinance shorter-maturity debt | US IG spreads are generically 3-4x wider vs normal market conditions AT1/Preferreds are 2-3x wider vs normal market conditions |

For Investment Professional use only. Not for inspection by, distribution or quotation to, the general public.

| Sector | Liquidity Trading Comment | Bid-Ask Spreads |
|-------------------------------|---|---|
| Sector | since all-in yield levels are attractive from an issuer's standpoint. Concessions ticked up and investors are being selective by issuer/deal. Bid/ask spreads remain wider than pre-crisis levels. European IG Supply levels have begun to pick up in the European IG market, with both well-known and niche issuers continuing to tap primary markets. The decent uptick in primary market activity is diverting attention from the secondary market, causing liquidity to drop a bit there. Liquidity in the AT1 (subordinated financial) market remains incredibly technical and very bond-/issuer-specific. In spots such as core high-quality issuers, bid/offer spreads were back to pre-selloff levels, but in more niche and second-tier names where dealers have no agenda, it remains wide. Volumes have been very low. USD-denominated AT1s are proving | Bid-Ask Spreads |
| | REIT Preferreds Liquidity in the REIT preferred market is limited under more normal conditions but has improved from 1-1.5 months ago. 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. Trading volume is trending low since valuations have | |
| 111 1 20 1 1 (100) | recovered a good amount. | 0.75.4.25 |
| High Yield (HY) Corporates | US HY On May 15, the US high yield market was mixed, on light volumes New issues were the primary focus of the week ending May 15, with \$14.6bn pricing, and \$7.5bn pricing on Wednesday May 13 alone. There was some new deal fatigue on Thursday morning, but that eased by the end of the week, with new issues generally closing above levels where they were issued. The new issue calendar is expected to remain active during the week of May 18, as more companies seek to increase liquidity. The Fed announced that they had bought \$305mn of credit ETFs this week as part of their Secondary Market Corporate Credit Facility. This proved to be a non-factor in the market, as the broader macro tone overshadowed the purchases | Spreads are 0.75-1.25 point wider than normal times for BB-rated securities Spreads are 1.5-2 points wider than normal times for B-rated securities Spreads are 3 points wider than normal times for CCC-rated and below securities CDX HY bid/ask is 2-3x vs normal conditions. |

| Sector | Liquidity Trading Comment | Bid-Ask Spreads |
|----------------------|--|---|
| | Bid/ask spreads remain unchanged | |
| | | |
| | European HY | |
| | Daily sentiment has dislocated somewhat between | |
| | cash bonds and equities/the iTraxx Crossover index. | |
| | After several weeks of outperformance in cash | |
| | bonds, the market has begun to lag modestly. The first signs of new issuance have highlighted the | |
| | The first signs of new issuance have highlighted the constructive market tone. | |
| | Idiosyncratic risk is in focus as potential | |
| | defaults/restructurings loom. | |
| | Technicals remain broadly constructive, as flows are | |
| | generally positive, investors are more conservatively | |
| | positioned and primary issuance remains light. | |
| | The market continues to see healthy two-way flows | |
| | but bid/ask spreads remain elevated. | |
| | CDX HY | |
| | CDX HY slightly underperformed both the broader | |
| | macro tone and CDX IG, as cash supply weighed on | |
| | synthetics and Fed buying of ETFs seemed to | |
| | support IG more than HY. Trading volumes also | |
| | continue to support IG more than HY. | |
| | Bid/ask spreads have declined but remain elevated | |
| | relative to pre-crisis levels. | |
| Emerging- | Hard Currency EM | EM IC souproigns are |
| Market Debt (EMD) | It was a volatile week for hard currency EM debt as spreads on the JP Morgan EMBI Global Diversified | EM IG sovereigns are 1.5x wider vs normal |
| (EIVID) | index tracked the violent stock swings more so than | market conditions |
| | in the past several weeks. | market conditions |
| | The week of May 11 was the first week without | EM HY sovereigns are 2x |
| | sovereign new issue supply since the end of March. | wider vs normal market |
| | Corporates and quasi-sovereigns have filled the void, | conditions |
| | printing ~\$8bn over 4 deals with books 4-10x | |
| | oversubscribed and deals on average ~20 bps tighter | EM IG corporates are 2x |
| | on the week. | wider vs normal market |
| | Liquidity continues to improve as transaction costs | conditions |
| | have slightly narrowed over the last week. | |
| | | EM HY corporates are 3x |
| | Local Currency EM | wider vs normal market |
| | Local EM rates have begun to compress towards low | conditions |
| | developed-market rates as dovish central banks | |
| | across emerging markets cut rates. | |
| Securitized | Liquidity is close to normal CMBS | |
| Securitized | The highest-rated CMBS bonds remain well- | |
| | supported. 10-year, 30% enhanced, AAA-rated | |
| | senior securities have seen their spreads settle into | |

