PGIM FIXED INCOME

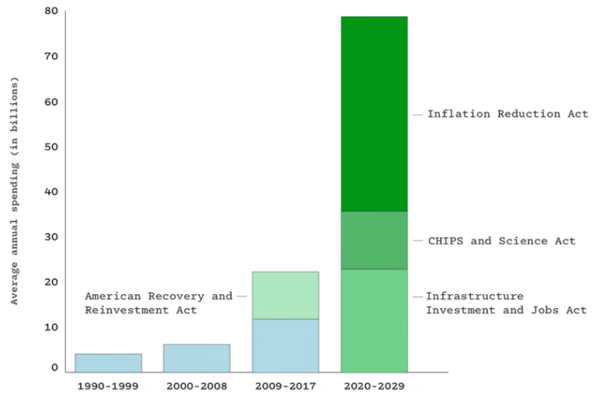
The Evolution of U.S. Supply Side and Duration

WEEKLY VIEW FROM THE DESK | September 11, 2023

QUICK LINK TO THE RETURNS TABLE

MACRO

- Gaining insight on the unusual combination of ongoing U.S. economic growth and tightening monetary policy requires an encompassing perspective, and we increasingly see U.S. industrial policy as a driving factor on the supply side of the economy. For example, the accompanying chart indicates that "industrial policy" spending (in billions of dollars as opposed to % of GDP) via the Inflation Reduction Act, the CHIPS and Science Act, and the Infrastructure Investment and Jobs Act may triple over the next decade to heretofore unseen levels. A parabolic surge in technology-related plant spending may be the most visible sign of the fiscal impulse thus far.



- At this point and based on the scale of the investment, if the policy spending succeeds (we're optimistic that it may), the economy could embark on another period of accelerating productivity—similar to the late 1990s—which consequently lifts real GDP growth and keeps inflation in check (see the following chart). Conversely, a policy failure could culminate with sliding productivity, decelerating real GDP growth, rising inflation, and soaring fiscal waste in an already heavily-indebted economy.

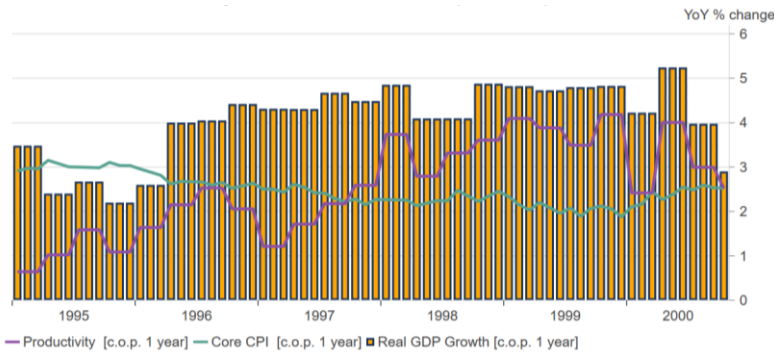


Chart sources: Office of Management and Budget, PGIM Fixed Income

- As participants prepare for Thursday's U.S. CPI report and next week's FOMC meeting, we anticipate that the Fed will hold policy steady with two additional meetings to go in 2023. Although the Fed's dot plot previously indicated an additional hike to a midpoint of 5.625% by the end of the year, we don't believe the 2023 dot will move given the Fed's generally conservative stance and the potential that an adjustment might convey a misconstrued message. At the headline level, CPI estimates call for a month-over-month increase from 0.2% to 0.6% and a year-over-year increase from 3.2% to 3.6%. At the core level, forecasts see the MoM reading remaining at 0.2% and a moderating from 4.7% to 4.3%.
- As a brief comment on the global investment landscape, we generally see balanced conditions with a slightly more bullish view towards the U.S. While significant risk remains, we believe it is a backdrop where investors can benefit from curve trading strategies and don't need to assume an undue amount of risk to achieve alpha their alpha targets.

DEVELOPED MARKET RATES

- In recent months, we've generally maintained short positioning in U.S. rates as the 10-year yield climbed from 3.3% in April. However, at nearly 4.30%, the 10-year yield looks a bit cheap given the economic moderation and generally decelerating inflation. As the latter factor increases real rates, that may result in some desirable passive tightening in financial conditions, which Fed Chair Powell has alluded to. Furthermore, as non-farm payrolls drop from the 200k to 100k level, much of the recent job creating has come from health care, which is non-cyclical sector, and points to a slowing labor market. As conditions continue to unfold, we're eyeing the 4% level as a potential signpost.
- Elsewhere, given the recent weakness in the Japanese yen, Japan's ongoing economic expansion, and high inflation, the BoJ is likely to allow, if not encourage, an increase in long rates towards the higher end of the +/-1% range. Recent comments from BoJ Governor Ueda also suggest that a rate hike may occur this year—presumably to 0% from -0.1%.
- Recent MBS performance has been mixed and firmed over the last several weeks vs. rates. Higher coupons improved—despite rates moving lower and then higher—in a marked difference from the prior increase in rates when demand focused on production coupons for month-end rebalancing. Yield buyers (mortgage REITs and overseas accounts) have lately focused on "fuller" coupons.

