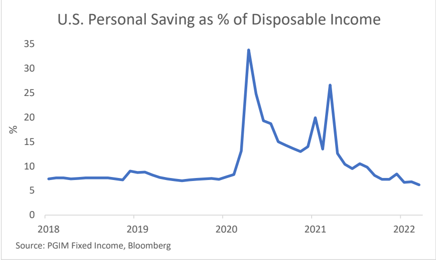
The Fed is on the Clock

WEEKLY VIEW FROM THE DESK | May 2, 2022

QUICK LINK TO THE RETURNS TABLE

MACRO

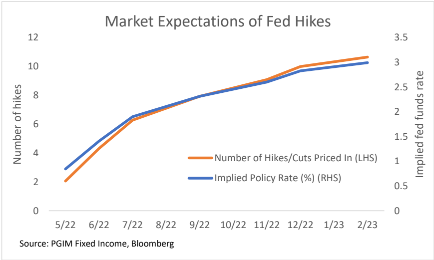
- While the U.S. headline GDP contracted 1.4% in the first quarter, we still see solid domestic activities in real terms. In particular, the 9% growth in business fixed investments should spur further economic gains in the medium term, and the 2.7% rise in consumer spending shows consumption remains robust. Weaker inventory building and very weak net exports shaved 0.8 and 3.2 ppts from GDP, respectively, but the widening trade deficits are generally to be expected given the U.S. is leading the economic recovery in the current global business cycle.



- In the coming months, key economic questions will center on consumers' sensitivity to rising prices against the backdrop of tighter financial conditions and businesses' sensitivity to hiring amid elevated labor costs. Growth in the employment cost index accelerated 1.4% from the previous quarter but most of the gains stem from rising benefits costs, which can be clawed back more easily than wages/salaries and should have a more temporary effect on inflation. Meanwhile, consumers have maintained their spending by continuing to tap into savings. Personal saving rates have precipitously declined as individual-targeted stimulus measures expire, and we may start to see the momentum on consumption turn south if prices don't moderate in relatively short order.
- Nothing about recent economic data is going to change the Fed's plan to raise rates by 50 bps this week and lay out its plan to reduce its balance sheet. In the great debate about U.S. recession risk, evidence from the Q1 GDP report still points to a good likelihood of a soft landing. That said, we are living in an accelerated business cycle and are watching higher-frequency sequential data for turning points or accelerating trends. As demonstrated by the rather ugly end of April, the market is pricing in a drastically different future as participants continue to predict ever more rapid rate hikes amid faltering economic momentum in the face of concurrent increases in borrowing costs and inflation.

RATES

- This week's Fed meeting and April jobs report is setting the rates market up for more volatility following a tumultuous April when yields continued their relentless rise across the curve. The recent volatility was highlighted by the nominal 10-year yield briefly touching 3% for the first time since 2018 and the real 10-year yield moving into positive territory for the first time since early 2020. Expectations for rate hikes, as implied by fed funds futures, have risen to around 2.8% by the end of the year, which matches the Fed's long-term projection. We think Chair Powell's recent comments about policymakers' intention to "expeditiously" raise rates beyond neutral has been well heeded by the market, but comments by other Fed officials about a potential 75 bps hike in June has been met with some skepticism.



- While the pace of hikes may feel unprecedented, especially when compared to 2015's slow and gradual cycle, the upcoming tightening projected by the market actually tracks the 1994 cycle and is not materially more drastic than the other two times since the 1990s when the Fed embarked on hiking cycles.
- We are also closely watching the details of quantitative tightening and its impact on Treasury net supply; for example, capping the runoff of maturing Treasuries at $60B translates to around $1.1T of bills and coupons flowing back to the private sector through the end of 2023. On the other hand, ample tax receipts and declining funding needs will likely prompt the Treasury to further cut coupon issuance at the upcoming refunding announcement. Dealers expect Treasury to continue reducing 7- and 20-year supplies, which will likely continue to benefit our long positions in those sectors.
- Diverging global central bank policies have set off some major second-order effects in the financial market, foremost of which is the impact that rapid yen depreciation has on Japanese demand for U.S. fixed income. Analysts point to Japanese investors contributing to the selloff amid significantly diminished returns on Treasuries on a dollar/yen-hedged basis, and some even see increased demand from some yen-based investors to invest in euro-denominated assets given the less punitive hedging costs.
- The yen's plunge also weighed on agency mortgage-backed securities, especially Ginnie Mae's, in an otherwise solid week for MBS as month-end sponsorship and reduced outright selling helped to tighten spreads. As we await more details on the Fed's plan to reduce the balance sheet, the long positions that have been building up in high 30-year coupons are potentially vulnerable, since the Fed's QE operations were disproportionately focused on 4% issues rather than 3.5% and 4.5% issues.

