Securitized Credit Monthly

Your Insight into Specialized Data and Ground-Level Market Updates

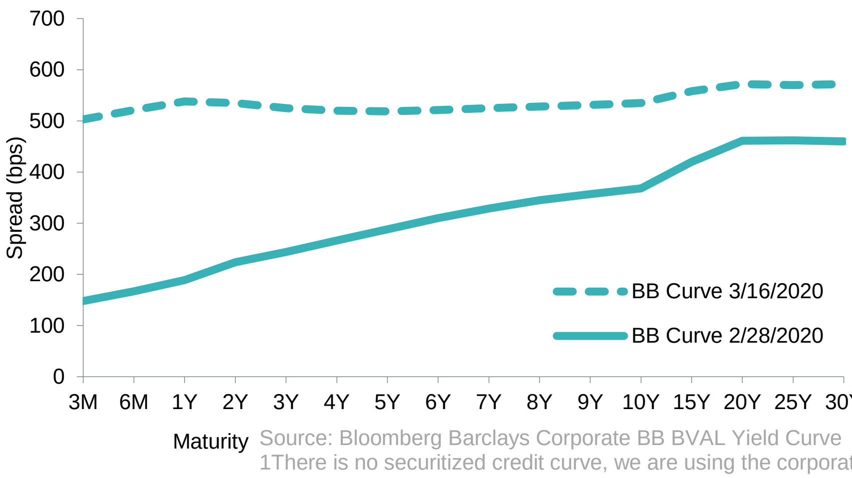
Market Commentary and Outlook | March 20th, 2020

- **We expect the COVID-19 virus and the resulting protective measures to negatively impact consumer fundamentals. The duration and magnitude of these measures will determine the ultimate impact.**
- **Securitization structures are designed to have varying levels of built-in buffers in an effort to absorb collateral losses. Though uncertainty is high amidst this unprecedented environment, we believe prices in many securitized sectors are dislocated from their fundamental value.**
- **The flattening of the credit curve suggests recent securitized price volatility has been severely exacerbated by liquidity forced selling.**

Pressure on Short-Term Securities

The ‘flatten the curve’ public policy response has roiled markets as restaurants, gyms, bars, the NBA, the NHL, and countless other organizations across the country closed in an effort to slow the spread of the COVID-19 virus. Securitized markets saw flattening curves of its own as investors engage in a “dash to cash.” In response to fund outflows, money managers began to sell their most liquid assets first. Client rotation from flexible money market funds to government-only money funds, coupled with institutional selling, drove immense liquidity pressure on corporate paper. With banks unable to absorb all of the supply for even ultra-short-term commercial paper, managers began to sell their next most liquid short-duration assets, AAA/AA asset-backed securities. Short-term corporate bonds also became a source of liquidity. Commentary from our trading desk suggests U.S. managers have been more willing to sell short-term assets at jarring spreads than longer-duration credit instruments at seemingly more reasonable spreads. We attempt to demonstrate this phenomenon in the following chart showing the short end of the BB corporate credit curve widening significantly more than the long end[1].

BB Credit Curve



Source: Bloomberg Barclays Corporate BB BVAL Yield Curve
1There is no securitized credit curve, we are using the corporate credit curve as it is generally considered the cloest available proxy.

One possible explanation revolves around managers wanting to maintain or increase spread duration in an effort to maximize total return should spreads tighten once COVID-19 fears are quelled. Another explanation, in our view, is that longer-term bid/ask are too wide to spur trading and proper price discovery - as new primary market issuance has mostly come to a standstill. The below table compares spread levels of high quality and short duration assets during different periods of historical market stress.

Fannie and Freddie Volatility

A mix of liquidity and fundamental risk has caused price declines on Credit Risk Transfer (CRT) securities. Public policy response to COVID-19 will likely cause CRT bonds to extend in terms of weighted average life as prepayments decrease and delinquencies increase. Additionally, forced sellers have utilized CRT positions as a source of liquidity when they have been unable to find it within their less liquid securitized holdings. We remain positive on the longer-term fundamental value of exposure to the U.S. housing market.

