PGIM FIXED INCOME

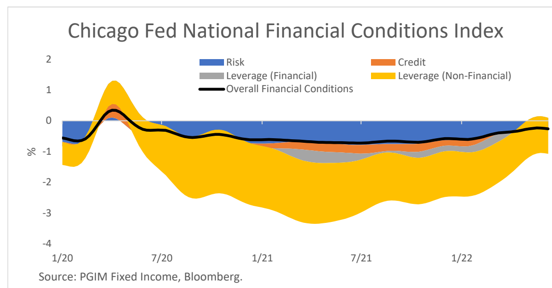
Seeing Value amid Persistent Clouds

WEEKLY VIEW FROM THE DESK | June 21, 2022

QUICK LINK TO THE RETURNS TABLE

MACRO

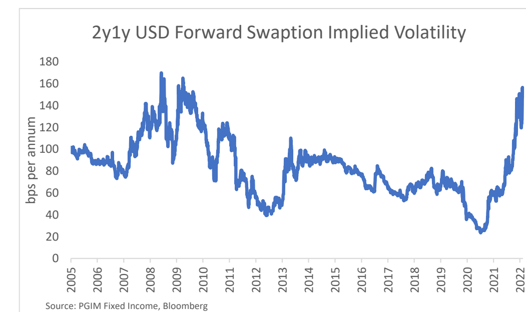
- Global central banks have stepped up and made their pivot to front-loading the tightening cycle, with the Bank of Canada poised to follow the Federal Reserve in hiking 75 bps. In the US, the tightening has, by and large, led to a repricing of risk assets rather than a broader repricing of credit conditions or level of leverage in the financial system. However, we are closely monitoring emerging cracks and fault lines in the market as a result of the Fed's actions.
- During downturns and the early stage of an economic recovery, central banks' tendency to telegraph their likely course of action help them implement policies without injecting excessive volatility into the market. But forward guidance is proving increasingly counterproductive at this point in the economic cycle as we think a nimble approach—one with high degrees of conditionality attached—should be adopted instead. The Fed readily admits that no one really knows the accurate level of neutral rates. Following last week's 75bp hike, an effective fed funds rate of around 1.6% is just about where it was in 2018 when rates began to enter restrictive territories. Consumers and corporates react to monetary policy with a lag, which makes pivotal economic turns particularly difficult to grasp. We have already seen slowing in rate-sensitive sectors, such as housing and autos, but it will take another quarter or two to gauge the severity of the slowdown. We are monitoring hiring as a real-time indicator of business activity.



- Meanwhile, we're nearing peak uncertainty in Europe as a perfect storm may be forming on the horizon. Investors are pricing in significantly tighter policy paths than warranted in the UK and the euro area—two economies that are, unlike the U.S., functioning well below potential, with the former's economy already slowing and the latter's never growing at a considerable pace. Besides, low storage levels of natural gas indicate that Russia has the upper hand in the escalating energy crisis. The risk of a sudden stop in Russian energy is rising and remains high for the foreseeable future.
- The rise of the political right in France and Italy is adding to the uncertain economic picture, and euro area fragmentation risk is rising alongside the widening in Italian and Greek sovereign spreads. We see a relatively small window for politicians to limit contagion risks by setting up a backstop facility that could buffer member countries against renewed market turmoil. While it's likely that any language around an ECB backstop will be vague, we also think it will be generally accepted by market participants.

RATES

- Enormous volatility continues to be priced into the rates market, a departure from historical patterns when short-term implied volatility declined during tightening cycles. While acknowledging the immediate trajectory of inflation is going to dictate market volatility and the path of the Treasury 10-year yield, our base case is implied vol will decline from current levels, which is around the highest since the global financial crisis, and the 10-year yield will stay below the terminal rate when it is eventually reached. The recent selloff is also notable in its global nature, as German yields led the increase across the curve last week by rising as many as 35 bps.



- Fed fund futures have priced in a 75 bp hike in July and a strong likelihood of a similar move in September. With last week's FOMC meeting resetting expectations, the hiking path priced in for 2022 remains slightly higher than Fed officials' median projection. However, the market continues to price in rate cuts beginning in 2023, which we interpret as reflecting the assessment of rising recession risk. In the long end of the curve, the supply of U.S. Treasuries, particularly the 20-year, has declined to a fraction of last year's issuance sizes following multiple rounds of reductions. Unfortunately, the sector has not benefitted from the improved demand-supply picture, and the 20-year remains undervalued amid poor liquidity and elevated volatility.
- Elevated volatility contributed to the recent underperformance of agency mortgage-backed securities. Unlike March 2020, the current selloff isn't driven by leverage or the cost of financing, but primarily by concerns that the Fed will begin selling MBS outright in its fight against inflation. We think the prospect of outright selling is more a 2023 discussion; that said, our strategy of underweighting securities that the SOMA portfolio heavily holds has been beneficial. Bearing in mind the implicit guarantees enjoyed by agency-backed MBS, we think the current valuations are too low and we continue to find opportunities to neutralize our underweight positions.