| Sector | Liquidity Trading Comment | Bid-Ask Spreads |
|--------|---|-----------------|
| | the swaps+150-160 bp area. The next class in the | |
| | stack, the junior AAA with 18%-20% credit | |
| | enhancement, has found support at s+200-225 bp. | |
| | For context, these classes traded at s+80 bp and | |
| | s+100 bp in February. Despite the firm tone of the | |
| | senior tranches, bid/offer remains stretched at 3x | |
| | pre-COVID levels. Mezzanine tranches have yet to | |
| | find consistent support, but pockets of liquidity exist | |
| | for specific collateral profiles. AA/A and BBB | |
| | bid/offer spreads remain at approximately 3x and 4x | |
| | pre-COVID levels. | |
| | Remittance reports are being published and CMBX | |
| | | |
| | investors are paying close attention to any data | |
| | pertaining to malls and retailers. Volumes in | |
| | CMBX.6 remain depressed and are expected to | |
| | remain so until the latest remittance data is | |
| | digested. Given the low transaction volume, liquidity | |
| | remains unchanged. Bid/offer spread for CMBX A.6 | |
| | is ~2x, BBB6 is ~3 x and BB.6 ~5x the normal | |
| | bid/offer spread. | |
| | ARC | |
| | ABS | |
| | The ABS primary market priced four transactions totaling \$2.1bp for the week anding May 15 agrees. | |
| | totaling \$2.1bn for the week ending May 15 across | |
| | the private credit student loan, marketplace lending, | |
| | prime auto loan and subprime auto loan sectors. | |
| | This brings the year-to-date issuance to \$59 bn | |
| | compared to \$90.5bn over the same period last | |
| | year. These new issues were well subscribed and | |
| | most priced at the lower end of the initial price | |
| | guidance range. There are three securitizations pre- | |
| | marketing for the week beginning May 18, including | |
| | prime and subprime auto and equipment. | |
| | ABS indicative benchmark spreads tightened 5bp on | |
| | the week across credit card, equipment and FFELP | |
| | student loan ABS. New-issue levels influenced | |
| | secondary-market levels across prime auto loan ABS | |
| | (spreads flat to 10bp tighter on the week) and | |
| | private credit student loan ABS (spreads 30-45 bp | |
| | tighter on the week). | |
| | agrice on the weeky. | |
| | CRTs | |
| | The CRT market continues to plug along. The wall of | |
| | money looking to invest in the space seems to be | |
| | driving spreads tighter. This technical seems to have | |
| | moved in one direction since early April. | |
| | Investment-grade rated last cash flow bonds seem | |
| | particularly well bid. Spreads have tightened the | |
| | | |
| | most in these bonds, which ended the week in the | |