IG CORPORATES

- U.S. IG spreads capped off a volatile month with yankee banks (40-45 bps wider), industrials (20-40 bps wider), BBBs, and intermediates underperforming, the latter of which resulted in some flattening in the 10/30s spread curve. Last week's risk-off tone limited issuance to $8.1B, and the new supply priced with sizable concessions of 13 bps. The market may be receiving some technical tailwinds as issuance this week is expected to come in at $20-$25B, which essentially matches this week's maturities, coupon payments, and calls. Up to $135B is expected to price in May.
- While event risk is something to constantly monitor, not all private equity buyouts are detrimental to bondholders. Blackstone is acquiring REIT American Campus Communities, which issued bonds due in 2031 with some restrictive covenants that raise the likelihood that bondholders will be made whole, leading spreads to gap 70 bps tighter last week. Meanwhile, Apollo is in buyout talks with Mattel, which has existing debt with 101 change-of-control covenants. Those bonds were said to be trading well below par, only to subsequently rally on talk of the buyout.

- The recent volatility has shaken up the investor base in the U.S. IG market. For example, bonds with lower prices and wider spreads are attracting crossover buyers (i.e., traditional high-yield investors) to the asset class, and we're hearing anecdotes that traditional investment grade investors are moving into the U.S. MBS market as they increasingly look to reduce credit risk. In addition, the rally in the dollar vs. the yen has led more investors in Japan to domestically invest in longer-dated JGBs, which are trading around 1%, and selling IG corporates to fund FX hedging losses.

HIGH YIELD

- U.S. high yield spreads widened last week as a continuous repricing of Fed expectations outweighed better-than-feared financial results during the early stages of the corporate earnings season. Light new supply and concerns around a more hawkish Fed increased cash balances in high yield funds, which are now at a seven-quarter high. By quality, BBs held in the best while CCCs underperformed.
- By industry, all sectors posted negative returns, with cable (-1.72%), food & drug retail (-1.25%), and telecom (-1.19%) underperforming. Cable bonds sold off on Friday after Cablevision and, to a lesser extent, Charter posted lower-than-expected subscriber numbers. Air transportation (-0.23%), paper (-0.35%), and food/beverage/tobacco (-0.46%) outperformed last week.
- Outflows from high yield bond funds slowed considerably last week. Still, YTD outflows of -$32B are the second largest on record and more than double outflows of -$13.2B in 2021. Three new deals priced last week for a total of $4.5B in proceeds, which brings YTD gross new issuance to $57.4B, down 72% year-over-year.
- Loans posted a relatively modest decline last week. Nevertheless, it was the second worst weekly performance since November 2020. While loan mutual funds saw another inflow, the pace continues to moderate. Following $667M of inflows last week, YTD inflows now stand at $20B. YTD, loans remain one of the few fixed income asset classes posting a positive return, with their outperformance versus high yield bonds in April the largest of the past decade.

EMERGING MARKETS

- The EM hard currency market posted negative returns last week, with the high yield portion of the index underperforming. Outperformers were under-owned or recently oversold names, such as Pakistan and El Salvador, as well as Russian sovereign debt. In a surprise move, Russia paid the coupons on two bonds that were approaching the end of the 30-day grace period, causing the bonds to trade up 8-10 points. Underperformers included Ukraine, Ghana, Nigeria, and Angola.
- While bottom-up, relative value opportunities exist, the outlook in EM remains challenging. Fed hawkishness, the war in Ukraine, its inflation implications, and China's challenging growth dynamics and tepid policy response present meaningful headwinds. Meanwhile, outflows persist, with hard currency funds posting -$1.8B in flows last week.
- In local rates, the index yield rose as slowing growth in China and the inflation narrative across DM and many EM economies continued to pressure EM rates, particularly at the front of curves. China-focused bond funds had their largest weekly outflow on record of -$3.0B. We have reduced our China overweight to neutral on the back of diminished prospects of monetary policy easing and an increasing push for fiscal or credit easing.
- EMFX declined amid broad USD strength as well as growth concerns pertaining to Europe and China. All regions posted negative returns, with Europe and LatAm lagging. The Russian ruble was a notable gainer as it rose on the back of capital controls. With the Fed on track to tighten into a slowing global economy, we continue to expect further USD strength ahead.
- EM Corp spreads were wider on the broader macro selloff offset by select Russian corporates, which moved higher, and a slightly better tone in the China property sector after the China politburo made a strong statement about stabilizing growth. Veon bonds moved up from the 50s to 70 after the company transferred $1.1B of debt from the holdco to the Russian opco. Lukoil and Gazprom were higher after the sovereign averted a default.