IG CORPORATES

- U.S. IG corporate bond spreads have traded in a stable range of 118-120 bps over U.S. Treasuries for the last three weeks. Recently, the MOVE index, a measure of bond market volatility, has retreated, mitigating a headwind for U.S. IG spreads. Elevated issuance (as typical after Labor Day) of $55B priced with an average of 5 bps concessions and order books that were 3.5 times covered. Only 10% of this supply had tenors of longer than 12 years, a technical aspect which supported prices for long-dated bonds.
- We expect $25-$30B of new issue supply this week. Of the 11 issues that priced on Monday, only two included 30-year tranches, including an issue for T-Mobile. Despite the historically steep yield curve for telecoms, the issue benefited from the strong demand for duration, which is near its lowest across the sector in the last 10 years and should support prices despite rising yields. The YTD tenor of new issues has fallen to just below the five-year low of 10.1 years in 2022. Only 24% of non-financial new issuance had tenors of 20 years or more this year, well below the 29% or more in every year since 2019.

- In terms of specific issuers: credit rating agency Fitch upgraded Ford from BB+ to BBB-, and GM from BBB- to BBB last week. Standard & Poor's may also upgrade Ford to investment-grade in the next 12 months. Negotiations between the "Big 3" automakers and labor unions are set to conclude on Thursday. In cable & media, Charter Communications and Disney announced a distribution agreement Monday, which widened spreads on both names by around 5 bps. Elsewhere, we are closely monitoring the earnings of companies exposed to China, such as Apple, for China-related geopolitical risk after the U.S. government's conflict with China over Huawei.
- European IG corporate bond spreads tightened somewhat last week, despite significant, mostly corporate issuance of around €16B. Some European banks and a few corporates chose the U.S. market to complete substantial new issues at reasonable prices. This technical dynamic helped keep European spreads in check, especially for banks. Issuance is set to slow ahead of the ECB's policy later this week.

HIGH YIELD

- U.S. high yield bond spreads widened modestly and yields increased last week. Notably, down in quality outperformed, with CCCs outperforming both Bs and BBs. By industry, total returns were mixed, with telecom (0.59%), cable (0.50%), and food & drug retail (0.22%) outperforming. Paper (-1.28%), media (-1.17%), and healthcare (-0.71%) underperformed.
- Issuance remained light with just three small new high yield bonds for a total of $815M pricing. This brings YTD gross volume to $112.1B (or just $40.9B ex-refinancing). We expect issuance to remain light through year end, which should be somewhat supportive of technicals. Several LBO-driven deals are expected in the near term, which may pressure spreads and help to bring out some front-end paper.
- U.S. loans gained last week, with prices rising to their high since mid-2022. Fund outflows continue to decelerate, with bank loan mutual funds posting a $97M inflow in the week ended Wednesday—only the seventh weekly inflow over the past 54 weeks. Single-Bs continued to outperform, defying expectations set out at the beginning of the year as higher debt costs were widely expected to pressured fundamentals and weigh on prices. The new issue calendar remains busy with repricings and refinancings comprising the bulk of activity. Technicals are further supported by the increasing number of syndicated loans being refinanced in the private credit markets.
- In Europe, high yield bond spreads tightened and posted positive total returns. Primary issuance picked up, with early indications suggesting strong demand. Loans also posted positive returns and are now seeing double-digit gains YTD amid solid demand as well. One CLO priced last week, with AAA spreads in the 175 bps context.

