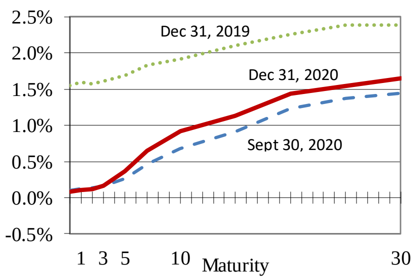
Baird Advisors
Fixed Income Market Commentary
2020 - Year in Review

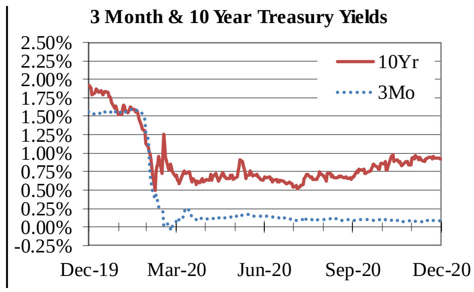
2020 – Global Pandemic Shock Followed by Massive Coordinated Fiscal and Monetary Response

Treasury yields fell across the curve in 2020, with the benchmark 10yr Treasury down 100 bps to finish the year at 0.92%, after hitting an all-time [intra-day] record low of 0.31% on March 9. The curve steepened, with the spread between 2yr and 30yr Treasuries increasing from 82 bps to 153 bps during the year, as yields in shorter maturities saw the largest decline. Starting in late February, the virus affected every aspect of the economy, leading to the swiftest equity bear market in history, with an over 33% peak-to-trough drop in the S&P 500 in just over a month ending March 23, and fixed income markets hitting levels of distress not seen since the Global Financial Crisis (GFC) in 2008. However, unlike 2008, the massive, coordinated monetary and fiscal responses resulted in a much swifter recovery. Unemployment dropped to 6.7% by year end after peaking at 14.7% in April as businesses reopened, and the Pfizer and Moderna vaccines offered hope for a return to normal. The S&P 500 ended the year +16% at record highs and credit spreads tightened through year end, completely erasing the pandemic-related widening in many sectors. The Covid-19 pandemic and the policy response to it essentially created a full market cycle for spreads in the span of a calendar year.

Treasury Yields

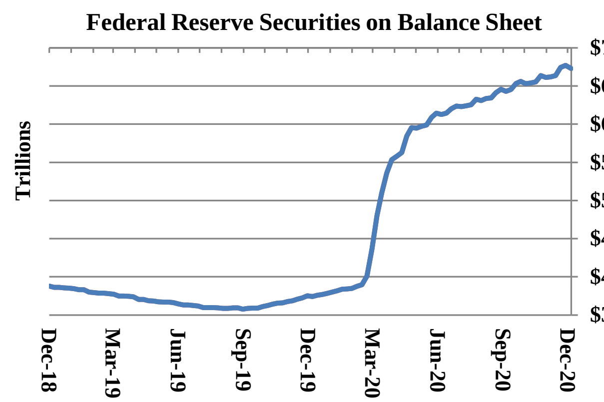


Maturity	12/31/19	9/30/20	12/31/20	Q4 Change	2020 Change
3mo	1.55%	0.10%	0.09%	-0.01%	-1.46%
1	1.60%	0.12%	0.11%	-0.01%	-1.49%
2	1.57%	0.13%	0.12%	-0.01%	-1.45%
3	1.61%	0.15%	0.17%	0.02%	-1.44%
5	1.69%	0.27%	0.36%	0.09%	-1.33%
7	1.83%	0.47%	0.65%	0.18%	-1.18%
10	1.92%	0.68%	0.92%	0.24%	-1.00%
30	2.39%	1.45%	1.65%	0.20%	-0.74%



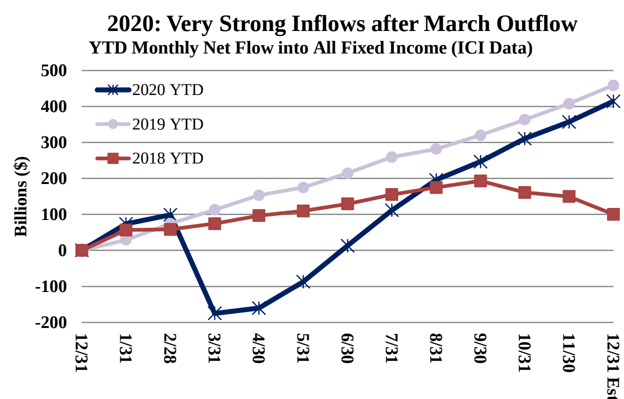
Fed's Response and Congress' CARES Act Eased the Pain; Politics and Geopolitical Uncertainty were High in 2020