Subprime Auto – Changing Views

Subprime auto securities have been a staple of the securitized credit market for over two decades. Despite the sometimes low relative credit scores of the underlying borrowers, most auto ABS tranches have avoided taking credit losses, even during the financial crises. This historical loss prevention has come from robust structural enhancements such as excess spread and over collateralization. With COVID-19 induced layoffs on the horizon, we are mindful of likely rising delinquencies in securitizations that have not aged sufficiently to de-lever. Instead, we are pursuing better opportunities in the secondary market where more seasoned pools have often built up greater levels of credit enhancement over time. We are seeing spread levels not witnessed since the financial crisis.

The Fed has announced several policy measures to help bring the funding markets back to order, the most promising of which is the Commercial Paper Funding Facility (CPFF) which began operations on March 20th to purchase up to $10 Billion of commercial paper. This action is designed to bring liquidity back to the CP market and prospectively could relieve much of the selling pressure on short-term securitized assets. The Primary Dealer Credit Facility (PDCF) and the quantitative easing programs are also of note. In truth, the programs being announced are too fast and too fluid to list.

Short-Duration Spread Levels, Periods of Stress Compared*

	Covid-19 Virus	1 Month Ago	End of 2019	Loan Liquidity Crunch	China/ Oil Shock	US Dgrd / Euro Debt Crisis	10 Year Average	Global Financial Crisis
	Mar 20, 2020	Feb 21, 2020	Dec 31, 2019	Dec 31, 2018	Feb 11, 2016	Sep 11, 2011	Mar 17, 2010 – Mar 17, 2020	Dec 31, 2008
1-3 Year AA US Corporate	**317**	25	26	60	77	144	56	448
US Agency MBS	**133**	56	42	45	32	69	35	165
0-3 Year AAA US ABS	**429**	22	42	53	66	67	48	729

Source: ICE BofA 0-3 Year AAA US ABS Index and 1-3 Year AA US Corporate Index, Bloomberg Barclay US MBS Index, 3/20/2020.
*Significant widening credit spread periods in the last 10 years, plus the global financial crisis.

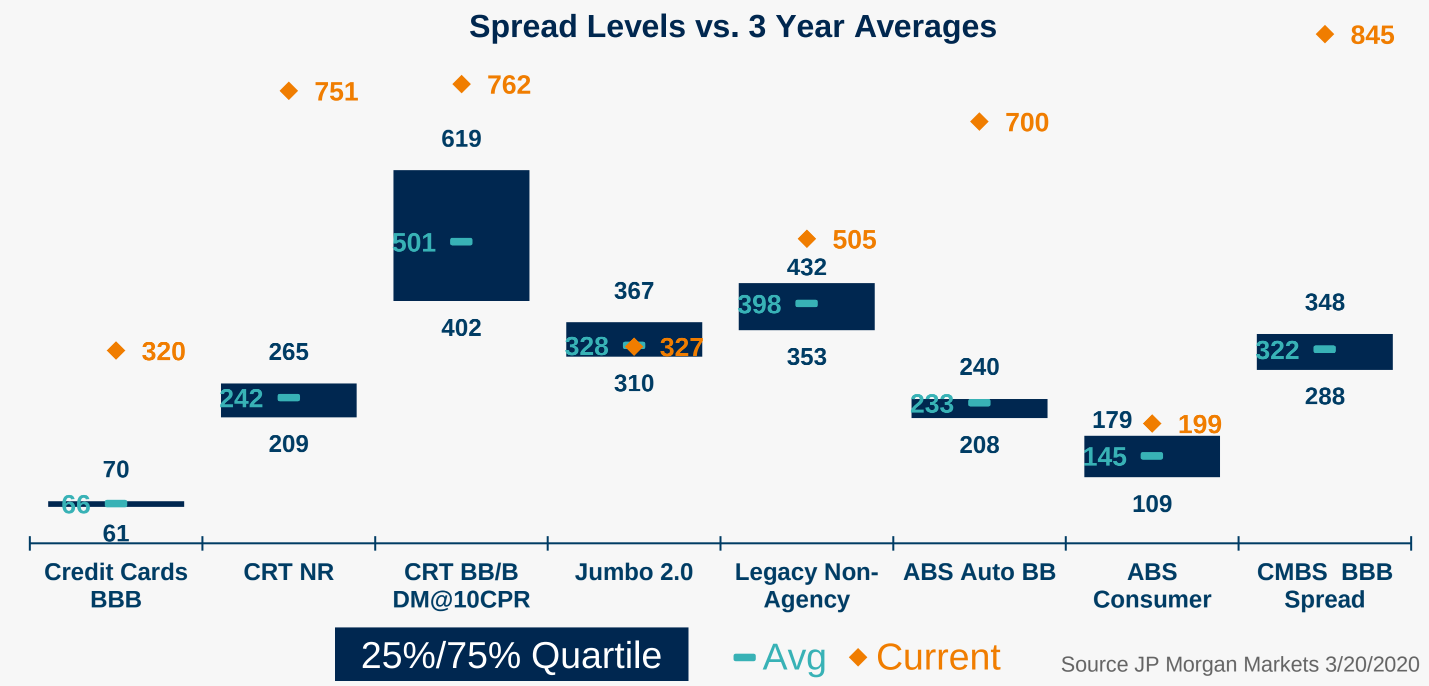
Volatility Can Create Buying Opportunities

