PGIM FIXED INCOME

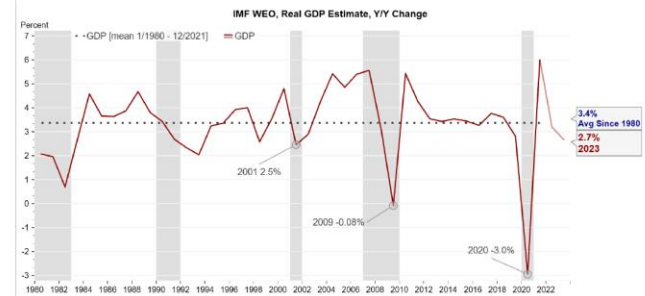
Signs of Shifting Macro Winds

WEEKLY VIEW FROM THE DESK | October 17, 2022

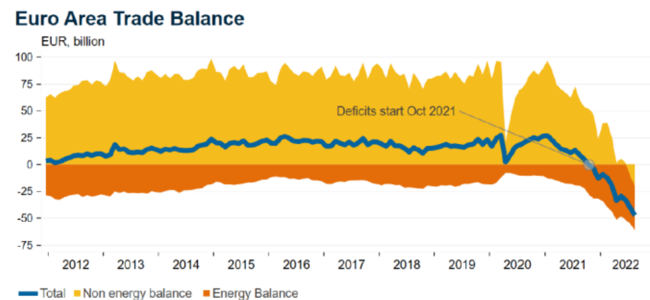
QUICK LINK TO THE RETURNS TABLE

MACRO

- The uniformity of the gloom might have been the strongest takeaway from the IMF's annual meetings, as the official real global GDP forecast for next year was cut from 2.9% in July to 2.7%. Historically, growth rates within two-tenths of 2.5% are tantamount to calling for a global recession. In the U.S., even though we're sensing more caution from Fed officials about the risks of tightening too much, too fast, there was broad recognition that the current Fed leadership doesn't have the risk appetite or credibility to set forward-looking policy at this point. Hence, it is locked into the current policy stance until spot inflation exhibits demonstrable signs of rolling over.



- We are also hearing buzz about the Bureau of Labor Statistics taking the unusual step of releasing a paper on the differences between using average and new rents in calculating CPI. The fact that the paper was released is itself seen as an official acknowledgment that CPI-measured rents may soon come down—and hard—further underlining the potential for the Fed to pause its tightening campaign in Q1 of next year. While ex-shelter services inflation is still contributing a large, sequential increase to CPI, changes in the shelter category can move the needle on inflation, and the decline in new rental prices should give officials more room to maneuver by January.
- Compared to other central banks, the Fed has the most fundamental justification to maintain its current monetary policy stance. The resulting strength of the nominal trade-weighted dollar is unmatched, and previous examples of lesser magnitudes—most notably in 1997 and 2008—ended in tears for the markets and the global economy. We see the dollar's strength set to continue, albeit slower from its current breakneck pace. Emerging-market central banks are increasingly moving to an on-hold posture, as real rates are now higher, inflation appears to be rolling over, and the output gap is growing. From a global balance of payments perspective, there's been growing acknowledgement that Europe is no longer a current account surplus machine: its non-energy balance has moved into deficit territory, joining the energy balance that has been hit particularly hard. Indeed, the center of gravity for current account surpluses appears to be shifting from the euro area and East Asia to commodities exporters and China.
- On the heels of China's National Party Congress, there is speculation that the government may allow the yuan to depreciate further to aid export growth. On a trade-weighted real basis, the currency still has room to fall, as the currencies of China's trade partners have depreciated even more versus the dollar in recent months. However, there is general skepticism that China will be able to again use credit-fueled investments to boost growth. Investment is already standing at 45% of GDP, which is near 2010's highs, and most projects are concentrated in unprofitable and unproductive property developments, which will only deepen the internal imbalance of the Chinese economy. Net exports are a key driver of China's growth engine, but G7 nations seem determined to decouple the West's economy from China's, raising the risks of further escalation in economic conflict.



