PGIM FIXED INCOME

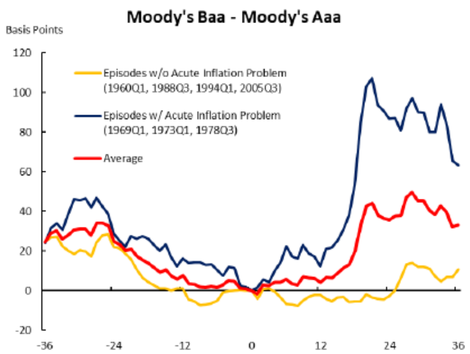
Extrapolating Rate Hikes on Asset Performance

WEEKLY VIEW FROM THE DESK | March 21, 2022

QUICK LINK TO THE RETURNS TABLE

MACRO

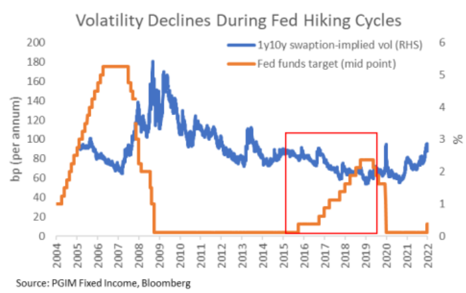
- In the U.S., supply chain disruptions may ramp up again with the war in Ukraine and China's renewed COVID shutdowns, but labor supply in the U.S. may rebound more quickly if a higher cost of living induces more worker participation. That's a sentiment shared by the Fed, as the hope is that monetary tightening will lessen labor shortage without disturbing the overall labor market and the unemployment rate.
- To better understand how economic and market behaviors evolve during hiking cycles, we conducted an event study on the seven periods since the 1960s when the Fed hiked rates by at least 2.675 pp over two years, a path currently projected by the FOMC. History suggests that, on average, Fed tightening takes time to hurt growth and equities (e.g., on average, GDP bottomed about 12 months into the hiking cycle, while equities traded sideways to slightly higher over time). Unsurprisingly, GDP, equities, Treasuries, and credit performed worse during those hiking cycles when there were acute inflation problems.
- More specifically to fixed income, history shows that early rate hikes push Treasury yields higher, while credit spreads remain relatively stable. Conditions with more advanced tightening cycles and higher inflation readings have extended the back up in yields and eventually led to wider credit spreads (see blue line in the chart).
- Given the heightened uncertainty surrounding the Fed's ability to control rising prices without setting off a recession, we think there's a chance that the Fed will end up under-delivering on its seven hikes this year if rapid tightening leads to significant market turmoil or if the economic outlook deteriorates substantially.
- Recession probability in the euro area is a coin toss even though individual countries, such as Germany and Italy, are seeing elevated risks. So far, the ECB's response to the energy shock has been to chart a quicker exit path for asset purchases and negative rates. Still, we should not discount the ECB's ability to implement large-scale bond purchases on short notice if economic downside or political fragmentation risks crystalize. Fiscally, the European Commission can front-load its Next Gen EU plan and increase nations' loan access, but a package in response to the economic stress brought by the war would likely take a few years. Our 2.5% GDP forecast for 2022 is in line with consensus, while our 1.3% estimate for 2023 is markedly lower.



Source: PGIM Fixed Income

RATES

- Another bout of bear-flattening ensued in developed-market yield curves last week, with the Treasury two- and 10-year curve now trading at less than 20 bps. Last week's Fed announcement surprised on the hawkish side with its updated projections for the fed funds rate signaling that it is "all in" on the inflation fight given the substantial escalation in the inflation outlook. Fed funds futures have priced in 50 bps hikes in the near term, and officials have clearly put that option on the table as inflation pressure persists.
- Fed hiking cycles have often been misunderstood as high-volatility events, but the reality is that rates volatility—swaption implied 1y10y vol more specifically—declined during both the 2004 and 2015 cycles, and volatility only started to increase months after the tightening cycle peaked (and shortly before the beginning of the subsequent easing cycle).
- The prospect of declining volatility increases the appeal of relative value, as our optimal portfolio model continues to show dislocations in the Treasury market not seen since the Financial Crisis. At a time when yield curves are almost flat, we see rare duration-neutral, relative-value opportunities for yield pickup across DM rates. We continue to be long the Treasury 20-year against neighboring futures contracts and short the off-the-run 10-year against on-the-run seven- and 10-year notes.



