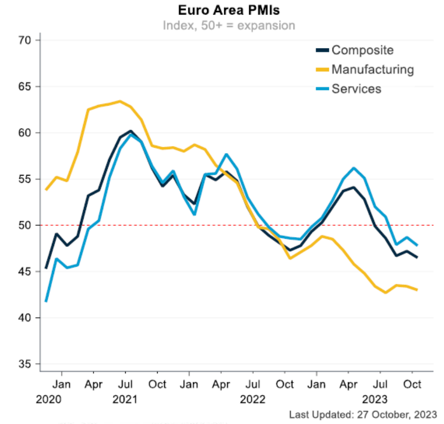
PGIM FIXED INCOME

Assessing Pressure Relief for Rates

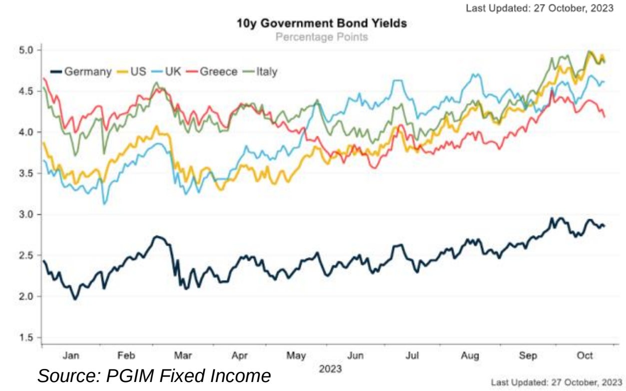
WEEKLY VIEW FROM THE DESK | October 30, 2023

QUICK LINK TO THE RETURNS TABLE

MACRO



- Macro and market conditions may be entering a subsequent phase of [the new paradigm] as most major developed market central banks approach a period of keeping policy rates steady. In Europe, [the ECB appears on hold] at 4% with weakness in the region's Purchasing Managers Index spreading from goods to services and indicating a technical recession in Q3 and Q4. Furthermore, signs are also emerging that economic sluggishness in France and Germany are spreading elsewhere on the continent.
- We also believe that the Fed will hold rates steady this week and in December before initiating three to four rate cuts in 2024. The Bank of England is expected to remain on hold this week as well (the news will be in its updated forecasts) as UK economic growth continues to ease.
- However, the Bank of Japan remains one of the few central banks in play as inflation and activity in Japan continues to surprise to the upside. On Tuesday, the BoJ adjusted its yield curve control mechanism to where a 1% yield on the 10-year JGB is now a reference point rather than a line in the sand. We believe the adjustment will provide the BoJ with more discretion around intervention where moves to the upper end of the reference range are tolerated. The 10-year JGB yield reached 0/95% on Tuesday. However, subsequent moves will likely remain gradual given the BoJ's latest inflation forecast is still less than 2% in 2025.
- With the steepening in the U.S. yield curve leaving the 10-year Treasury yield above those across Europe, thoughts have also turned to what might elicit steepening within European curves. Given that the European central banks (including the BoE) may keep policy rates the highest for the longest as they wait to see inflation conclusively decline, risks of bear steepening moves led by long-term rates likely still linger.



Source: PGIM Fixed Income

DEVELOPED MARKET RATES

- We see three key factors—heightened volatility, tight financial conditions (equivalent tightening as 76 bps in Fed funds hikes, according to Morgan Stanley), and uncertain demand—driving the recent movement in intermediate to long-term Treasury yields. Although some aspects are becoming clearer (i.e., the Fed may stop quantitative tightening in Q1 or Q2 of 2024) others may need to play out further, including the Treasury supply question as interest costs surge and defense spending increasingly looks inadequate.
- In terms of factors that may relieve some of the upward pressure on rates, further steepening in the U.S. yield curve (it's nearly flat now), could expand the buyer base of long-term Treasuries beyond duration-focused buyers. Furthermore, broadening perception that Treasuries should provide some ballast to portfolios during risk-off events—which may appear increasingly accurate as rates move higher—could also limit the pressure going forward.
- Agency MBS spreads tightened 3-4 bps last week on lower Treasury yields and increased demand on valuations. Higher 30-year coupons continued to trade better, while lower coupons continued to face pressured into limited flows. Within 30-year mortgages, GNMAs have outperformed given their shorter duration profiles and limited selling (relative to UMBS). Intermediate MBS, both the 15- and 20-year sectors, have also performed better than the 30-year sector given their shorter duration profiles and better technicals.