Source of charts: PGIM Fixed Income

RATES

- At the highest level, we are concerned with the availability of cash in the market. As the ongoing deleveraging in the U.K. is still causing widespread pain, we continue to vigilantly monitor for other sources of deleveraging that may unfold, as the move toward private and less liquid structures in recent years may exacerbate the cost of cash as trades are unwound.
- In the U.S., the latest data show inflation has yet to come off, but entrenched market expectations continue to price a swift moderation in headline CPI back to 2.6% within two years from more than 8% currently. Meanwhile, Treasury market volatility continues to rise alongside policy rate hikes, a departure from historical patterns when swaptions implied vol declined during tightening cycles.
- Expectations for Treasury buybacks were raised by a question in the Department's latest quarterly survey of primary dealers who were asked to assess the merits and limitations of a buyback program for improving market liquidity. Off-the-run 20-year bonds finally caught some momentum and rallied on the back of the positive development, as it shows officials are aware of the suboptimal market functioning.
- Agency mortgage-backed securities spreads widened last week, as the higher realized vol and continued deleveraging in various asset classes is still affecting the sector. We are seeing more selling of lower coupons by REITs while the higher coupons have not been as challenged. Daily origination has dropped to $1.9B/day as mortgage rates rise to a two-decade high, but the increased volatility overwhelmed any tailwind for MBS stemming from the lack of issuance.

IG CORPORATES

- Last week's widening in U.S. IG spreads brought them to a level (+164 bps) that has generated interest throughout the year, and spreads appeared to bounce off that level with Monday's tightening. Banks underperformed, and we continued to see pressure on short-dated auto paper, while energy and telecom outperformed.
- Morgan Stanley's $6.5B multi-tranche offering was the only deal to surface last week with its 10-year issue pricing at +235 bps, which represented a concession of 10-15 bps and was said to trade in line with J.P. Morgan 10-year spreads. In terms of other technical, dealers were net sellers of about $2B last week, indicating the presence of some sizable demand.
- Despite the market volatility, M&A activity continues apace with some interesting aspects. For example, Diamondback's $1.6B acquisition of FireBird Energy is set to be funded with 50% equity (bondholder positive), Kroger's announced acquisition of Albertsons for $24.6B will likely face intense regulatory scrutiny, and BP's announced acquisition of Archea Energy for $4.1B was said to come at a highly expensive multiple that raises questions about the potential returns on the acquisition (albeit with a negligible impact on BP's credit profile).
- The UK's mini-budget and its impact on LDI markets was the main driver of UK IG bond prices last week and affected the euro bond markets as well. There was no issuance last week, and after conditions stabilized Friday, spreads continued to tighten Monday as well.

HIGH YIELD

- U.S. high yield bond spreads widened and yields rose last week as all credit tiers posted negative returns. Following last week's declines, high yield is now on pace for its worst annual total return since 2008. Secondary liquidity remains an issue, with BBs notably difficult to source and CCCs quoted with wider-than-normal bid/ask spreads. Despite last week's declines, U.S. high yield continues to appear rich relative to both U.S. loans and European high yield.
- Fund flows turned negative once again, with $713M in outflows unwinding a portion of the prior week's $1.87B inflow. Meanwhile, three new deals priced for a total of $1.1B. With primary activity remaining significantly below that of 2021, the U.S. high yield market remains in a material supply deficit of $181.7B.
- Loan prices declined last week, with BB loans continuing to outperform both Bs and CCCs. Although liquidity remains better than in many other asset classes, with decent two-way flow, bid/ask spreads have widened noticeably as of late. While technicals remain supportive and high all-in current coupons are attracting increased attention from both institutional and retail accounts, the recent widening of AAA CLO spreads bears close watching. Should AAA buyers take a further step back, loan demand could be impacted heading into year-end.
- In Europe, high yield bonds and loans both declined last week, with high yield modestly outperforming. Primary market activity remained limited, with just one bond issue and one loan being priced. In high yield, Fedrigoni priced a senior secured deal to back its acquisition by BC Partners and Bain with a coupon slightly below 12%. As banks had previously been holding the Fedrigoni paper on their balance sheets, last week's sale could potentially pave the way for an additional $5-7B of hung bonds and loans to come to market.