| Sector | Liquidity Trading Comment | Bid-Ask Spreads |
|--------------------|---|-----------------|
| | low 300 bp range. Newer vintage last cash flow | • |
| | bonds that do not have the benefit of the | |
| | investment-grade rating are not far behind. They are | |
| | currently trading in the 400-500 bp range. | |
| | Equity tranches are trading in the 800-1100 bp | |
| | range. B1 bonds with some credit enhancement are | |
| | at the tighter end of that range and older Bs that | |
| | represent the 0-100 slice of 2015 and 2016 deals | |
| | trade just north of 1000 bp. | |
| | While bid/ask spreads have come in measurably | |
| | since the peak of the crisis, they were unchanged | |
| | week over week. | |
| | Legacy Non-Agency RMBS | |
| | Legacy RMBS continues to trade through the recent | |
| | crisis. Since January spreads have widened from ~ | |
| | 200bp to now in the 1000 bp range, but demand for | |
| | the sector never really faded. | |
| | CLOs | |
| | Primary market issuance is the real news in the CLO | |
| | market. The new issue calendar has opened up for | |
| | top- and mid-tier managers. | |
| | With AAA-rated tranche spreads well inside 200 bp | |
| | for better enhanced deals, it makes sense for | |
| | managers to tap the market. At the same time, | |
| | these levels are still historically wide, making AAA- | |
| | rated CLO tranches very attractive for banks, money | |
| | managers, and insurance company investors alike. | |
| | The AA- and A-rated tranches have also been | |
| | oversubscribed on these new deals. | |
| | The BBB- and BB-rated tranches have been retained | |
| | by managers as the market for these securities has | |
| | not come back. Too many questions remain about | |
| | loan rating downgrades and how far up the stack | |
| | that will affect losses and in turn spreads. | |
| | Bid/ ask spreads on AAA/AA/A rated bonds have | |
| | come back to normal; mezzanine bid/ask remains | |
| | elevated at roughly 2x normal. | |
| | Agency MBS | |
| | Bid/ask spreads in Agency MBS have returned to | |
| | pre-crisis levels, driven tighter by the combination of | |
| | Fed buying and increased investor interest. Bid/offer | |
| | for lower coupon bonds is just ½ of a tick wide. | |
| Money Market | LIBOR continues to set lower as short-maturity | |
| iviolicy ivial ket | markets stabilize. 1-month LIBOR set at 0.17% and | |
| | | |
| | 3-month at 0.38%. Prime money market funds saw | |

| Sector | Liquidity Trading Comment | Bid-Ask Spreads |
|---------------|---|-----------------|
| | \$50bn of inflows during the 7 days ending May 14, | |
| | which has been driving 3-month LIBOR lower. | |
| | On Wednesday May 13, Fed Chair Powell reiterated | |
| | that negative rates were not an appropriate policy | |
| | tool. He stated that the FOMC feels that current | |
| | policy tools are working and that there are more | |
| | tools in the tool kit if need be. Powell mentioned | |
| | that this is one of the few things "all" FOMC | |
| | participants agreed on and cited other reasons | |
| | against negative policy rates including mixed | |
| | evidence of their effectiveness and disrupting the | |
| | intermediation process (hurting banks). Other "Fed- | |
| | speak" this week reinforced Powell's message. | |
| | Government money market fund demand has | |
| | slowed. Dealers are flush with supply. Repo has | |
| | climbed to 0.05-0.06% as dealers start to pay up to | |
| | fund inventory. We're seeing the pendulum swing as | |
| | dealers are now going to the Fed's open market | |
| | repo operations (at 0.10%) for financing. | |
| US Municipals | The municipal market continued its strong | |
| | performance, with benchmark yields tightening | |
| | 15bps week over week ending May 15. | |
| | Very short maturity, high-grade paper was very well | |
| | bid as buyers are looking for cash substitutes. | |
| | High-quality new issues this week saw double-digit | |
| | subscriptions, but many potential new issuers | |
| | remain on "day-to-day". Much of the market's focus | |
| | was on the \$800mn Illinois new issue, which came | |
| | with varying maturities out to 2045. The deal was | |
| | upsized by \$50mn and longer maturities came | |
| | tighter than initial price guidance and traded up on | |
| | the break. It was a similar story with NY City | |
| | Transitional Finance Authority, which like Illinois was | |
| | a name that had thin buying interest in the | |
| | secondary market but significant demand for the | |
| | new issue. | |
| | It appears that investors are wary of putting levels | |
| | on bonds in the secondary market but are able to | |
| | take comfort in being part of a crowd of investors in | |
| | a new issue. | |
| | Friday May 15 was quiet as the market traded | |
| | tighter another ~4bps on light volumes, with dealer | |
| | selling outpacing dealer buying by 2.5x. | |
| | Odd lot liquidity remains challenged compared to | |
| | historic averages, with bids on smaller-sized odd lots | |
| | trading at 1-4 points below round-lot bidside | |
| | evaluations. Higher-quality odd lots, especially in | |
| | shorter maturities, trade 0-2 points below round lot | |