IG CORPORATES

- Our view of the global spread sectors cuts two ways. While we believe that further spread volatility is likely, we're cognizant that value has been created and attempting to time the wides of the market will be highly challenging. Hence, in the U.S. IG sector, we've identified an approximate spread level of 170-175 bps as a point where we may consider increasing spread risk. Until then, we'll remain short spread duration with overweight positioning in money center banks, energy and other commodities, as well as municipals. We also plan on taking advantage of attractive tender offers and short-term rallies to reduce risk as needed.
- Corporate fundamentals also require a nuanced view. On one hand, they remain strong and trending positively with nearly $50B in rising stars this year. Furthermore, the current credit cycle unfolded at a historically swift speed and leverage ratios remain consistent with pre-COVID levels (2.9x vs. 2.4x) as many companies simply didn't have enough time to level up. That said, we're seeing more signs of shareholder friendly activity as stock buybacks and dividends reached a record pace in Q1 (up 36% from a year earlier), which accounted for 40% of EBITDA vs. the peak of 43% in 2016.

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- Spread levels in European IG bonds have widened to historically wide levels, in the absence of a major crisis. European bank bonds have widened significantly more than European corporate bonds. We remain overweight risk, but maintain our portfolios' short position with respect to spread duration, while selectively adding positions. In our global portfolios, we are reducing our underweight euro exposure.
- In our global portfolios, we are initiating paired trades in euro-denominated bonds that trade at significantly wider spreads than US dollar-denominated bonds of comparable or identical issuers. The current spread between the two offers historically attractive opportunities.

HIGH YIELD

- U.S. high yield spreads widened as investors focused on a more front-loaded policy response from the Fed and recession risks. Average yields ended the week at the highest level since April/May 2020 and spreads widened to levels not seen since October 2020. From a total return perspective, BBs have outperformed so far in Q2, followed by Bs and CCCs, respectively, as growth concerns continue to prevail.
- The primary market saw two deals price last week, which brings June issuance to $9.2B and YTD issuance to $70.6B, of which 48.7% has been used for refinancing purposes. That compares to a range of 60.9% to 67.1% that was used for refinancing purposes during 2017-2021 as higher rates appear to be impacting refinancing-driven supply. High yield bond mutual funds posted their third largest weekly outflow on record, totaling $5.7B.
- Although risk premiums have risen and spreads have widened as markets have begun pricing in higher recessionary probabilities, we remain defensive and are prepared for further spread widening ahead. That said, the market appears reasonably close to fair value, with only an additional 25-50 bps of spread widening needed to balance the risks and rewards.
- Loan prices declined to their lowest level since August 2020 as loan mutual funds posted their largest weekly outflow since March 2020 totaling more than $2B. YTD, higher-rated loans have outperformed, with BBs outpacing Bs by a meaningful margin and CCCs lagging considerably. Following the most recent selloff, loan yields of 8.4% are now at levels not seen since March 2020. Given anticipated rises in the base rate, we expect all-in loan coupons to rise to 7.25% and yields to rise to approximately 9.0% by year-end.
- In Europe, high yield bond spreads have now widened +143 bps QTD and +212 bps YTD. Issuance remains scant, with supply now totaling €14.3B YTD compared to €76.6B through the same period in 2021. After outperforming high yield in the initial phases of market widening post the Russian invasion of Ukraine, loans have underperformed in the months since. Heading into Q3, we remain somewhat cautious and do not believe current premiums adequately reflect the prevailing risks.