- Mortgage-backed securities have cheapened off very tight levels over the past few months as higher rate volatility, geopolitical conflict, and increased concerns about Fed shedding MBS holdings weighed on performance. As mortgage rates continue to climb, Ginnie Maes are outperforming as the mortgage insurance premium cut now seems unlikely and prepayments in higher coupons were largely concentrated in conventional MBS.

IG CORPORATES

- When looking ahead in U.S. IG, companies' direct revenue from Russia and Ukraine is generally limited (less than 5%) and highlights some relative-value opportunities. For example, bank spreads look cheap and the fundamentals are strong—they may initially trade with some volatility amid demand for liquidity and incoming supply. Energy, metals & chemical credits should benefit from higher oil and commodity prices, though some of that will go to shareholders. At this point, we're looking to take advantage of attractive tender offerings, and in periods when we reduce risk, it may be to make room for new Issues with large concessions.

- In Europe, we continue to prefer non-CSPP eligible bonds, which generally have wider spreads without additional credit risk. In terms of relative-value, we see room for financial spreads to tighten to the level of corporates. We also see value in corporate hybrid bonds and in the spread pick-up between BB and BBB-rated bonds. In global portfolios, U.S.-dollar spreads have outperformed euro spreads in the year to date, but our analysis continues to point to the potential for the difference between the two to narrow.

HIGH YIELD

- We continue to believe that U.S. high yield issuers remain well-insulated from the most severe impacts of the Russian war on Ukraine. Most issuers are domestically focused and have thus far been able to pass along the rise in input costs to their customers. In addition, energy, metals & mining, and chemical companies currently comprise a large portion of the market and are among the likely beneficiaries of higher commodity prices.
- That said, we believe high yield risk premiums do not fully reflect the bearish scenario of an increasing possibility and secondary effects of a long-term economic slowdown. Although this downside scenario could lead to an increase in defaults and wider spreads, we believe any spread widening should be less severe than is typical during such downturns due to the favorable position most issuers find themselves in today with strong debt serviceability and favorable maturity profiles.
- U.S. leveraged loans posted positive returns last week as buyers emerged following the more hawkish Fed statement. After the recent decline in prices, CLO warehouses have begun to ramp again as the arbitrage now looks more attractive. Looking forward, we expect another 2-3 points of upside in Q2, with rising base rates leading to rising overall coupons sometime later in the quarter.
- In Europe, high yield and loan spreads tightened even as the primary market remained effectively closed. That said, several new loan deals were announced and CLO issuance once again appears to be ramping up. Against the backdrop of slightly improved technicals, we have modestly raised our short-term outlook on European loans. While the macro backdrop remains a concern, we believe high yield and loan issuers appear relatively resilient to higher energy prices and, due to a lack of near-term maturities, don't expect to see a material pickup in defaults in 2022 or 2023 even as the risk of a recession has risen.

EMERGING MARKETS

- Post COVID, many EM governments now carry significant debt loads. The current shock may bring forward some restructurings (for example, of Ghanaian or Egyptian debt) but restructurings need not mean widespread or disorderly defaults. Instead, they may take place in an investor-friendly manner and may already be priced into some bonds. EM bonds are a differentiated universe. Some countries' bonds have weakened, but spreads of other countries' bonds, mainly those of lower-rated commodity exporters, have tightened year-to-date.
- We're maintaining our "barbell" investment strategy, which includes lower-rated, higher-yielding issuers at the front end and higher-quality names at the back end. But Fed tightening, possible shocks to food supply, and higher global inflation have made us more selective, both among government issuers and by ensuring that our corporate and quasi-sovereign holdings are resilient.
- In local assets, we continue to be underweight EM currencies and, within that segment, prefer Asian EM currencies as the Chinese economy may become a source of support for the global economy amid forthcoming stimulus. In local rates, we continue to favor short duration in 5yr and under maturities. However, if global inflation starts to peak and/or global growth uncertainty grows, we have to be "humble and nimble" and add duration. Our biggest overweight is in China given the PBoC's easy liquidity stance.