The Fed cut rates in two emergency meetings in early March, slashing the fed funds rate 150 bps to the zero bound. Then as credit markets froze up, the Fed implemented "unlimited" purchases of U.S. Treasuries and Agency Mortgage-Backed Securities at a truly astounding pace, authorizing their fourth quantitative easing ("QE") program with purchases of up to $75B Treasuries and $50B MBS ***per day***, buying more in a day than during a full *month* during QE3. The Fed rebooted several 2008-era emergency lending programs, and created a few brand new lending facilities to keep primary and secondary bond trading in corporates and municipals from grinding to a halt. Late in March, Congress passed the $2.2T Coronavirus Aid, Relief, and Economic Security (CARES) Act, the largest fiscal aid package ever at 10% of GDP. The act included support for small businesses, direct payments and enhanced unemployment benefit payments to consumers, and additional funding to hospitals and health care providers. In August, Fed Chair Powell released a "Statement on Longer-Run Goals and Monetary Policy Strategy" – as expected, the Fed moved to an inflation target that averages 2% over time, while forecasting the fed funds rate to remain at the zero bound through 2023. Housing was a bright spot in the economy, with the Freddie Mac 30-yr Mortgage Market Survey Rate hitting all-times lows 14 times during the year, ending at 2.7%. Political uncertainty was high throughout the year. Democratic challenger Joe Biden defeated incumbent President Trump in November, and despite claims of widespread voter fraud by President Trump, Biden is expected to be inaugurated on January 20. U.S./China trade tensions continued and Beijing further limited Hong Kong's autonomy by enacting a national security law on June 30. The UK officially left the EU on January 31, 2020, reaching a final agreement on trade in late December and avoiding a worst-case scenario no-deal Brexit.



As the Fed Balance Sheet Expanded at a Furious Pace, Fixed Income Flows Rebounded

The Fed's bond-buying program (QE4) added an astounding $3T to its investment portfolio, from $3.7 T to $6.7T. QE4 in combination with slashing short rates to zero helped stabilize the bond market. As investor confidence swiftly returned, the $175B in YTD net mutual fund & ETF ***outflows*** through March completely reversed, and fund inflows returned at record-setting pace. Net fixed income mutual fund & ETF inflows ended 2020 at $415B and, importantly,



the ICI data doesn't fully capture demand from all market participants – such as insurance companies, pensions, and foreign investors. Global investors have been drawn to the positive yields on U.S. debt, as nearly $18T in global bonds were trading at negative yields at year end, reaching all-time highs in 2020 according to Bloomberg data.

2020 Spreads: Full Market Cycle for Spreads in One Year

Spreads in most sectors ended the year relatively close to where they began, masking huge intra-year volatility in 2020. For the year, spreads in Agency Pass-throughs were flat, U.S. Investment Grade Corporates widened 3 bps and ABS tightened 11 bps. However, at their March wides, these three sectors were wider by 93 bps, 280 bps and 281 bps, respectively. These swings were due in large part to the uncertainty around Covid and what impact the government's containment efforts would have on the economy, the unprecedented fiscal and monetary support detailed above, and positive vaccine news later in the year providing investors with a light at the end of the tunnel. In particular, the tightening in Agency Pass-through spreads was primarily due to the Fed's $600B in net purchases, which decreased available supply to investors. Furthermore, record-low mortgage rates provided strength to the housing sector and homeowners refinanced at faster-than-expected speeds. Outlier sectors include Non-Agency CMBS, which widened 24 bps (with the most severe widening focused in "A" and lower rated securities) on uncertainty around pandemic-hit sectors such as retail and hotel space, and U.S. High Yield Corporates which widened 24 bps. The outsized move tighter in Emerging Market Debt for the year (70 bps tighter) was largely driven by the removal of Venezuela from the index in May which reduced the OAS of the index by over 300bps. (The EM index underperformed similar-maturity Treasuries in 2020). Investment Grade Corporates had record gross ($2.1T) and net ($1.1T) supply, which was met by very strong demand.