SECURITIZED PRODUCTS

- U.S. conduit AAA CMBS spreads widened 7 bps last week on increased volatility and decreased demand for longer-duration conduit paper. One conduit deal priced early in the week after slightly widening its LCF and BBB- tranches. Another deal will price next week and has had to widen its LCF 15 bps to cross the finish line. Its BBB- is still open despite widening 15 bps from initial talk. We expect new issue spreads to remain rangebound in the near term and fixed-rate supply should decrease. SASB floater spreads were unchanged on the week. SASB issuance remains steady and a $2.9B Biomed floater deal easily priced at initial talk with all tranches oversubscribed. Non-agency RMBS spreads were mixed WoW with some widening in OTR CRT and some tightening in single family residences. Fannie's new issue CRT is doing well and should tighten CRT spreads.
- U.S. CLO primary spreads were unchanged at the top of the capital structure as mezzanine tranches softened on the week. We believe spreads for benchmark issuers in the U.S. are ~3M SOFR+144/200/235/355/710 for AAA/AA/A/BBB/BB, respectively for 5-year reinvestment period deals. Primary spreads continue to lag secondary, by ~10-15 basis points. Total issuance across new issue, refinancings, and resets was ~$3.9B for the week, compared to ~$6.3B the prior week. European primary spreads were unchanged at the top of the capital structure last week. AAA primary spreads remained in the 3E+115 area, and we believe they will remain range bound going forward. There was ~€800M of issuance across new issue, refinancings, and resets for the week, compared to ~€400M the prior week.
- ABS spreads were slightly wider last week, and new issue transactions continue to clear in the context of initial price guidance, with deals slightly oversubscribed on average. Secondary spreads were softer, as dealers remain risk averse. New issue supply has been manageable, with $86B YTD, slightly ahead of 2021's pace. A 7-year Sunrun solar lease deal priced at T+215 bps, and Ford will announce its first prime auto revolver transaction of the year this week with the 5yr senior class being guided at T+90bps.

MUNICIPAL BONDS

- Muni technicals were mixed last week with $2.9B of outflows, marking the 16th consecutive week of outflows for a total of $41.5B. Supply totaled a relatively light $5.2B, which was 72% of the five-year average. Overall, performance remained weak as munis mostly performed in line with Treasuries across the curve with modestly higher yields on the week. On the positive side, munis traded with far less volatility than Treasuries despite an elevated primary calendar.
- Steady outflows and heavy selling pressure continued to drive the narrative in tax-exempt munis (two of three days of $2B+ bid wanted lists occurred this week—sizes not seen since the worst of the COVID-related volatility). With cheaper valuations and more retail friendly dollar prices, both institutional crossover buyers and retail investors started providing some support, but it was not yet widespread enough to turn performance around.