SECURITIZED PRODUCTS

- The combination of wider spreads and higher interest rates should limit the supply of fixed-rate CMBS conduit deals going forward. However, we still expect to see ample supply of floating-rate deals in SASB and CRE CLOs, as issuers refinance large legacy industrial and multifamily deals. Wider credit spreads are likely to slow down M&A deals. Outside of macro volatility, the main risk to CRE is rising rates—if long term rates continue to rise, we may see some softness in capitalization rates.
- Primary CLO spreads, particularly for benchmark issuers, continue to lag secondary valuations. We have seen a number of buyers committing to deals at stale levels, not reflective of the secondary widening. AAA spreads remain in the ~3M SOFR+140 area for benchmark issuers, which is roughly 20 bps tighter than secondary. We expect primary spreads to converge to secondary levels. European primary transactions are now being pre-marketed in the 3E+120s, roughly 30 bps wider than the start of the year.
- ABS demand has emerged at wider spread levels, though diminished market depth is a headwind. New issue supply is roughly on par with 2021, though recent spread widening has led some issuers to pull deals. Most major issuers have significant warehouse facilities and have some flexibility as to term deals. Euro ABS/RMBS spreads have held in favorably with 3yr senior non-prime UK credit card trade at SONIA+120bps, while 3yr senior UK non-confirming RMBS trades at SONIA+105.

MUNICIPAL BONDS

- We continue to project short-term volatility in munis, but see an inflection point in the summer if technicals turn and credit fundamentals remain strong. Over the short term, we don't see any signs of immediate relief in outflows, driven by current rate volatility. Muni market volatility has been exacerbated by growing participation of Muni ETFs, and dealers are less willing to take balance sheet risk because of basis risk frustrating dealers' ability to hedge.
- Yet, we see an inflection point approaching where we may leg into risk. It depends on reinvestment picking up in the summer months (net negative supply) and some stability in rates. Furthermore, yield bogies are near levels that are attractive to crossover accounts.

THE RETURNS TABLE As of March 18, 2022

Sovereign Rates	Duration	YTM	OAS	Yield/ OAS Change (BPS) WTD	QTD	YTD	Prior Year	Total Return (%) WTD	QTD	YTD	Prior Year
U.S. 2-Year	1.9	1.94	---	19	121	121	178	-0.36	-2.04	-2.04	-2.51
U.S. 5-Year	4.7	2.14	---	20	88	88	128	-0.83	-3.86	-3.86	-4.48
U.S. 10-Year	9.0	2.15	---	16	64	64	44	-1.24	-5.33	-5.33	-1.92
U.S. 10-Year Breakeven	--	2.90	---	-7	31	31	61	---	---	---	---
U.S. 10-Year TIPS	4.9	-0.75	---	23	35	35	-16	-2.09	-1.45	-1.45	9.04
U.S. 20-Year	15.6	2.53	---	10	61	61	19	-1.18	-9.36	-9.36	-0.66
U.S. 30-Year	21.4	2.42	---	7	52	52	-3	-1.09	-10.93	-10.93	2.64
UK 10-Year	8.5	1.50	---	1	53	53	62	-0.02	-3.97	-3.97	-3.14
Germany 10-Year	9.9	0.37	---	12	55	55	64	-1.22	-4.44	-4.44	-4.44
Japan 10-Year	9.6	0.20	---	2	14	14	10	-0.23	-0.79	-0.79	-0.79
Australia 10-Year	9.4	2.58	---	18	91	91	79	-1.63	-7.68	-7.68	-4.51
Canada 10-Year	8.9	2.19	---	20	77	77	58	-1.72	-5.86	-5.86	-3.59
MAJOR FI MS INDICES											
Global Aggregate Unhedged	7.4	1.99	45	-3	10	10	12	-0.29	-5.53	-5.53	-6.26
Global Aggregate Hedged	7.4	1.99	45	-3	10	10	12	-0.29	-4.29	-4.29	-2.99
U.S. Aggregate	6.8	2.72	45	-4	9	9	12	-0.39	-5.16	-5.16	-3.08
Euro-Aggregate (Unhedged)	7.4	0.82	75	-5	18	18	27	-0.25	-4.41	-4.41	-5.14
Japanese Aggregate	9.6	0.25	1	0	0	0	0	-0.13	-1.40	-1.40	-1.12
MAJOR FI CREDIT INDICES											
Mortgage-Backed (Agency)	5.8	2.79	28	-2	-3	-3	16	-0.54	-3.97	-3.97	-3.91
Global IG Corporate Bonds	7.1	2.99	136	-11	40	40	38	0.52	-7.36	-7.36	-5.95
U.S. IG Corporate Bonds	8.3	3.50	127	-16	35	35	31	0.59	-7.44	-7.44	-3.11
European IG Corporate	5.1	1.45	146	-7	51	51	55	0.10	-4.66	-4.66	-4.76
U.S. High Yield Bonds	4.7	6.13	370	-25	87	87	33	0.51	-5.06	-5.06	-0.04
European High Yield Bonds	3.8	4.68	438	-17	120	120	123	0.63	-4.52	-4.52	-2.32
U.S. Leveraged Loans	0.3	6.82	479	-22	40	40	44	0.19	-1.03	-1.03	2.31
European Leveraged Loans	0.3	3.91	500	33	85	85	84	0.33	-1.48	-1.48	1.45
EM Hard Currency Sovs.	7.4	6.86	459	-38	90	90	110	1.92	-9.78	-9.78	-7.45
EM Corporates	4.7	6.24	408	-19	96	96	110	0.45	-8.16	-8.16	-6.60
EM Currencies	---	6.41	---	3	208	208	379	1.86	-1.98	-1.98	-3.71
EM Local Rates	5.0	6.15	6	0	0	0	1	0.12	-7.15	-7.15	-9.31
CMBS	5.0	3.02	89	0	21	21	23	-0.88	-4.69	-4.69	-3.91
ABS	2.3	2.54	63	8	24	24	32	-0.54	-2.40	-2.40	-2.64
CLOs	---	1.30	130	1	21	21	23	-0.03	-0.58	-0.58	-0.65
Municipal Bonds	5.0	2.27	---	12	116	116	102	-0.51	-4.88	-4.88	-2.71