EMERGING MARKETS

- Within EM fixed income, the IMF meetings underscored the sector's significant differentiation: e.g., the value in BB-rated and some investment-grade bonds as well as the belief that Latin American and Middle Eastern names will fare relatively better. Several EM countries are nearing restructurings that could benefit from coordinated action and/or official sector involvement along the lines of the 1989 Brady Plan. While the World Bank has been passive, the G-20 is fractured, there is little dialogue between the U.S. and China, and there is little co-ordination between developed nations and emerging markets, the approaching developments in certain countries should keep investors engaged in the asset class.
- Elsewhere, there was recognition that China needs to continue growing in a balanced manner, and growth that surprises to the upside could be a positive development for the broader asset class. Otherwise, we maintain underweight exposure to China credit with tactical positioning in China rates and the yuan, but from a defensive posture.
- As a result, the "tails" of the returns distribution for EM assets are "fat," i.e., both positive and negative outcomes have a higher-than-normal likelihood. Aside from the above areas where we see some value in absolute terms, we continue to focus on relative-value opportunities. In EM currencies, we continue to position our portfolios long U.S.-dollar, although we have reduced that overweight exposure recently.

SECURITIZED PRODUCTS

- U.S. conduit 10-year AAA CMBS spreads were unchanged last week after previously widening over the last couple weeks. Secondary supply was well absorbed by investors. A conduit deal is premarketing with plans to price this week. We continue to recommend staying at the top of the capital structure as CRE fundamentals have increasing uncertainty from both monetary policy and geopolitical risk. Single asset single borrower AAA spreads were unchanged last week, and there is a hotel deal coming to market this week. In residential, CRT spreads are near June wides, currently SOFR+275/475/680 for M1/M2/B1, respectively.
- Spreads across the U.S. CLO capital structure remained mixed last week, and we believe spreads for benchmark issuers are ~3M SOFR+220/300/400/575/975 for AAA/AA/A/BBB/BB, respectively. We expect spreads to move wider in the near term, particularly at the AAA level as primary and secondary markets converge. The basis between benchmark and non-benchmark issuers remains historically wide. Total U.S. issuance was about $2.73B compared to ~$800M the week prior. Despite macroeconomic volatility, we continue to see both benchmark and non-benchmark issuers come to market at varying tenors and spreads. In Europe, one deal priced for €325M in line with the €300M that printed the prior week. We believe benchmark issuer spreads are in the 3E+235 area, which continues to widen.
- ABS spreads were generally wider due to higher volume of secondary sales by both U.S. and UK asset managers. In senior space, 2-year prime auto is holding in at T+70 bps, 3yr top tier unsecured consumer is T+190 (5bps wider), and 5yr rental car is T+185 (10bps wider). In mezz subprime auto, single A trades T+210 (+10bps wider) and BB trades T+600s (+50bps wider). Refi private student loan sector continues to underperform as market reprices to slower speeds. In secondary, inventories remain light and risk aversion is prevalent. We remain cautious around ABS and are highly selective around additions. New issuance is $207B YTD, which is in line with last year's pace. Most deals last week priced wider than initial price guidance due to market softness.

MUNICIPAL BONDS

- Muni technicals remain negative as outflows reached $5.8B, bringing the YTD outflows to $100.4B. On the supply side, slightly more than $10B is expected to price this week, and we anticipate some sizable concessions at pricing. The bid wanted activity is down, but remains elevated with $7.3B out for bid during the short week vs. $7.9B prior week. Dealer inventories also remain elevated, leaving them with less room to absorb bonds. Overall, munis outperformed Treasuries across the curve and outperformed taxable comparables as well.