The COVID-19 crisis will undoubtedly have lasting effects as citizens' financial and physical health are unfortunately at risk. While we are hoping for timely treatment options and recoveries, we invest for the future with downside risks in mind. As an example of changing corporate conditions, we note the current measures taken by large hotel chains. Hotels employ over 2.5 million people in the United States, with some of the larger chains individually accounting for 100 thousand employees or more. These large hotel companies have recently announced 10's of thousands of employees will be furloughed with U.S. hotel usage down somewhere over 30% on average. With the uncertainty of future travel, this number could get much worse. Smaller operators may be experiencing even more difficult conditions, but as bad as these numbers are, they may be temporary. Many employers, including several in the leisure and travel space have stated that when things normalize, they intend to bring jobs back. We have been talking to management teams about how they plan to manage through the Covid crisis. One of the large hospitality companies stated they have access to lines of credit that they can use to continue operations and to service debt, and by the company's estimate they have enough liquidity to cover costs for over a year, and perhaps two. We don't believe this example is an extreme outlier, many companies are in position to weather an economic downturn for a period of time, and policy support may be on the way. The U.S. Senate is currently in the process of voting on a fiscal stimulus package, targeting between $500 Billion and $1 Trillion to help provide loans to companies and provide support to workers who have lost their jobs. In conjunction with those changing dynamics, CMBS (some of which are backed by hotel revenues) BBB-spreads shot up from 280 bps over swaps on February 20th to over 840 bps over swaps on March 19th. Simplified bond math states that for every 100 bps widening/tightening of spread you lose/gain about 1% in price per year of spread duration. We are seeing some securities higher up in the capital structure with outsized return potential relative to their performance in conservative and pessimistic macro scenarios.

Though consumer and corporate fundamentals have suddenly weakened, it is worth remembering that the United States entered this crisis from a position of strength. Our banking system was well capitalized, the consumer had kept debt burdens low and savings rates high, and the labor market appeared to be accelerating. We also note that securitized asset are designed to have various levels of built-in buffers in an effort to absorb losses, and that the underlying collateral is currently higher quality than it was in the last crisis. Finally, the fiscal stimulus and monetary policy measures being announced are unprecedented in both their size and pace.