IG CORPORATES

- U.S. IG corporate bond spreads tightened marginally last week, with spreads for the most volatile names 5 to 10 bps tighter. Financial issues were the best performers among U.S. IG corporate bonds, and as a result so was the 5- to 10-year segment of that sector.
- Fund outflows of around $2B contrasted issuance of around $8B last week, $5B of which came from regional banks (Truist, MTB, Capital One). New issues were, on average, 3.5x-4x oversubscribed, priced 20-40 bps inside of initial price talk, and started this week with spreads 5-10 bps tighter than where they priced. As interest rates rise, 30-year non-financial issuance of U.S. IG bonds usually dwindles. For that reason, it's noteworthy that three of this week's newly-issued tranches came with 30-year maturities. We expect $20-25B of new issues this week, $20B of which had already been announced on Monday. We expect normal seasonal issuance of $80-100B in November.
- Around half of S&P500 firms have reported Q3 '23 earnings so far, and around 75% of those beat estimates. Another third of S&P500 firms will report this week. To note: the seven largest constituent firms of the S&P500 are expected to grow earnings 33%, year-on-year, in Q3 '23, while earnings for the rest of the S&P500 are expected to shrink 8.6%. Some brokers expect Q3 23 to be the low-point in falling earnings in this cycle. But forecasts for high earnings growth in 2024 appear stretched, due to the expected economic slowdown, unexpectedly strong 2023 earnings, U.S.-dollar strength, higher labor costs, etc.

- U.S. IG corporate issuers appear focused on balance sheet strength. This year has seen record volume of credit rating upgrades from BBB to A and a record ratio of upgrades relative to downgrades. As a result, the proportion of BBB-rated issues among U.S. IG corporate bonds has fallen from a peak 52% in 2018-19 to below 50% now. Upgraded firms tend to outperform significantly before and after their ratings changes, offering scope for credit selection.
- European IG corporate bond spreads tightened 2 bps last week, and most bank issues tightened even more. Most companies beat their earnings estimates last week, but those that missed were punished with spread widening of up to 100 bps.

HIGH YIELD

- U.S. high yield bond spreads were relatively flat and excess returns were positive even as equities posted sharp decline. That said, technicals remained somewhat challenged despite light new issuance as cash balances in high yield funds have continued to decline since contracting to a seven-quarter low in Q3. Performance across credit tiers was mixed, with CCCs once again posting negative returns amid continued spread decompression.
- While still early days in the Q3 earnings cycle, more companies have beat earnings than missed thus far, and more are guiding up than are guiding down. With only a small percentage of high yield issuers having reported so far, we'll see if these trends hold up as earnings season progresses. We remain mindful of downside risks around sectors such as chemicals, European industrials, metals, and paper & packaging. Meanwhile, interest-rate sensitive industries, such as housing and automotive, appear to be navigating the higher interest rate environment quite well amid ongoing undersupply in both markets.
- U.S. loans were modestly weaker, with CCCs underperforming. Fund flows continued to trend modestly negative, with a small $123M weekly outflow. The new issue calendar remains somewhat muted following the uptick in issuance seen in September and early October, with the pipeline currently consisting of mostly refinancing activity. Given expectations that the rising cost of capital will reduce free cash flow for highly leveraged credits and the high number of B2/B3 credits that currently comprise the index, we continue to expect that loan default rates, inclusive of restructurings, will rise to 4-5% over the next two calendar years.
- In Europe, high yield bonds posted positive total returns, with CCCs underperforming. There was no new high yield issuance last week and only €1.6B so far this month. Despite the lack of new issuance, performance has been negative in October and spreads have widened, causing us to modestly raise our short-term outlook. Loans posted positive returns as a lack of BWIC activity lent some stability to the secondary market even as primary issuance continued to keep market participants busy.

EMERGING MARKETS

- EM hard-currency government bond spreads tightened 7 bps, almost entirely due to tighter spreads for B-rated and CCC-rated bonds. EM hard-currency corporate spreads were stable to marginally wider for the week, despite somewhat better-than-expected earnings for some of these issuers. "Spread returns", i.e. returns abstracting from movements in underlying benchmark yields, have been positive for both EM hard-currency government and corporate bonds since the beginning of the year, in both cases more so for the HY segment than for the IG segment. But after the turmoil in Israel, spread returns have been negative in the last month.
- Both EM hard-currency government and corporate spreads trade inside of U.S. HY spreads, but EM corporate spreads more so than EM government spreads—one of our reasons to overweight EM corporate bonds in the portfolios we manage. Another pocket of value, in our view, are CCC-rated EM government bonds: these still trade at far lower percentages of par (below 40%) than CCC-rated U.S. HY bonds (above 75% of par). Despite these low prices, many of these issuers have seen progress with restructurings and new multilateral financing in recent months. Many BB-rated issuers are attractive as well because they don't have financing needs in the foreseeable future. The EM hard-currency IG segment, in turn, consists of a variety of issues to select from based on region, growth outlook, commodities position etc.
- EM local-currency government bond prices rallied somewhat. We continue to have a favourable view on this segment, which would strengthen if the geopolitical risk of the last month were to dissipate and/or if developed-market rates stabilize. EM currencies appreciated somewhat versus the U.S. dollar, but dollar strength remains the dominant backdrop.