THE RETURNS TABLE As of October 7, 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	1.8	4.50	---	19	22	376	414	-0.28	-0.38	-4.99	-5.38
U.S. 5-Year	4.4	4.27	---	13	18	301	322	-0.48	-0.83	-11.53	-12.13
U.S. 10-Year	8.4	4.02	---	14	19	251	251	-1.02	-1.69	-18.23	-17.74
U.S. 10-Year Breakeven	--	2.41	---	14	25	-19	-13	---	---	---	---
U.S. 10-Year TIPS	4.7	1.61	---	0	-6	271	264	0.15	0.32	-17.11	-15.57
U.S. 20-Year	13.8	4.29	---	16	21	237	233	-1.92	-2.86	-29.16	-28.21
U.S. 30-Year	18.4	3.99	---	15	22	209	198	-2.49	-3.83	-34.13	-31.92
UK 10-Year	7.8	4.32	---	9	24	336	328	-0.67	-1.70	-22.52	-21.97
Germany 10-Year	8.9	2.34	---	15	24	253	254	-1.30	-2.01	-7.76	-7.76
Switzerland 10-Year	9.3	1.34		-1	15	150	151	0.14	-1.35	-12.97	-12.96
Japan 10-Year	9.7	0.25	---	0	1	18	17	0.01	0.02	0.02	0.02
Australia 10-Year	8.9	4.01	---	16	12	234	238	-1.35	-0.81	-17.49	-17.41
Canada 10-Year	8.5	3.49	---	10	31	206	195	-0.81	-2.54	-8.97	-8.97
MAJOR FI MS INDICES											
Global Aggregate Unhedged	6.8	3.91	65	3	3	29	32	-1.42	-1.81	-21.34	-21.87
Global Aggregate Hedged	6.8	3.91	65	3	3	29	32	-0.88	-1.20	-13.14	-13.10
U.S. Aggregate	6.4	4.97	66	4	4	30	33	-1.19	-1.44	-15.84	-15.90
Euro-Aggregate (Unhedged)	6.6	3.25	114	2	3	58	65	-0.94	-1.46	-17.39	-17.89
Japanese Aggregate	9.3	0.40	1	0	0	0	0	-0.56	-0.29	-3.75	-3.79
MAJOR FI CREDIT INDICES											
Mortgage-Backed (Agency)	6.2	5.06	77	7	8	46	52	-1.54	-1.86	-15.26	-15.58
Global IG Corporate Bonds	6.3	5.66	186	10	6	89	96	-1.47	-1.54	-22.20	-22.68
U.S. IG Corporate Bonds	7.3	5.90	163	9	4	70	77	-1.62	-1.48	-19.91	-19.88
European IG Corporate	4.7	4.45	234	13	9	139	147	-0.92	-1.03	-15.46	-15.81
U.S. High Yield Bonds	4.6	9.70	527	29	-26	244	232	-1.11	0.29	-14.49	-13.70
European High Yield Bonds	3.5	9.13	652	40	21	334	329	-0.98	-0.41	-15.46	-15.12
U.S. Leveraged Loans	0.3	10.16	659	15	1	230	222	-0.26	0.47	-2.85	-2.32
European Leveraged Loans	0.3	4.96	825	49	59	404	414	-1.22	-1.26	-7.73	-6.93
EM Hard Currency Sovs.	6.5	9.87	573	27	14	204	210	-2.03	-1.47	-25.06	-25.27
EM Corporates	4.2	8.24	420	23	16	108	110	-1.52	-1.16	-17.19	-17.24
EM Currencies	---	8.29	---	-8	-39	396	501	-0.34	0.11	-13.32	-14.30
EM Local Rates	4.8	7.47	7	0	0	2	2	-0.86	-0.75	-12.13	-13.13
CMBS	4.8	5.44	114	2	9	46	55	-0.76	-1.27	-12.94	-13.44
ABS	2.2	5.21	69	4	15	31	39	-0.43	-0.69	-5.71	-6.15
CLOs	---	2.14	214	13	11	106	113	-0.40	-0.28	-2.94	-3.08
Municipal Bonds	6.6	3.94	---	0	-10	283	279	0.03	0.86	-11.37	-10.65

Equity/Volatility	Level	Total Return (%) WTD	QTD	YTD	Prior Yr
S&P 500 Index	3,583	-1.5	0.0	-23.9	-18.0
DAX	12,588	1.3	2.7	-21.7	-19.6
Stoxx 600	216	-0.2	1.0	-16.4	-12.4
Nikkei 225	26,776	-0.1	4.4	-4.1	-3.2
Shanghai Comp.	3,085	1.6	1.6	-13.4	-11.4
MSCI ACWI	289	-1.9	-0.2	-25.8	-22.7
FTSE 100	6,919	-1.9	-0.5	-4.2	-1.4
MOVE Index	153	3.0	7.8	98.3	157.6
VIX Index	32	2.1	1.3	85.9	89.9