| Sector | Liquidity Trading Comment | Bid-Ask Spreads |
|--------------------|--|---|
| | bidside evaluations. High yield or even lower-quality investment grade odd lot bids remain well below round lot bidside evaluations. For context, high grade odd-lots typically trade 0.10-1 points below round lot bidside evaluations under more normal market conditions. | |
| Canadian Market | Federal Liquidity is best in benchmark issues for block sizes of <=CAD25m; limited liquidity in off-the-run, high coupon bonds but the Bank of Canada buying program will help liquidity in the sector. | Federal: bid/ask typically +1 to +2bp but for the long end of the curve, it can be more depending on volatility |
| | Provincial Liquidity is best in benchmark bonds from Quebec, Ontario and British Columbia Concessions are requested so dealers will take less liquid positions. Very limited secondary-market liquidity in oilgenerating provinces (Newfoundland, Alberta, Saskatchewan) with Western Canadian Select oil price trading at low levels. Most dealers will not bid on off-the-run, high coupon provincial issues, they will do agency trades. They may not bid for provincial issuers where they have existing balance sheet positions. The Bank of Canada's C\$50bn buying program of provincial debt should support liquidity. IG Corporates Limited liquidity; many dealers are maintaining low balance sheet inventories, so will not provide bids in many sectors. Trading on an agency basis for high-beta issuers. The market has improved in sectors such as banks. However, there was limited dealer appetite for telecom credits after the new BCE 10- and 30-year issue came to market on May 11. The Bank of Canada's buying program of corporate debt should support liquidity in the secondary markets for BBB and higher-rated securities; BBB-are trading by appointment. | Provincial: concession of +1 to +2bp and more on size > CAD 25m, particularly at the longer end |
| | Trading "by appointment", similar to private placement market | |

herein is intended to be used for the purposes of making investment decisions.

The information contained here reflects the views of AllianceBernstein L.P. or its affiliates and sources it believes are reliable as of the date of this publication. AllianceBernstein L.P. makes no representations or warranties concerning the accuracy of any data. There is no guarantee that any projection, forecast or opinion in this material will be realized. **Past performance does not guarantee future results.** The views expressed here may change at any time after the date of this publication. This document is for informational purposes only and does not constitute investment advice. AllianceBernstein L.P. does not provide tax, legal or accounting advice. This information should not be construed as sales or marketing material or an offer or solicitation for the purchase or sale of any financial instrument, product or service sponsored by AllianceBernstein or its affiliates.

Note to US Mutual Fund Readers: Investors should consider the investment objectives, risks, charges and expenses of the Fund/Portfolio carefully before investing. For copies of our Prospectus or summary Prospectus, which contain this and other information, visit us online at www.alliancebernstein.com or contact your AB representative. Please read the Prospectus and/or summary Prospectus carefully before investing. AllianceBernstein Investments, Inc. (ABI) is the distributor of the AB family of mutual funds. ABI is a member of FINRA and is an affiliate of AllianceBernstein L.P., the manager of the funds.

Note to Readers in Canada: AllianceBernstein provides its investment-management services in Canada through its affiliates Sanford C. Bernstein & Co., LLC and AllianceBernstein Canada, Inc.