In our view, much of the recent spread widening has been driven by the extreme liquidity stress of forced selling to meet investor redemptions. Though one cannot know the ultimate impact of COVID-19, we see compelling opportunities in today's market in terms of risk and return. Fundamental valuation techniques may offer investors an unbiased framework within disjointed markets when correlation breaks down between credit spreads and credit risks. Our team sees potential long term value in the sector overall, and even more so in select securities in the commercial MBS, CRT, Credit Card, and Auto ABS spaces as even investment-grade tranches have been thrown out with the proverbial bathwater.

Securitized Credit Market Dashboard

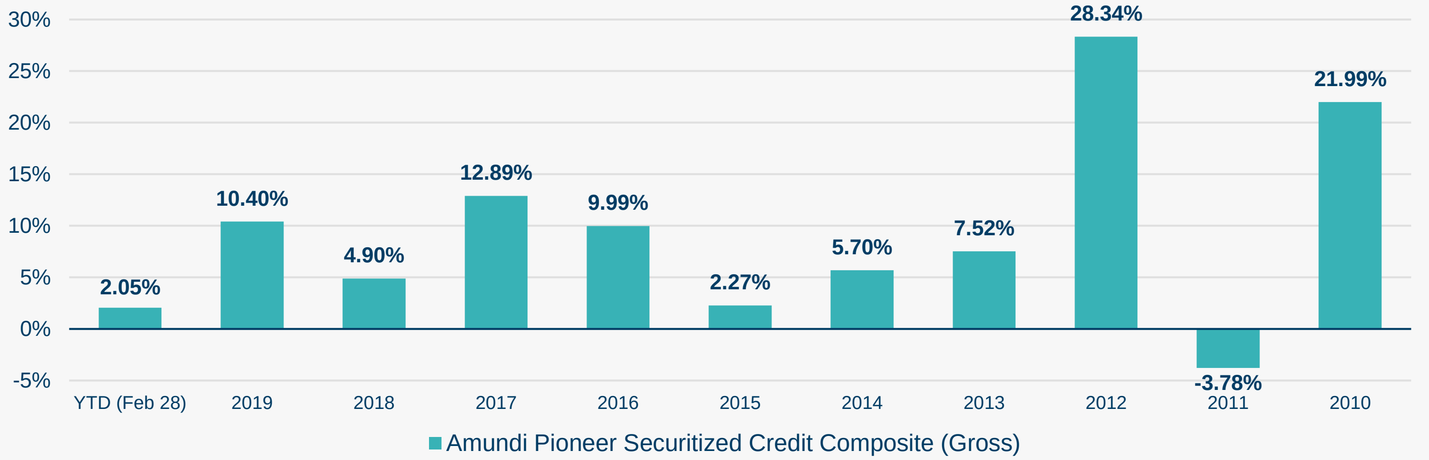


Non-Agency Issuance

	RMBS	CMBS	ABS	CLO
2017	95	241	222	118
2018	116	250	229	130
2019	128	269	228	119
2020 YTD	30	38	47	18

Source: JP Morgan Markets 3/16/2020

Amundi Pioneer Securitized Credit Composite Performance (as of February 28, 2020)



Source: Amundi Pioneer Asset Management, Data as of 2/29/2020, unless otherwise indicated. Please see the GIPS compliant presentation at the end of this document for more information. **Past performance is no guarantee of future results.**

31742-01-0919

Composite Name: Securitized Credit Opportunities

Benchmark: No Benchmark

Reporting Period:	*1 October 2009 to 31 December 2018*	**Composite Creation Date:**	*30 September 2009*
Reporting Currency:	*USD*	**Performance Start Date:**	*1 October 2009*