Equity/Volatility	Level	Total Return (%) WTD	QTD	YTD	Prior Yr
S&P 500 Index	9382	6.2	-6.1	-6.1	15.6
DAX	14405	5.8	-9.3	-9.3	-2.5
Stoxx 600	242	5.4	-6.3	-6.3	8.4
Nikkei 225	26827	6.6	-6.8	-6.8	-9.7
Shanghai Comp.	3254	-1.8	-10.7	-10.7	-4.1
MSCI ACWI	363	5.8	-6.8	-6.8	5.7
FTSE 100	7444	3.6	1.3	1.3	13.2
MOVE Index	92	-7.3	19.0	19.0	30.2
VIX Index	25	-22.4	38.6	38.6	10.6

FX/Commodities	Spot	% Change WTD	QTD	YTD	Prior Year
EUR/USD	1.1	1.3	-2.8	-2.8	-7.3
USD/JPY	119.2	1.6	3.6	3.6	9.4
GBP/USD	1.3	1.1	-2.6	-2.6	-5.4
USD/CHF	0.9	-0.3	2.1	2.1	0.5
USD (DXY)	98.2	-0.9	2.7	2.7	6.9
Oil	77.0	-4.2	36.0	36.0	74.5
Gold	1921.6	-3.4	5.1	5.1	10.7

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Source(s) of data (unless otherwise noted): PGIM Fixed Income as of March 2022

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European Investment Grade Corporate Bonds: Bloomberg Barclays European Corporate Bond Index (unhedged): The Bloomberg Barclays Euro-Aggregate: Corporates bond Index is a rules-based benchmark measuring investment grade, EUR denominated, fixed rate, and corporate only. Only bonds with a maturity of 1 year and above are eligible.

U.S. High Yield Bonds: ICE BofAML U.S. High Yield Index: The ICE BofAML U.S. High Yield Index covers US dollar denominated below investment grade corporate debt publicly issued in the US domestic market. Qualifying securities must have a below investment grade rating (based on an average of Moody's, S&P and Fitch), at least 18 months to final maturity at the time of issuance, and at least one year remaining term to final maturity as of the rebalancing date.