FX/Commodities	Spot	% Change WTD	QTD	YTD	Prior Year
EUR/USD	1.0	-0.2	-0.8	-14.5	-16.2
USD/JPY	148.7	2.4	2.7	29.2	30.8
GBP/USD	1.1	0.8	0.0	-17.4	-18.3
EUR/CHF	1.0	0.9	1.0	-5.8	-8.7
USD/CHF	1.0	1.1	1.9	10.1	8.9
USD (DXY)	113.3	0.5	1.1	18.4	20.6
Oil	77.0	-7.6	7.7	11.2	5.3
Gold	1644.5	-3.0	-1.0	-10.1	-8.4

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

NOTICE: IMPORTANT INFORMATION

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

For Professional Investors only. Past performance is not a guarantee or a reliable indicator of future results and an investment could lose value. All investments involve risk, including the possible loss of capital.

PGIM Fixed Income operates primarily through PGIM, Inc., a registered investment adviser under the U.S. Investment Advisers Act of 1940, as amended, and a Prudential Financial, Inc. ("PFI") company. Registration as a registered investment adviser does not imply a certain level or skill or training. PGIM Fixed Income is headquartered in Newark, New Jersey and also includes the following businesses globally: (i) the public fixed income unit within PGIM Limited, located in London; (ii) PGIM Netherlands B.V., located in Amsterdam; (iii) PGIM Japan Co., Ltd. ("PGIM Japan"), located in Tokyo; (iv) the public fixed income unit within PGIM (Hong Kong) Ltd. located in Hong Kong; and (v) the public fixed income unit within PGIM (Singapore) Pte. Ltd., located in Singapore ("PGIM Singapore"). PFI of the United States is not affiliated in any manner with Prudential plc, incorporated in the United Kingdom or with Prudential Assurance Company, a subsidiary of M&G plc, incorporated in the United Kingdom. Prudential, PGIM, their respective logos, and the Rock symbol are service marks of PFI and its related entities, registered in many jurisdictions worldwide.

These materials are for informational or educational purposes only. The information is not intended as investment advice and is not a recommendation about managing or investing assets. In providing these materials, PGIM is not acting as your fiduciary. Clients seeking information regarding their particular investment needs should contact their financial professional. These materials represent the views and opinions of the author(s) regarding the economic conditions, asset classes, securities, issuers or financial instruments referenced herein. Distribution of this information to any person other than the person to whom it was originally delivered and to such person's advisers is unauthorized, and any reproduction of these materials, in whole or in part, or the divulgence of any of the contents hereof, without prior consent of PGIM Fixed Income is prohibited. Certain information contained herein has been obtained from sources that PGIM Fixed Income believes to be reliable as of the date presented; however, PGIM Fixed Income cannot guarantee the accuracy of such information, assure its completeness, or warrant such information will not be changed. The information contained herein is current as of the date of issuance (or such earlier date as referenced herein) and is subject to change without notice. PGIM Fixed Income has no obligation to update any or all of such information; nor do we make any express or implied warranties or representations as to the completeness or accuracy or accept responsibility for errors. **All investments involve risk, including the possible loss of capital. These materials are not intended as an offer or solicitation with respect to the purchase or sale of any security or other financial instrument or any investment management services and should not be used as the basis for any investment decision. No risk management technique can guarantee the mitigation or elimination of risk in any market environment. Past performance is not a guarantee or a reliable indicator of future results and an investment could lose value. No liability whatsoever is accepted for any loss (whether direct, indirect, or consequential) that may arise from any use of the information contained in or derived from this report. PGIM Fixed Income and its affiliates may make investment decisions that are inconsistent with the recommendations or views expressed herein, including for proprietary accounts of PGIM Fixed Income or its affiliates.**

The opinions and recommendations herein do not take into account individual client circumstances, objectives, or needs and are not intended as recommendations of particular securities, financial instruments or strategies to particular clients or prospects. No determination has been made regarding the suitability of any securities, financial instruments or strategies for particular clients or prospects. For any securities or financial instruments mentioned herein, the recipient(s) of this report must make its own independent decisions.
Conflicts of Interest: PGIM Fixed Income and its affiliates may have investment advisory or other business relationships with the issuers of securities referenced herein. PGIM Fixed Income and its affiliates, officers, directors and employees may from time to time have long or short positions in and buy or sell securities or financial instruments referenced herein. PGIM Fixed Income and its affiliates may develop and publish research that is independent of, and different than, the recommendations contained herein. PGIM Fixed Income's personnel other than the author(s), such as sales, marketing and trading personnel, may provide oral or written market commentary or ideas to PGIM Fixed Income's clients or prospects or proprietary investment ideas that differ from the views expressed herein. Additional information regarding actual and potential conflicts of interest is available in Part 2A of PGIM Fixed Income's Form ADV.