Period	Composite Gross Return (%)	Composite Net Return (%)	Benchmark Return (%)	Composite 3-Yr Standard Deviation (%)	Benchmark 3-Yr Standard Deviation (%)	Number of Portfolios	Internal Dispersion (%)	Composite Assets (Millions)	Firm Assets (Millions)
2018	4.90	4.27	N/A	3.40	N/A	≤ 5	N/A	154	974,587
2017	12.89	12.18	N/A	3.63	N/A	≤ 5	N/A	109	811,496
2016	9.99	9.41	N/A	3.61	N/A	≤ 5	N/A	102	641,887
2015	2.27	1.56	N/A	3.19	N/A	≤ 5	N/A	114	623,661
2014	5.70	4.53	N/A	4.41	N/A	≤ 5	N/A	293	663,721
2013	7.52	6.50	N/A	5.32	N/A	≤ 5	N/A	267	653,659
2012	28.34	26.72	N/A	6.35	N/A	≤ 5	N/A	235	618,364
2011	-3.78	-4.41	N/A	N/A	N/A	≤ 5	N/A	109	541,974
2010	21.99	20.77	N/A	N/A	N/A	≤ 5	N/A	114	622,986
2009*	4.08	3.83	N/A	N/A	N/A	≤ 5	N/A	46	515,943

* Where a year is indicated by an asterisk, the composite return is for a period of less than 1 year.

With respect to the 2009 Firm Assets, the total AUM has been reduced to account for "cross-investments" (portfolio assets counted more than once if included in multiple composites). Based on the historical use of cross investments at Amundi from 2010 through 2018, the Firm's AUM were reduced by 10% for 2009. The 10% reduction represent a conservative estimate based on the historical average for the period 2010 through 2018. This estimate was necessary due to operational structure related to the creation of Amundi Asset Management in 2010.

As of 1 January 2018, Amundi Smith Breeden LLC ("Prior Firm") merged with and into Amundi Pioneer Institutional Asset Management, Inc. (a legal entity within "the Firm"), with the latter entity surviving the merger. (Refer to the Firm definition below for additional information.) Performance results presented for all periods occurred while members of the portfolio management team were affiliated with the Prior Firm. Such members of the portfolio management team were responsible for investment decisions at the Prior Firm and the decision making process has remained intact within the Firm. Performance results presented for the periods shown occurred while these assets were not part of the Firm definition. In the Firm's opinion, such performance track record conforms to the GIPS standards with respect to the portability of investment performance results. Performance records of the Prior Firm are available upon request.

Effective 29 June 2018, Portfolio Manager Nicholas Pauwels replaced Portfolio Manager Robert Aufdenspring in the management of the strategy alongside Portfolio Manager Noah Funderburk.

Compliance Statement: The Firm claims compliance with the Global Investment Performance Standards ("GIPS®") and has prepared and presented this report in compliance with the GIPS® standards. The Firm has been independently verified for the period beginning 1 January 1994 and ended 31 December 2017. The verification reports are available upon request. Verification assesses whether (1) the Firm has complied with all the composite construction requirements of the GIPS® standards on a firm-wide basis and (2) the Firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS® standards. Verification does not ensure the accuracy of any specific composite presentation.