SECURITIZED PRODUCTS

- CMBS U.S. 10-year conduit spreads were 2-3 bps wider amid light supply. A 5-year conduit deal should be coming to the market in smaller size than previously expected due to recent volatility. Agency CMBS spreads were largely unchanged with spreads likely to take their cue from the next move in agency mortgages. Freddie Mac priced a 5-year K deal at T+70. SASB AAA and mezzanine spreads were unchanged. RMBS spreads were wider, with non-QM, Jumbo 2.0s, and CRT spreads widening by 5-20 bps, 5-10 bps, and 0-20 bps, respectively. We continue to expect that residential mortgage credit should hold up well, but we are starting to see slightly higher DQs in FHA mortgages. We continue to like seasoned mortgage credit (originated prior to '22) as seasoned mortgages have embedded home price appreciation, lower mortgage payments, and fewer financially stretched borrowers. We also are constructive on IG tranches of more recent issuance due to improvements in credit enhancement.
- CLO primary spreads were softer across the capital structure as they begin to converge towards secondary levels. We believe spreads for U.S. benchmark issuers are ~3M SOFR+170/250/285/450/775 for AAA/AA/A/BBB/BB, respectively. Non-benchmark managers are pricing ~10-30 bps wider as there has been some near-term resistance at the 3M SOFR+200 level. In Europe, new issue AAA spreads moved marginally wider, but continue to lag the widening observed in the secondary.
- ABS spreads were unchanged to slightly wider due to elevated new issue supply and secondary inventory buildup. We remain near-term negative with the expectation that elevated supply will persist. Senior credit cards, prime auto, and first-tier unsecured consumer are T+70, T+80, and T+155 bps, respectively. BB non-prime consumer is T+575-675 basis points.

MUNICIPAL BONDS

- Last week, technicals continued to present a challenge for munis, with outflows totaling ~$935M ($11B outflows YTD). We expect to see approximately ~$2B in supply this week. Few large supply weeks remain in the year—given holidays, the Fed meetings, and key economic data weeks. Assuming a Fed rate hike pause, we view this as the beginning of stability in our market as we finish out the year.
- In terms of the ratios, absolute yields in the majority of higher-rated credits are almost as high as they have been in the past five years, as a percentage of risk-free AAA-rated credits. In other words, it may not be necessary to assume the same kind of credit risk to get the same amount of excess return as in the past. In addition, we are placing a special focus on balance sheet and countercyclical businesses as we move deeper into the late-cycle environment.