EMERGING MARKETS

- Most current economic risks in developed markets are amplified in emerging markets. These economies are largely price-takers. They are often at the centre of the current disruption, as in Russia's invasion of Ukraine. And they mostly have less-developed legal and economic systems. In coming months, we plan to maintain our portfolios' barbell structure of higher-yielding securities at the short-dated end and higher-quality long-dated bonds. But we remain selective at both ends.
- EM hard-currency government bonds are more differentiated than EM hard-currency corporate bonds: the more volatile EM government issuers often have high debt ratios and high financing costs. But we see several investment-grade EM government issuers who can withstand slower growth and tighter financing costs. GCC (Gulf Cooperation Council) issuers, for example, offer spreads over U.S. Treasury yields of 150-200 bps. We remain overweight EM corporates, where recent deleveraging has improved credit quality, relative to historical levels. Many BB- and BBB-rated EM corporate issuers have been resilient recently, and we are also seizing opportunities for relative-value trades among EM quasi-sovereign issuers.
- A large enough Chinese stimulus might offset the effects on emerging markets of a US recession, if it materializes. In addition, bilateral and multilateral funds (IMF) are available to many EM issuers. A plausible scenario exists in which EM spreads could tighten. For that reason, we intend to cover some of our underweight positions, especially in issues whose prices may have fallen excessively.
- We remain cautiously positioned in EM local-currency bonds as well, as EM central banks continue to hike interest rates. But here, also, we have reduced our local-currency duration from around one year underweight to nearly in line with the index. We may even consider overweight allocations to some Latin American and Asian local-currency markets. Even in case of a recession, careful credit positioning may capture value opportunities.
- In EM currencies, we have less overweight exposure than we had earlier this year. EM currencies may start to feel tailwinds, relative to the US dollar, from increased Chinese stimulus, lower US growth or lower inflation. The mere fact that we are considering removing our underweight EM currency exposure hints at the possibility of an inflection point in the third quarter of 2022.

SECURITIZED PRODUCTS

- As we evaluate the effects of the recent spread volatility, the main risk to commercial real estate remains rising rates as capitalization rate spreads are now at their tightest level since the Financial Crisis. To prevent a decline in property valuations from increased cap rates, property owners will need to increase net operating income, which could be difficult if the economy slows down. The industrial and multifamily sectors could face the most pressure given their lower starting cap rate if they are unable to grow NOI. We believe broader market volatility has created good opportunities for high quality CMBS bonds, but we are mindful of broader risks to the spread markets to which CMBS will not be immune.
- The pressure on U.S. CLO spreads in the primary and secondary markets placed AAA spreads for benchmark issuers about 60 bps wider than the start of the year. However, primary markets still are not fully reflecting widening in the secondary as we expect this basis to compress further. European primary AAA spreads have moved from the low-mid 3E+90s into the 3E+140s. However, transactions currently being negotiated are roughly 70 bps wider YTD into the 3E+160s. Secondary valuations continue to be pressured and remain ~20 basis points behind primary levels. We believe spreads will continue wider amid shrinking appetite for AAA CLO paper from U.S. banks, which have been a dominant investor block in recent years (60% of demand last year).
- We remain cautious on ABS. We are opportunistic sellers across asset classes and continue to be highly selective around additions as relative value in aggregate is not as compelling vs. other securitized sectors. Within sector, we favor higher value ABS, such as select issuers of unsecured consumer loan, subprime auto, and prime auto credit risk transfer (both US and non-US). We continue to dislike ABS sectors with higher exposure to macro volatility, such as aircraft, which has significantly underperformed during the COVID pandemic and recent Russia/Ukraine conflict.

MUNICIPAL BONDS

- From a broad perspective, we believe the elevated chances of a recession could prolong municipal outflows and restrain crossover buying. As long as retail investors believe there is a good chance of higher rates, municipals will remain under pressure. Market dynamics are slightly different than the May rally given that relative value is not as compelling for crossovers (Muni/Treasury Ratios).