EMERGING MARKETS

- Two of the most important questions in EM debt right now are: how will geopolitics play out, and what will China do next? Last week's G20 meeting, which China's president Xi didn't attend, established India's prime minister Modi as a power broker. That meeting, and President Biden's subsequent visit to Vietnam, also showed that the U.S. is realigning its relationships. In terms of funding, financial flows from Gulf countries to Pakistan, Turkey, and Egypt has been notable. These developments may be important in a large-scale EM debt restructurings.
- China’s government has propped up the property sector, but data last week showed higher-than-expected fiscal outlays, mainly through local government channels, which supported some Chinese assets and Asian currencies. We have reduced our underweight in the renminbi.
- EM hard-currency bonds have mostly traded sideways for the past month. But, as in most of the year to date, B-rated and CCC-rated issues have outperformed, while distressed issues have underperformed.
- In individual country situations, Mexican state oil company Pemex's 10-year bond spreads tightened around 50 bps after the government's 2024 budget allocated $8B to help the company refinance next year. Ecuadorian bonds strengthened as market-friendly candidate Daniel Noboa appeared to take the lead ahead of the presidential election on October 15. Pakistan's bond prices rose as the country's interim government appeared to fall in line with the IMF's recommendations; that alignment might avoid a default. And Gabonese bonds recovered after last week’s coup, as the new government may offer better governance than the multi-decade regime of ousted president Bongo.
- On a relative-value basis, by credit rating, BB-rated EM hard-currency bonds trade in line with U.S. BB-rated corporate bonds. By contrast, B-rated and CCC-rated EM hard-currency bonds, as well as BB-rated EM hard-currency corporate bonds, appear to offer better value. In terms of positioning, we are taking active risk in EM hard-currency bonds and are more positive on the high-yield segment than IG. We are overweight the U.S.-dollar, but less than we used to. We are overweight EM local-currency bonds, but we have also reduced this exposure.

SECURITIZED PRODUCTS

- CMBS U.S. 10-year conduit spreads were unchanged last week. Two new conduit deals are expected to price this week—a 10-year conduit deal is talking its LCF at T+145, and a five-year conduit deal does not have price talk yet. Conduit AAA spreads continued to trade wide of U.S. IG spreads, ending last week 25 bps wide of corporates. Non-QM/RPL RMBS spreads were relatively flat across the sector last week, while CRT spreads tightened up to 20 bps after Freddie Mac announced a large ($1.5B) tender offer, primarily for pre-COVID B1 tranches. To date, the GSEs have tendered $15.5B of seasoned CRT bonds, and markets expect each GSE to announce one more tender offer by the end of the year. While CRT spreads are almost back to YTD tights, we remain constructive due to the technical tailwinds and our view of benign mortgage credit. We revised our peak-to-trough HPA forecast for U.S. housing to "flat to -5%" from "-5% to -10%" driven by the national housing supply shortage.
- Senior CLO spreads remained unchanged and mezzanine spreads moved tighter. We believe spreads for U.S. benchmark issuers are ~3M SOFR+168/240/290/400/735 for AAA/AA/A/BBB/BB, respectively. However, non-benchmark AAAs are roughly 10-40 bps behind benchmark managers, and, in the primary market, we continue to look to source non-benchmark issuers given the historically wide basis. In Europe, spreads have moved tighter in recent weeks and are now in the 3E+170 area.
- ABS spreads were rangebound last week. New issue is expected to significantly increase this week with a ~$10B pipeline. For secondary, dealers are net long ~$3.5B after a 60% increase in inventory levels over the last month. As a result, we remain neutral/negative in the near term. Long term, we find ABS to have modest relative value for select issuers/sectors at current levels. We remain bottom-up focused with the expectation that for some issuers, credit performance and business models will remain challenged into year end.

MUNICIPAL BONDS

- Munis underperformed Treasuries last week. However, this underperformance was “healthy” as it adjusted Muni/Treasury ratios higher. While August was the heaviest issuance month in a 12-month period, last week’s issuance reached $9B. In addition, Muni funds saw -$2.4B in outflows, bringing YTD outflows to -$9.9B. While supportive technicals have dissipated, we believe a Fed pause to help mitigate these factors. An indication of peak rates could lead to downward pressure across the curve as volatility subsides. Our base case is that muni levels adjust higher relative to taxable rates and spreads stay flat to relatively higher.