European High Yield Bonds: ICE BofAML European Currency High Yield Index: This data represents the ICE BofAML Euro High Yield Index value, which tracks the performance of Euro denominated below investment grade corporate debt publicly issued in the euro domestic or eurobond markets. Qualifying securities must have a below investment grade rating (based on an average of Moody's, S&P, and Fitch). Qualifying securities must have at least one year remaining term to maturity, a fixed coupon schedule, and a minimum amount outstanding of €100 M. ICE Data Indices, LLC, used with permission. ICE DATA INDICES, LLC IS LICENSING THE ICE DATA INDICES AND RELATED DATA "AS IS," MAKES NO WARRANTIES REGARDING SAME, DOES NOT GUARANTEE THE SUITABILITY, QUALITY, ACCURACY, TIMELINESS, AND/OR COMPLETENESS OF THE ICE DATA INDICES OR ANY DATA INCLUDED IN, RELATED TO, OR DERIVED THEREFROM, ASSUMES NO LIABILITY IN CONNECTION WITH THEIR USE, AND DOES NOT SPONSOR, ENDORSE, OR RECOMMEND PGIM FIXED INCOME OR ANY OF ITS PRODUCTS OR SERVICES.

U.S. Senior Secured Loans: Credit Suisse Leveraged Loan Index: The Credit Suisse Leveraged Loan Index is a representative, unmanaged index of tradable, U.S. dollar denominated floating rate senior secured loans and is designed to mirror the investable universe of the U.S. dollar denominated leveraged loan market. The Index return does not reflect the impact of principal repayments in the current month.

European Senior Secured Loans: Credit Suisse Western European Leveraged Loan Index: All Denominations EUR hedged. The Index is a representative, unmanaged index of tradable, floating rate senior secured loans designed to mirror the investable universe of the European leveraged loan market. The Index return does not reflect the impact of principal repayments in the current month.

Emerging Markets U.S.D Sovereign Debt: JP Morgan Emerging Markets Bond Index Global Diversified: The Emerging Markets Bond Index Global Diversified (EMBI Global) tracks total returns for U.S.D-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities: Brady bonds, loans, and Eurobonds. It limits the weights of those index countries with larger debt stocks by only including specified portions of these countries' eligible current face amounts of debt outstanding. To be deemed an emerging market by the EMBI Global Diversified Index, a country must be rated Baa1/BBB+ or below by Moody's/S&P rating agencies. Information has been obtained from sources believed to be reliable, but J.P. Morgan does not warrant its completeness or accuracy. The Index is used with permission. The Index may not be copied, used, or distributed without J.P. Morgan's prior written approval. Copyright 2021, J.P. Morgan Chase & Co. All rights reserved.

Emerging Markets Local Debt (unhedged): JPMorgan Government Bond Index-Emerging Markets Global Diversified Index: The Government Bond Index-Emerging Markets Global Diversified Index (GBI-EM Global) tracks total returns for local currency bonds issued by emerging market governments.

Emerging Markets Corporate Bonds: JP Morgan Corporate Emerging Markets Bond Index Broad Diversified: The CEMBI tracks total returns of U.S. dollar-denominated debt instruments issued by corporate entities in Emerging Markets countries.

Emerging Markets Currencies: JP Morgan Emerging Local Markets Index Plus: The JP Morgan Emerging Local Markets Index Plus (JPM ELMI+) tracks total returns for local currency–denominated money market instruments.

Municipal Bonds: Bloomberg Barclays Municipal Bond Indices: The index covers the U.S.D-denominated long-term tax-exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and pre-refunded bonds. The bonds must be fixed-rate or step ups, have a dated date after Dec. 13, 1990, and must be at least 1 year from their maturity date. Non-credit enhanced bonds (municipal debt without a guarantee) must be rated investment grade (Baa3/BBB-/BBB- or better) by the middle rating of Moody's, S&P, and Fitch.

U.S. Treasury Bonds: Bloomberg Barclays U.S. Treasury Bond Index: The Bloomberg Barclays U.S. Treasury Index measures U.S. dollar-denominated, fixed-rate, nominal debt issued by the U.S. Treasury. Treasury bills are excluded by the maturity constraint but are part of a separate Short Treasury Index.

Mortgage Backed Securities: Bloomberg Barclays U.S. MBS - Agency Fixed Rate Index: The Bloomberg Barclays U.S. Mortgage Backed Securities (MBS) Index tracks agency mortgage backed pass-through securities (both fixed-rate and hybrid ARM) guaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC). The index is constructed by grouping individual TBA-deliverable MBS pools into aggregates or generics based on program, coupon and vintage.