Note to Readers in Europe: This information is issued by AllianceBernstein Limited, 50 Berkeley Street, London W1J 8HA, it is for marketing purposes. Registered in England, No. 2551144. AllianceBernstein Limited is authorised and regulated in the UK by the Financial Conduct Authority (FCA) FRN 147956. **Additional Note to Readers in Austria and Germany**: Local paying and information agents: Austria—UniCredit Bank Austria AG, Rothschildplatz 1, 1020 Vienna; Germany—ODDO BHF Aktiengesellschaft, Bockenheimer Landstrasse 10, 60323 Frankfurt am Main.

Note to Readers in Switzerland: This document is issued by AllianceBernstein Schweiz AG, Zürich, a company registered in Switzerland under company number CHE-306.220.501. AllianceBernstein Schweiz AG is authorised and regulated in Switzerland by the Swiss Financial Market Supervisory Authority (FINMA) as a distributor of collective investment schemes. Swiss Representative & Swiss Paying Agent: BNP Paribas Securities Services, Paris, Succursale de Zürich. Registered office: Selnaustrasse 16, 8002 Zürich, Switzerland, which is also the place of performance and the place of jurisdiction for any litigation in relation to the distribution of shares in Switzerland. The Prospectus, the KIIDs, the Articles or management regulations, and the annual and semi-annual reports of the concerned fund may be requested without cost at the offices of the Swiss representative.

Note to Readers in Japan: This document has been provided by AllianceBernstein Japan Ltd. AllianceBernstein Japan Ltd. is a registered investment-management company (registration number: Kanto Local Financial Bureau no. 303). It is also a member of the Japan Investment Advisers Association; the Investment Trusts Association, Japan; the Japan Securities Dealers Association; and the Type II Financial Instruments Firms Association. The product/service may not be offered or sold in Japan; this document is not made to solicit investments.

Note to Readers in Australia and New Zealand: This document has been issued by AllianceBernstein Australia Limited (ABN 53 095 022 718 and AFSL 230698). Information in this document is intended only for persons who qualify as "wholesale clients," as defined in the Corporations Act 2001 (Cth of Australia) or the Financial Advisers Act 2008 (New Zealand), and is general in nature and does not take into account any person's objectives, financial situation or needs.

Note to Readers in Hong Kong: This document is issued in Hong Kong by AllianceBernstein Hong Kong Limited (聯博香港有限公司), a licensed entity regulated by the Hong Kong Securities and Futures Commission. This document has not been reviewed by the Hong Kong Securities and Futures Commission.

Note to Readers in Singapore: This document has been issued by AllianceBernstein (Singapore) Ltd. ("ABSL", Company Registration No. 199703364C). ABSL is a holder of a Capital Markets Services Licence issued by the Monetary Authority of Singapore (MAS) to conduct regulated activity in fund management and dealing in securities. AllianceBernstein (Luxembourg) S.à r.l. is the management company of the portfolio and has appointed ABSL as its agent for service of process and as its Singapore representative. This document has not been reviewed by the Monetary Authority of Singapore.

Note to Readers in Vietnam, the Philippines, Brunei, Thailand, Indonesia, China, Taiwan and India: This document is provided solely for the informational purposes of institutional investors and is not investment advice, nor is it intended to be an offer or solicitation, and does not pertain to the specific investment objectives, financial situation or particular needs of any person to whom it is sent. This document is not an advertisement and is not intended for public use or additional distribution. AllianceBernstein is not licensed to, and does not purport to, conduct any business or offer any services in any of the above countries.

Note to Readers in Malaysia: Nothing in this document should be construed as an invitation or offer to subscribe to or purchase any securities, nor is it an offering of fund management services, advice, analysis or a report concerning securities. AllianceBernstein is not licensed to, and does not purport to, conduct any business or offer any services in Malaysia. Without prejudice to the generality of the foregoing, AllianceBernstein does not hold a capital markets services license under the Capital Markets & Services Act 2007 of Malaysia, and does not, nor does it purport to, deal in securities, trade in futures contracts, manage funds, offer corporate finance or investment advice, or provide financial planning services in Malaysia.

Note to UK Readers: For Investment Professional use only. Not for distribution to individual investors.