THE RETURNS TABLE As of June 17, 2022

				Yield/ OAS Change (BPS)				Total Return (%)			
Sovereign Rates	**Duration**	**YTM**	**OAS**	**WTD**	**QTD**	**YTD**	**Prior Year**	**WTD**	**QTD**	**YTD**	**Prior Year**
U.S. 2-Year	1.9	3.18	---	12	85	245	297	-0.16	-1.02	-3.49	-3.93
U.S. 5-Year	4.6	3.34	---	9	88	208	246	-0.34	-3.64	-8.49	-9.45
U.S. 10-Year	8.5	3.24	---	7	89	172	172	-0.62	-7.14	-13.40	-12.46
U.S. 10-Year Breakeven	--	2.60	---	-19	-23	0	30	---	---	---	---
U.S. 10-Year TIPS	4.7	0.64	---	26	113	174	143	-2.25	-8.01	-11.19	-5.34
U.S. 20-Year	14.3	3.55	---	9	93	160	149	-1.32	-13.15	-22.06	-19.47
U.S. 30-Year	19.4	3.29	---	9	83	138	119	-1.84	-15.93	-25.52	-21.16
UK 10-Year	8.2	2.50	---	5	89	153	172	-0.38	-6.75	-11.25	-11.60
Germany 10-Year	9.5	1.66	---	14	111	184	185	-1.34	-9.98	-15.43	-15.43
Switzerland 10-Year	9.6	1.36		26	79	152	159	-2.43	-7.23	-13.43	-14.00
Japan 10-Year	9.5	0.22	---	-2	1	16	17	0.24	0.21	0.21	0.21
Australia 10-Year	9.1	4.13	---	46	129	246	249	-3.98	-10.49	-19.28	-18.59
Canada 10-Year	8.6	3.40	---	6	100	198	201	-0.43	-7.78	-14.74	-12.69
MAJOR FI MS INDICES											
Global Aggregate Unhedged	7.1	3.08	54	3	12	19	22	-1.36	-9.20	-14.80	-16.25
Global Aggregate Hedged	7.1	3.08	54	3	12	19	22	-0.88	-5.32	-10.03	-9.72
U.S. Aggregate	6.6	3.92	55	5	14	19	21	-0.92	-5.89	-11.48	-11.15
Euro-Aggregate (Unhedged)	6.8	2.41	95	4	25	39	47	-1.13	-8.62	-13.57	-14.01
Japanese Aggregate	9.4	0.34	0	-1	-1	0	0	-0.59	-1.26	-2.79	-2.76
MAJOR FI CREDIT INDICES											
Mortgage-Backed (Agency)	6.3	4.03	52	12	28	21	24	-1.35	-5.74	-10.43	-10.46
Global IG Corporate Bonds	6.7	4.45	161	13	37	65	75	-1.66	-9.33	-16.08	-17.02
U.S. IG Corporate Bonds	7.8	4.79	144	8	29	52	63	-1.19	-7.80	-14.89	-14.28
European IG Corporate	4.9	3.37	195	25	65	100	112	-2.06	-8.05	-12.61	-13.09
U.S. High Yield Bonds	4.8	8.56	508	70	183	225	225	-2.90	-8.68	-13.10	-11.18
European High Yield Bonds	3.7	7.10	544	60	149	226	253	-3.08	-8.46	-12.24	-11.70
U.S. Leveraged Loans	0.3	9.03	606	15	118	128	164	-1.38	-3.22	-3.32	-1.39
European Leveraged Loans	0.3	4.18	633	45	130	218	223	-1.61	-4.25	-4.79	-2.98
EM Hard Currency Sovs.	6.8	8.36	503	35	103	134	167	-2.38	-10.31	-19.30	-20.16
EM Corporates	4.5	6.90	361	25	31	50	70	-1.60	-4.81	-13.21	-13.29
EM Currencies	---	5.92	---	-70	136	159	315	-1.03	-4.59	-9.86	-12.14
EM Local Rates	4.9	7.15	7	0	1	1	2	-0.13	-3.82	-11.64	-14.00
CMBS	4.9	4.32	102	3	17	34	46	-0.56	-4.27	-9.62	-10.14
ABS	2.3	4.01	81	4	24	43	58	-0.28	-1.64	-4.47	-4.94
CLOs	---	1.78	178	12	48	70	75	-0.39	-1.60	-2.15	-2.21
Municipal Bonds	6.1	3.38	---	37	79	228	240	-2.00	-4.08	-10.06	-9.72

		Total Return (%)			
Equity/Volatility	Level	WTD	QTD	YTD	Prior Yr
S&P 500 Index	3765	-5.7	-18.6	-22.3	-11.7
DAX	13292	-4.6	-8.9	-17.4	-16.5
Stoxx 600	409	-4.6	-10.0	-15.3	-9.2
Nikkei 225	26246	-6.7	-6.7	-8.9	-8.8
Shanghai Comp.	3307	1.1	2.6	-8.3	-3.9
MSCI ACWI	586	-5.7	-17.4	-21.7	-16.5
FTSE 100	7152	-4.1	-5.9	-3.2	1.8
MOVE Index	139	17.1	25.1	73.5	143.6
VIX Index	30	12.2	51.4	80.8	75.4

		% Change			
FX/Commodities	Spot	WTD	QTD	YTD	Prior Year
EUR/USD	1.0	-0.2	-5.1	-7.7	-11.8
USD/JPY	135.0	0.5	10.9	17.3	22.5
GBP/USD	1.2	-0.6	-6.8	-9.5	-12.1
EUR/CHF	1.0	-2.0	-0.3	-1.9	-6.8
USD/CHF	1.0	-1.8	5.1	6.2	5.7
USD (DXY)	104.7	0.5	6.5	9.4	13.9
Oil	77.0	-9.2	9.3	42.3	54.2
Gold	1839.4	-1.7	-5.1	0.6	3.7

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Sources: Bloomberg except EMD (J.P. Morgan), HY (ICE BofAML), Bank Loans (Credit Suisse), and CLOs (Palmer Square). European returns are unhedged in euros unless otherwise indicated. An investment cannot be made directly in an index

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