THE RETURNS TABLE As of October 27, 2023

				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	5.00	---	-7	-4	57	73	0.15	0.38	1.42	1.80
U.S. 5-Year	4.4	4.75	---	-10	15	76	70	0.50	-0.27	-0.92	0.07
U.S. 10-Year	7.9	4.83	---	-8	27	96	92	0.75	-1.66	-5.14	-3.69
U.S. 10-Year Breakeven	--	2.43	---	-4	8	13	-2	---	---	---	---
U.S. 10-Year TIPS	4.5	2.41	---	-4	18	84	93	0.52	-0.97	-3.95	-3.49
U.S. 20-Year	12.6	5.20	---	-8	31	106	89	1.21	-3.31	-10.66	-7.83
U.S. 30-Year	15.8	5.01	---	-6	32	105	93	1.20	-4.50	-13.89	-11.46
UK 10-Year	7.7	4.54	---	-11	11	88	115	0.92	-0.49	-3.59	-3.59
Germany 10-Year	8.5	2.83	---	-6	-1	27	87	0.54	0.27	-1.41	-1.41
Switzerland 10-Year	8.1	1.10		-5	4	-48	7	0.50	-0.13	5.46	0.46
Japan 10-Year	9.1	0.88	---	4	12	46	62	-0.34	-0.60	-0.60	-0.60
Australia 10-Year	8.3	4.81	---	7	33	76	98	-0.46	-2.36	-2.79	-3.98
Canada 10-Year	8.3	3.98	---	-9	-5	68	79	0.87	0.64	-4.04	-4.04
MAJOR FI MS INDICES											
Global Aggregate Unhedged	6.5	4.32	53	-1	3	2	-9	0.42	-0.93	-3.11	0.89
Global Aggregate Hedged	6.5	4.32	53	-1	3	2	-9	0.48	-0.61	0.48	1.38
U.S. Aggregate	6.1	5.58	57	-1	5	5	-8	0.68	-1.28	-2.48	0.00
Euro-Aggregate (Unhedged)	6.3	3.74	88	-2	3	0	-13	0.45	0.10	0.69	-1.60
Japanese Aggregate	9.0	0.76	1	0	0	0	0	-0.26	-1.15	-1.55	-2.89
MAJOR FI CREDIT INDICES											
Mortgage-Backed (Agency)	6.1	5.90	77	-3	11	26	5	0.86	-1.88	-4.10	-1.37
Global IG Corporate Bonds	5.9	5.83	142	-1	8	-5	-42	0.60	-1.04	-0.34	4.53
U.S. IG Corporate Bonds	6.8	6.28	128	-2	7	-2	-33	0.78	-1.50	-1.49	2.63
European IG Corporate	4.5	4.50	163	-2	9	-5	-62	0.49	0.10	2.63	3.18
U.S. High Yield Bonds	4.0	9.35	434	0	40	-34	-44	0.40	-1.46	4.32	6.00
European High Yield Bonds	3.2	8.48	494	-1	46	-19	-133	0.44	-0.75	5.97	9.49
U.S. Leveraged Loans	0.3	10.15	575	11	24	-99	-82	-0.12	0.03	9.94	11.82
European Leveraged Loans	0.3	8.29	568	-7	47	-142	-256	0.33	-0.72	10.86	14.95
EM Hard Currency Sovs.	6.3	9.43	447	-7	16	-5	-107	0.89	-1.66	0.08	7.80
EM Corporates	4.1	8.32	348	3	19	2	-108	0.28	-1.17	2.17	9.11
EM Currencies	---	8.26	---	0	0	1	0	0.40	-0.10	2.90	9.20
EM Local Rates	4.8	6.87	7	0	0	0	-1	0.29	-0.15	2.96	6.52
CMBS	4.3	6.34	141	2	11	21	11	0.38	-0.68	-0.52	1.36
ABS	2.6	5.87	79	3	12	3	-15	0.21	-0.06	1.93	3.25
CLOs	2.7	1.81	181	2	8	-31	-68	0.14	0.35	6.73	1.05
Municipal Bonds	7.1	4.49	---	1	17	94	28	-0.04	-0.89	-2.26	2.71

		Total Return (%)			
Equity/Volatility	Level	WTD	QTD	YTD	Prior Yr
S&P 500 Index	4,117	-2.5	-3.9	8.7	10.0
DAX	14,778	-0.8	-4.5	5.5	11.2
Stoxx 600	251	-0.7	-4.4	5.2	10.6
Nikkei 225	30,697	-0.9	-2.7	21.0	15.6
Shanghai Comp.	3,022	1.2	-2.9	0.3	4.0
MSCI ACWI	335	-2.0	-4.1	5.5	10.0
FTSE 100	7,348	-1.5	-4.1	0.9	6.8
MOVE Index	129	-4.6	13.7	6.2	-9.5
VIX Index	21	-2.0	21.4	-1.8	-22.3

		% Change			
FX/Commodities	Spot	WTD	QTD	YTD	Prior Year
EUR/USD	1.1	-0.3	-0.1	-1.3	6.0
USD/JPY	149.7	-0.1	0.2	14.1	2.3
GBP/USD	1.2	-0.3	-0.6	0.3	4.8
EUR/CHF	1.0	0.9	-1.4	-3.6	-3.4
USD/CHF	0.9	1.1	-1.4	-2.4	-9.0
USD (DXY)	106.6	0.4	0.4	2.9	-3.6
Oil	77.0	-3.6	-5.8	6.6	-4.0
Gold	2006.4	1.3	8.5	10.0	20.6

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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

Source(s) of data (unless otherwise noted): PGIM Fixed Income as of October 2023

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U.S. Investment Grade Corporate Bonds: Bloomberg Barclays U.S. Corporate Bond Index: The Bloomberg Barclays U.S. Investment Grade Corporate Bond Index covers U.S.D-denominated, investment-grade, fixed-rate or step up, taxable securities sold by industrial, utility and financial issuers. It includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements. 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.

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,

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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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