THE RETURNS TABLE As of April 29, 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	2.72	---	5	38	198	255	0.11	-0.56	-3.05	-3.54
U.S. 5-Year	4.6	2.92	---	2	50	169	209	0.18	-2.08	-7.01	-7.86
U.S. 10-Year	8.8	2.88	---	3	60	143	130	0.23	-4.63	-11.07	-8.79
U.S. 10-Year Breakeven	--	2.94	---	-5	11	34	51	---	---	---	---
U.S. 10-Year TIPS	4.8	0.00	---	8	49	110	79	-0.27	-3.58	-6.92	0.28
U.S. 20-Year	15.2	3.15	---	6	61	128	103	0.02	-8.03	-17.46	-12.43
U.S. 30-Year	20.6	2.95	---	5	55	110	70	0.01	-9.81	-20.10	-11.50
UK 10-Year	8.3	1.90	---	-6	30	94	106	0.52	-2.32	-7.03	-6.66
Germany 10-Year	9.7	0.94	---	-3	39	112	113	0.35	-3.69	-9.51	-9.51
Switzerland 10-Year	9.8	0.84	---	-3	27	100	105	0.33	-2.57	-9.08	-9.55
Japan 10-Year	9.6	0.22	---	-3	1	16	13	0.20	0.16	0.16	0.16
Australia 10-Year	9.2	3.13	---	0	29	146	141	0.10	-2.35	-11.94	-10.33
Canada 10-Year	8.7	2.86	---	0	46	144	130	0.07	-3.77	-11.03	-8.89
MAJOR FI MS INDICES											
Global Aggregate Unhedged	7.2	2.57	48	1	6	12	16	-0.97	-5.48	-11.30	-12.82
Global Aggregate Hedged	7.2	2.57	48	1	6	12	16	-0.03	-2.69	-7.53	-6.70
U.S. Aggregate	6.7	3.40	50	-1	9	13	20	-0.02	-3.79	-9.50	-8.42
Euro-Aggregate (Unhedged)	7.2	1.42	80	6	10	24	32	-0.37	-3.42	-8.65	-8.88
Japanese Aggregate	9.4	0.27	1	0	0	0	0	0.34	-0.23	-1.78	-1.70
MAJOR FI CREDIT INDICES											
Mortgage-Backed (Agency)	6.2	3.52	40	-8	17	9	31	0.40	-3.51	-8.31	-8.66
Global IG Corporate Bonds	6.8	3.74	142	6	18	46	51	-1.02	-5.84	-12.85	-12.97
U.S. IG Corporate Bonds	7.9	4.22	135	3	19	42	46	-0.40	-5.47	-12.73	-10.32
European IG Corporate	5.0	2.06	151	12	21	56	67	-0.45	-2.74	-7.56	-7.79
U.S. High Yield Bonds	4.8	6.86	376	21	51	93	83	-0.91	-3.56	-8.22	-5.19
European High Yield Bonds	3.8	5.29	447	43	52	129	149	-1.41	-2.73	-6.75	-5.27
U.S. Leveraged Loans	0.3	7.55	466	19	17	28	-3	-0.32	0.17	0.07	2.87
European Leveraged Loans	0.3	3.99	490	19	19	65	67	-0.43	-0.14	-0.70	2.00
EM Hard Currency Sovs.	7.1	7.28	438	19	38	70	98	-1.34	-5.59	-15.05	-14.51
EM Corporates	4.6	6.21	335	14	5	24	36	-0.48	-2.06	-10.70	-9.70
EM Currencies	---	5.39	---	23	83	106	284	-1.26	-3.00	-8.36	-10.32
EM Local Rates	4.9	6.77	7	0	1	1	2	-0.35	-2.21	-10.15	-12.34
CMBS	4.9	3.71	90	6	5	22	26	-0.13	-2.31	-7.77	-7.49
ABS	2.3	3.33	72	2	15	34	41	0.03	-0.76	-3.62	-3.92
CLOs	---	1.35	135	7	5	26	31	-0.28	-0.23	-0.78	-0.86
Municipal Bonds	5.6	3.16	---	4	56	205	212	-0.25	-2.77	-8.82	-7.88

Equity/Volatility	Level	Total Return (%) WTD	QTD	YTD	Prior Yr
S&P 500 Index	8697	-3.3	-8.7	-12.9	-0.5
DAX	13939	-0.3	-2.2	-11.2	-7.0
Stoxx 600	239	-0.5	-0.7	-6.5	4.3
Nikkei 225	26819	-0.9	-3.5	-5.9	-5.9
Shanghai Comp.	3047	-1.3	-6.3	-16.3	-10.4
MSCI ACWI	339	-2.6	-8.0	-12.9	-6.3
FTSE 100	7545	0.4	0.7	3.6	12.4
MOVE Index	135	0.2	20.1	66.5	117.6
VIX Index	32	18.4	62.5	94.0	89.7

FX/Commodities	Spot	% Change WTD	QTD	YTD	Prior Year
EUR/USD	1.1	-2.3	-4.7	-7.3	-13.0
USD/JPY	129.7	0.9	6.6	12.7	19.1
GBP/USD	1.3	-2.1	-4.3	-7.1	-9.8
EUR/CHF	1.0	-0.7	0.5	-1.1	-6.9
USD/CHF	1.0	1.5	5.3	6.5	7.0
USD (DXY)	103.0	1.7	4.7	7.6	13.6
Oil	77.0	1.6	4.4	36.0	61.0
Gold	1896.9	-1.8	-2.1	3.7	7.0

Past performance is not a guarantee or a reliable indicator of future results. See Notice for important disclosures and full index names. All investments involve risk, including possible loss of capital.

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 May 2022

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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, 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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