Firm: For the purpose of GIPS® compliance, as of 1 January 2018, the Firm is defined as "Amundi" and includes the following: Amundi Asset Management, Société Générale Gestion, Amundi (UK) Ltd, Amundi Ireland Limited, Amundi SGR SpA, Amundi Deutschland GmbH, Amundi Austria GmbH, Amundi Japan Ltd, Amundi Hong Kong Ltd, Amundi Singapore Ltd, Amundi Malaysia Sdn Bhd, Amundi Pioneer Asset Management, Inc., and Amundi Pioneer Institutional Asset Management, Inc. With respect to the Amundi Firm history, on 1 January 2011, the asset management activities for third-parties represented by Crédit Agricole Asset Management and Société Générale Asset Management merged to form Amundi Asset Management. On 1 April 2011, Amundi Alternative Investments merged into Amundi Asset Management. On 1 October 2013, Amundi Asset Management acquired Smith Breeden Associates, Inc. and renamed it Amundi Smith Breeden LLC. On 1 January 2014, the Firm was expanded to include Amundi Japan Ltd and Amundi Singapore Ltd. to reflect the inclusion of sales activities in Asia. On 3 July 2017, Amundi Asset Management acquired Pioneer Investments and renamed it Amundi Pioneer. Following the acquisition, on 1 January 2018, the Firm was redefined to include Amundi Pioneer. Amundi Smith Breeden LLC merged with and into Amundi Pioneer Institutional Asset Management, Inc. with the latter entity surviving the merger. As part of the combined global initiatives, the Firm expanded to include Amundi SGR SpA, Amundi Deutschland GmbH, and Amundi Austria GmbH. With respect to the Pioneer Investments Firm history, the Firm was redefined over the historical claim of compliance to reflect the continuous review of its global sales and distribution activities and to ensure its organizational framework is best suited for the marketplace. Between 1 January 2007 and 31 December 2009, the Firm was defined as Pioneer Investment Management, Inc. ("PIM"), Pioneer Institutional Asset Management, Inc. ("PIAM"), Pioneer Investment Management Limited ("PIML"), Pioneer Investment Management Sgr p.A. ("PIM Sgr"), and Pioneer Investments KAG, all wholly-owned subsidiaries of Pioneer Global Asset Management S.p.A. ("PGAM"), and Pioneer Pekao Investment Management S.A. which was jointly owned by PGAM and Bank Pekao S.A. Between 1 January 2010 and 31 December 2015, Pioneer Investments was redefined to only include assets managed exclusively by PIM, PIAM and PIML, and on 1 January 2016 reintegrated the assets of PIM Sgr.
A complete list and description of all of the Firm's composites is available upon request.

Composite Description: Securitized Credit Opportunities seeks to produce absolute returns by actively managing a portfolio consisting primarily of securitized credit assets. These assets may include residential MBS backed by subprime, Alt-A, and prime mortgage collateral, commercial MBS, and consumer ABS securities.
On 1 October 2013, Amundi Asset Management acquired Smith Breeden Associates, Inc. and renamed it Amundi Smith Breeden LLC. On 1 January 2018, Amundi Smith Breeden LLC ("the Prior Firm") merged with and into Amundi Pioneer Institutional Asset Management, Inc. (a legal entity within "the Firm"), with the latter entity surviving the merger. Performance prior to October 2013 occurred while members of the portfolio management team were affiliated with the Prior Firm. Such members of the portfolio management team were responsible for investment decisions at the Prior Firm and the decision making process has remained intact within the Firm. Performance results presented prior to 2013 occurred while these assets were not part of the Firm. In the Firm's opinion, such performance track record conforms to the GIPS standards with respect to the portability of investment performance results. Performance records of the Prior Firm are available upon request.

Minimum Account Size: There is no minimum asset level for inclusion in this composite.

Performance Calculation: Gross-of-fees returns are presented before management and custodial fees but after all trading expenses. Net-of-fees returns are calculated by deducting a model fee from the monthly gross-of-fees composite return. The model fee is calculated by taking 1/12th of the historical maximum institutional fee in effect for each of the periods presented. Policies for valuing portfolios, calculating performance, and preparing presentations are available upon request.

Fee Schedule: The current standard annual investment management fee schedule for institutional separate accounts is 0.50 % in addition to a performance-based fee of 20% on returns in excess of a 2% annual hurdle rate on all assets.

Internal Dispersion: Dispersion is defined as the standard deviation of the annual gross returns of all portfolios that were included in the composite for the entire year. For those years when five or fewer portfolios were included in the composite for the full year, no dispersion measure is presented.

Three-Year Annualized Standard Deviation: The Three-year Annualized Ex-Post Standard Deviation measures the volatility of gross returns for the composite and benchmark over the preceding 36-month period, and is not applicable for performance periods with less than 36 months of returns based on the composite's performance inception date.

Derivatives/Leverage/Shorts: The Firm may use leverage, derivatives and invest in certain markets outside of those represented in the benchmark but these practices are not a significant part of the investment strategy.

Benchmark Description: The investment strategy is unconstrained and uncorrelated to any available market index, which renders a benchmark comparison meaningless.

Past performance is not indicative of future results.