THE RETURNS TABLE As of September 8, 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	1.8	4.99	---	11	9	56	149	-0.09	0.47	0.97	0.25
U.S. 5-Year	4.4	4.40	---	11	25	40	98	-0.34	-0.64	-0.01	-1.60
U.S. 10-Year	8.1	4.26	---	9	43	39	95	-0.52	-2.95	-1.28	-4.63
U.S. 10-Year Breakeven	--	2.34	---	8	11	4	-8	---	---	---	---
U.S. 10-Year TIPS	4.6	1.93	---	0	31	35	103	0.12	-2.64	-0.49	-5.34
U.S. 20-Year	13.1	4.53	---	5	46	38	81	-0.44	-5.56	-3.19	-8.06
U.S. 30-Year	16.7	4.33	---	4	48	37	86	-0.50	-7.49	-4.39	-12.42
UK 10-Year	7.9	4.42	---	-1	4	76	128	0.12	0.54	-3.25	-3.25
Germany 10-Year	8.6	2.61	---	6	22	4	90	-0.48	0.11	0.11	0.11
Switzerland 10-Year	8.3	1.01		8	8	-58	10	-0.62	-0.48	6.11	0.40
Japan 10-Year	9.1	0.65	---	2	26	24	40	-0.19	-2.35	-2.35	-2.35
Australia 10-Year	8.5	4.08	---	8	6	3	52	-0.60	0.33	2.77	-0.38
Canada 10-Year	8.3	3.67	---	12	41	38	48	-0.87	-2.73	-4.21	-4.21
MAJOR FI MS INDICES											
Global Aggregate Unhedged	6.8	4.02	49	0	-1	-3	-7	-0.84	-1.93	-0.52	0.22
Global Aggregate Hedged	6.8	4.02	49	0	-1	-3	-7	-0.27	-0.64	2.30	0.67
U.S. Aggregate	6.4	5.11	49	0	0	-2	-3	-0.30	-1.47	0.59	-1.11
Euro-Aggregate (Unhedged)	6.5	3.54	82	0	-2	-6	-19	-0.37	-0.30	1.94	-2.39
Japanese Aggregate	9.3	0.59	1	0	0	0	0	-0.17	-2.34	0.35	-2.12
MAJOR FI CREDIT INDICES											
Mortgage-Backed (Agency)	6.4	5.16	54	0	3	3	10	-0.33	-1.69	0.14	-2.05
Global IG Corporate Bonds	6.2	5.43	134	0	-5	-14	-30	-0.51	-1.11	2.38	3.24
U.S. IG Corporate Bonds	7.2	5.75	119	0	-4	-11	-25	-0.25	-1.26	1.90	1.13
European IG Corporate	4.6	4.32	155	-1	-8	-12	-48	-0.22	0.79	2.99	1.23
U.S. High Yield Bonds	4.0	8.53	372	5	-18	-97	-97	-0.31	1.36	6.81	6.37
European High Yield Bonds	3.2	7.95	448	-8	-8	-65	-116	0.20	1.82	6.69	7.36
U.S. Leveraged Loans	0.3	9.62	548	-7	-36	-103	-30	0.35	2.88	9.39	9.72
European Leveraged Loans	0.3	7.88	530	-6	-65	-180	-124	0.31	3.39	10.90	11.27
EM Hard Currency Sovs.	6.6	8.63	420	2	-12	-33	-79	-0.40	-0.19	3.89	5.54
EM Corporates	4.2	7.63	331	-3	-13	-15	-49	-0.10	0.39	4.04	5.26
EM Currencies	---	8.41	---	0	1	1	1	-1.15	-0.91	3.02	7.92
EM Local Rates	4.9	6.49	6	0	0	0	0	-0.30	-0.09	4.25	5.48
CMBS	4.5	5.93	132	1	-2	12	31	-0.28	-0.35	0.84	-1.00
ABS	2.7	5.61	64	1	-4	-12	5	-0.12	0.47	2.21	1.82
CLOs	---	1.35	135	-1	-28	-51	-31	0.01	0.68	1.49	1.20
Municipal Bonds	6.4	3.84	---	5	32	29	41	-0.23	-1.30	1.34	2.36

		Total Return (%)			
Equity/Volatility	Level	WTD	QTD	YTD	Prior Yr
S&P 500 Index	4,457	-1.3	0.5	17.4	13.2
DAX	15,808	-0.6	-2.5	13.1	22.0
Stoxx 600	264	-0.7	-1.0	10.6	16.4
Nikkei 225	32,468	-0.3	-1.7	26.5	18.8
Shanghai Comp.	3,143	-0.5	-1.3	3.4	-1.0
MSCI ACWI	360	-1.3	-0.4	13.5	12.7
FTSE 100	7,486	0.2	0.2	3.3	6.7
MOVE Index	104	1.4	-5.7	-14.2	-15.9
VIX Index	14	5.7	1.8	-36.1	-41.4

		% Change			
FX/Commodities	Spot	WTD	QTD	YTD	Prior Year
EUR/USD	1.1	-0.7	-1.9	0.0	7.0
USD/JPY	147.8	1.1	2.4	12.7	2.6
GBP/USD	1.2	-1.0	-1.9	3.2	8.4
EUR/CHF	1.0	0.1	-2.2	-3.4	-1.5
USD/CHF	0.9	0.9	-0.3	-3.4	-8.0
USD (DXY)	105.1	0.8	2.1	1.5	-4.2
Oil	77.0	2.3	23.9	9.0	4.8
Gold	1919.1	-1.1	0.0	5.2	12.3

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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 September 2023

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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,

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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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