Option-Adjusted Spreads (in bps)

	12/31/19	March Wides	9/30/20	12/31/20	Q4 Chg	YTD Chg
U.S. Aggregate Index	39	127 (3/20)	60	42	-18	3
U.S. Agency (non-mortgage)	10	53 (3/25)	16	10	-6	0
Mortgage and ABS Sectors						
U.S. Agency Pass-throughs	39	132 (3/19)	61	39	-22	0
U.S. Agency CMBS	53	144 (3/23)	62	44	-18	-9
U.S. Non-Agency CMBS	85	348 (3/25)	139	109	-30	24
Asset-Backed Securities	44	325 (3/26)	41	33	-8	-11
Corporate Sectors						
U.S. Investment Grade	93	373 (3/23)	136	96	-40	3
Industrial	99	383 (3/23)	140	101	-39	2
Utility	97	298 (3/24)	141	106	-35	9
Financial Institutions	80	378 (3/23)	126	83	-43	3
Other Govt. Related	72	180 (3/23)	84	66	-18	-6
U.S. High Yield Corporates	336	1100 (3/23)	517	360	-157	24
Emerging Market Debt	573	1370 (3/23)	638	503	-135	-70

Source: Bloomberg Barclays Indices

Strong Market Returns, Credit Outperformed in 2020

The returns in the U.S. fixed income market were truly remarkable considering the strong total returns in 2019 and the fact the 10-year Treasury yield began the year at just 1.92%. Both credit risk and duration risk were rewarded in 2020. U.S. Investment Grade Corporates posted the strongest spread sector returns in 2020 (+9.89%), and returns on longer maturities (U.S. Gov't/Credit + 8.93%) were substantially greater than those on shorter maturities (U.S. 1-3 Yr. Gov't/Credit Index +3.33%). Agency Pass-throughs were the weakest-performing sector (+3.87%), largely due to record-low mortgage rates and historically fast residential mortgage refinancing activity, generating large prepayments in the premium-priced sector. TIPS were the top-performing sector (+10.99%) due to their longer duration and the Fed's efforts to engineer negative real yields.

Total Returns of Selected Bloomberg Barclays Indices and Subsectors

	December	Q4	2020	*2019*	Effective Duration (years)
U.S. Aggregate Index	0.14%	0.67%	7.51%	*8.72%*	6.22
U.S. Gov't/Credit Index	0.09%	0.82%	8.93%	*9.71%*	7.74
U.S. Intermediate Gov't/Credit Index	0.21%	0.48%	6.43%	*6.80%*	4.12
U.S. 1-3 Yr. Gov't/Credit Index	0.09%	0.21%	3.33%	*4.03%*	1.91
U.S. Treasury	-0.23%	-0.83%	8.00%	*6.86%*	7.21
U.S. Agency (Non-Mortgage)	0.11%	0.04%	5.48%	*5.89%*	3.66
U.S. Agency Pass-Throughs	0.22%	0.24%	3.87%	*6.35%*	2.34
CMBS (Commercial Mortgage Backed Securities)	0.73%	1.05%	8.11%	*8.29%*	5.31
ABS (Asset-Backed Securities)	0.20%	0.36%	4.52%	*4.53%*	2.10
U.S. Corporate Investment Grade	0.44%	3.05%	9.89%	*14.54%*	8.84
U.S. High Yield Corporates	1.88%	6.45%	7.11%	*14.32%*	3.58
Emerging Market Debt	2.86%	7.62%	4.26%	*10.90%*	5.35
Municipal Bond Index	0.61%	1.82%	5.21%	*7.54%*	5.18
TIPS (Treasury Inflation Protected Securities)	1.15%	1.62%	10.99%	*8.43%*	7.81

2021 Outlook

We expect above-average economic growth in 2021 as the lagged stimulus benefits, reduced spread of Covid as vaccinations increase, and pent-up consumer demand take effect. While the Fed will remain highly accommodative, anchoring short-term rates at zero and continuing QE, market consensus anticipates a steeper curve with higher inflation expectations and ever-rising Treasury supply pushing longer rates higher. However, we anticipate more modest upward pressure on yields as still-strong secular disinflationary forces temper near-term cyclical inflation pressure and strong demand from yield-starved investors limit the increase in yields. We expect spreads to remain relatively tight in 2021 on solid and improving fundamentals and favorable supply/demand technicals. Absolute returns will be more modest given the low starting yields, and every basis point will be especially important. Sector weightings, security selection and roll down will take on even greater importance in this new year.

Disclosures

Fixed income is generally considered to be a more conservative investment than stocks, but bonds and other fixed income investments still carry a variety of risks such as interest rate risk, credit risk, inflation risk, and liquidity risk. In a rising interest rate environment, the value of fixed-income securities generally decline and conversely, in a falling interest rate environment, the value of fixed-income securities generally increase. High yield securities may be subject to heightened market, interest rate or credit risk and should not be purchased solely because of the stated yield.