Commercial Mortgage-Backed Securities: Bloomberg Barclays CMBS: ERISA Eligible Index: The index measures the performance of investment-grade commercial mortgage-backed securities, which are classes of securities that represent interests in pools of commercial mortgages. The index includes only CMBS that are Employee Retirement Income Security Act of 1974, which will deem ERISA eligible the certificates with the first priority of principal repayment, as long as certain conditions are met, including the requirement that the certificates be rated in one of the three highest rating categories by Fitch, Inc., Moody's Investors Services or Standard & Poor's.

Palmer Square AAA CLO DM Index represents the discount margin of CLO AAA rated tranches in the Palmer Square CLO Senior Index, which is designed to reflect the investable universe of U.S CLO senior original rated AAA and AA debt issued after Jan 1, 2011.

Global Aggregate Bond Index is a measure of global investment grade debt from twenty four local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

U.S. Aggregate Bond Index: Bloomberg Barclays U.S. Aggregate Bond Index: The Bloomberg Barclays U.S. Aggregate Index covers the U.S.D-denominated, investment-grade, fixed-rate or step up, taxable bond market of SEC-registered securities and includes bonds from the Treasury, Government-Related, Corporate, MBS (agency fixed-rate and hybrid ARM passthroughs), ABS, and CMBS sectors. Securities included in the index must have at least 1 year until final maturity and be rated investment-grade (Baa3/ BBB-/BBB-) or better using the middle rating of Moody's, S&P, and Fitch.

Euro Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, euro-denominated, fixed rate bond market, including treasuries, government-related, corporate and securitized issues. Inclusion is based on currency denomination of a bond and not country of risk of the issuer.

Japanese Aggregate Bond Index The Japanese Aggregate Index contains fixed-rate investment-grade securities denominated in Japanese yen and registered as domestic bonds. The index is composed primarily of local currency sovereign debt but also includes government-related, corporate, and securitized bonds.

The S&P 500® is widely regarded as the best single gauge of large-cap U.S. equities. There is over U.S.D 9.9 trillion indexed or benchmarked to the index, with indexed assets comprising approximately U.S.D 3.4 trillion of this total. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization.

The DAX Index is a total return index of 30 selected German blue chip stocks traded on the Frankfurt Stock Exchange. The equities use free float shares in the index calculation. The DAX has a base value of 1,000 as of December 31, 1987. As of June 18, 1999 only XETRA equity prices are used to calculate all DAX indices.

The STOXX 600 Index is derived from the STOXX Europe Total Market Index (TMI) and is a subset of the STOXX Global 1800 Index. With a fixed number of 600 components, the STOXX Europe 600 Index represents large, mid and small capitalization companies across 17 countries of the European region.

The Nikkei 225 Index is a price-weighted average of 225 top-rated Japanese companies listed in the First Section of the Tokyo Stock Exchange. The Nikkei Stock Average was first published on May 16, 1949.

Shanghai Composite Index is a capitalization-weighted index. The index tracks the daily price performance of all A-shares and B-shares listed on the Shanghai Stock Exchange. The index was developed on December 19, 1990.

MSCI ACWI is a free-float weighted equity index. It was developed with a base value of 100 as of December 31 1987. MXWD includes both emerging and developed world markets.

FTSE 100 is a capitalization-weighted index of the 100 most highly capitalized companies traded on the London Stock Exchange. The equities use an investibility weighting in the index calculation. The index was developed with a base level of 1000 as of December 30, 1983.

MOVE Index is a yield curve weighted index of the normalized implied volatility on 1-month Treasury options. It is the weighted average of volatilities on the CT2, CT5, CT10, and CT30. (weighted average of 1m2y, 1m5y, 1m10y and 1m30y Treasury implied vols with weights 0.2/0.2/0.4/0.2, respectively).

VIX Index is a financial benchmark designed to be an up-to-the-minute market estimate of the expected volatility of the S&P 500® Index, and is calculated by using the midpoint of real-time S&P 500 Index (SPX) option bid/ask quotes.

Bloomberg Commodity Index Bloomberg Commodity Index (BCOM) is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification. Roll period typically occurs from 6th-10th business day based on the roll schedule.

The U.S. Dollar Index indicates the general international value of the USD. The USDX does this by averaging the exchange rates between the USD and major world currencies. The ICE US computes this by using the rates supplied by some 500 banks.

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