In the **United Kingdom**, information is issued by PGIM Limited with registered office: Grand Buildings, 1-3 Strand, Trafalgar Square, London, WC2N 5HR. PGIM Limited is authorised and regulated by the Financial Conduct Authority ("FCA") of the United Kingdom (Firm Reference Number 193418). In the **European Economic Area** ("EEA"), information is issued by PGIM Netherlands B.V., an entity authorised by the Autoriteit Financiële Markten ("AFM") in the Netherlands and operating on the basis of a European passport. In certain EEA countries, information is, where permitted, presented by PGIM Limited in reliance of provisions, exemptions or licenses available to PGIM Limited under temporary permission arrangements following the exit of the United Kingdom from the European Union. These materials are issued by PGIM Limited and/or PGIM Netherlands B.V. to persons who are professional clients as defined under the rules of the FCA and/or to persons who are professional clients as defined in the relevant local implementation of Directive 2014/65/EU (MiFID II). In certain countries in **Asia-Pacific**, information is presented by PGIM (Singapore) Pte. Ltd., a Singapore investment manager registered with and licensed by the Monetary Authority of Singapore. In **Japan**, information is presented by PGIM Japan Co. Ltd., registered investment adviser with the Japanese Financial Services Agency. In **South Korea**, information is presented by PGIM, Inc., which is licensed to provide discretionary investment management services directly to South Korean investors. In **Hong Kong**, information is provided by PGIM (Hong Kong) Limited, a regulated entity with the Securities & Futures Commission in Hong Kong to professional investors as defined in Section 1 of Part 1 of Schedule 1 (paragraph (a) to (i) of the Securities and Futures Ordinance (Cap.571). In **Australia**, this information is presented by PGIM (Australia) Pty Ltd ("PGIM Australia") for the general information of its "wholesale" customers (as defined in the Corporations Act 2001). PGIM Australia is a representative of PGIM Limited, which is exempt from the requirement to hold an Australian Financial Services License under the Australian Corporations Act 2001 in respect of financial services. PGIM Limited is exempt by virtue of its regulation by the FCA (Reg: 193418) under the laws of the United Kingdom and the application of ASIC Class Order 03/1099. The laws of the United Kingdom differ from Australian laws. In **Canada,** pursuant to the international adviser registration exemption in National Instrument 31-103, PGIM, Inc. is informing you that: (1) PGIM, Inc. is not registered in Canada and is advising you in reliance upon an exemption from the adviser registration requirement under National Instrument 31-103; (2) PGIM, Inc.'s jurisdiction of residence is New Jersey, U.S.A.; (3) there may be difficulty enforcing legal rights against PGIM, Inc. because it is resident outside of Canada and all or substantially all of its assets may be situated outside of Canada; and (4) the name and address of the agent for service of process of PGIM, Inc. in the applicable Provinces of Canada are as follows: in **Québec:** Borden Ladner Gervais LLP, 1000 de La Gauchetière Street West, Suite 900 Montréal, QC H3B 5H4; in **British Columbia:** Borden Ladner Gervais LLP, 1200 Waterfront Centre, 200 Burrard Street, Vancouver, BC V7X 1T2; in **Ontario:** Borden Ladner Gervais LLP, 22 Adelaide Street West, Suite 3400, Toronto, ON M5H 4E3; in **Nova Scotia:** Cox & Palmer, Q.C., 1100 Purdy's Wharf Tower One, 1959 Upper Water Street, P.O. Box 2380 - Stn Central RPO, Halifax, NS B3J 3E5; in **Alberta:** Borden Ladner Gervais LLP, 530 Third Avenue S.W., Calgary, AB T2P R3.

© 2022 PFI and its related entities.

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.

2022-6812