The Bloomberg Barclays Aggregate Bond Index is an index comprised of approximately 6000 publicly traded bonds including U.S. Government, mortgage-backed, corporate, and Yankee bonds with an average maturity of approximately 10 years.

The Bloomberg Barclays Government/Credit Index is a combination of the Government Index which measures government-bond general and Treasury funds, and the Credit Bond Index, which is a market value-weighted index which tracks the returns of all publicly issued, fixed-rate, nonconvertible, dollar-denominated, SEC registered, investment grade Corporate Debt.

The Bloomberg Barclays Intermediate Government/Credit Index is a combination of the Government Index which measures government-bond general and Treasury funds, and the Credit Bond Index, which is a market value-weighted index which tracks the returns of all publicly issued, fixed-rate, nonconvertible, dollar-denominated, SEC registered, investment grade Corporate Debt with maturities between one and ten years.

The Bloomberg Barclays Government/Credit Intermediate Index (1 – 3 yr.) is a combination of the Government Index which measures government-bond general and Treasury funds, and the Credit Bond Index, which is a market value-weighted index which tracks the returns of all publicly issued, fixed-rate, nonconvertible, dollar-denominated, SEC registered, investment grade Corporate Debt with maturities between zero and three years.

The Bloomberg Barclays U.S. Treasury Index includes public obligations of the U.S. Treasury. Treasury bills are excluded by the maturity constraint of at least one year but are part of a separate Short Treasury Index. In addition, certain special issues, such as state and local government series bonds (SLGs), as well as U.S. Treasury TIPS, are excluded. STRIPS are excluded from the index because their inclusion would result in double-counting. Securities in the Index roll up to the U.S. Aggregate, U.S. Universal, and Global Aggregate Indices. The U.S. Treasury Index was launched on January 1, 1973.

U.S. Agency: This index is the U.S. Agency component of the U.S. Government/Credit index. Publicly issued debt of U.S. Government agencies, quasi-federal corporations, and corporate or foreign debt guaranteed by the U.S. Government (such as USAID securities). The largest issues are Fannie Mae, Freddie Mac, and the Federal Home Loan Bank System (FHLB). The index includes both callable and non-callable agency securities.

U.S Corporate – Investment Grade: This index is the Corporate component of the U.S. Credit index. It includes publicly issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and quality requirements. To qualify, bonds must be SEC-registered.

CMBS (Commercial Mortgage-Backed Securities): This index is the CMBS component of the U.S. Aggregate index. The Bloomberg Barclays CMBS ERISA-Eligible Index is the ERISA-eligible component of the Bloomberg Barclays CMBS Index. This index, which includes investment grade securities that are ERISA eligible under the underwriter's exemption, is the only CMBS sector that is included in the U.S. Aggregate Index.

MBS (Mortgage-Backed Securities): This index is the U.S. MBS component of the U.S. Aggregate index. The MBS Index covers the mortgage-backed pass-through securities of Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC). The MBS Index is formed by grouping the universe of over 600,000 individual fixed rate MBS pools into approximately 3,500 generic aggregates.

ABS (Asset-Backed Securities): This index is the ABS component of the U.S. Aggregate index. The ABS index has three subsectors: credit and charge cards, autos, and utility. The index includes pass-through, bullet, and controlled amortization structures. The ABS Index includes only the senior class of each ABS issue and the ERISA-eligible B and C tranche. The Manufactured Housing sector was removed as of January 1, 2008, and the Home Equity Loan sector was removed as of October 1, 2009.

Corporate High Yield: The Bloomberg Barclays U.S. High Yield Index covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included. Original issue zeroes, step-up coupon structures, 144-As and pay-in-kind bonds (PIKs, as of October 1, 2009) are also included.

Emerging Market: Bloomberg uses a fixed list of countries defined as emerging markets countries for index inclusion purposes that is based on World Bank Income group definitions (Low/Middle), IMF country classifications (Non-Advanced Economies), and other advanced economies that may be less accessible or investable for global debt investors.

The Bloomberg Barclays Municipal Bond Index is a broad-based, total-return index. The bonds are all investment-grade, tax-exempt, and fixed-rate securities with long-term maturities (greater than 2 years). They are selected from issues larger than $50 million.

The Bloomberg Barclays TIPS Index consists of Treasury Inflation Protected Securities (TIPS). TIPS are securities whose principal is tied to the Consumer Price Index. TIPS pay interest semi-annually, based on the fixed rate applied to the adjusted principal.

Ratings are measured on a scale that ranges from AAA or Aaa (highest) to D or C (lowest). Investment grade investments are those rated from highest down to BBB- or Baa3.