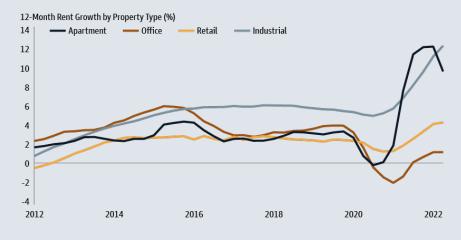
# **MARKET MONITOR**

## Chart of the Week: Rent Dispersion



Source: CoStar, Goldman Sachs Global Investment Research, GS Asset Management.

## MARKET SUMMARY

**GLOBAL EQUITIES:** Global equities ended higher last week, with the MSCI World rising 3.21%. In the US, the S&P 500 rose 2.57% as both a softer US dollar and better-than-expected corporate earnings results fueled investor optimism, even amid recent economic pressures. In Europe, the STOXX 600 increased 2.90%, closing at its highest since June 9, after Russia's resumption of Nord Stream 1 pipeline gas flow to Europe eased energy supply concerns and helped sentiment recover.

**COMMODITIES:** Oil prices saw volatile swings last week amid multiple factors: returning Libyan supplies, increasing recession risks, fears of renewed China lockdowns, and a slower US summer driving season. Ultimately, WTI ended lower at \$94.70/barrel and Brent crude ended higher at \$103.20/barrel, as concerns over demand balanced against improving supply constraints.

**FIXED INCOME:** US Treasury yields fell last week as investors digested corporate earnings and assessed expectations for monetary policy, growth, and inflation. The 10-Year US Treasury yield fell 15bps to end the week at 2.78%, while the 2-Year yield fell 15bps to 2.99%, maintaining the 2s10s spread inversion. Meanwhile, in Italy, 10-year yields rose to 3.32% on the back of the ECB's rate hike and Prime Minister Mario Draghi's resignation.

**FX:** The US dollar depreciated -1.44% against a basket of currencies as expectations for a 100bps Fed hike waned. Meanwhile, the euro appreciated to \$1.0195 on the back of the ECB's larger-than-expected rate hike, moving away from parity with the US dollar. The pound sterling also strengthened against the dollar, rising to \$1.1979.

## **REAL ESTATE**

Rent growth within US commercial real estate has been highly dispersed across property types this year. While rent growth has started to slow for apartments in aggregate, it ultimately still remains high. We expect apartment asking rent to continue to remain elevated, as rising mortgage rates and still high home prices have contributed to a home affordability issue, potentially pricing out marginal homebuyers who may be forced to rotate toward renting.

## ECONOMIC SUMMARY

**ACTIVITY:** The Philadelphia Fed manufacturing index fell further into contractionary territory in July, declining -9pts to -12.3 against the consensus of an increase. The US manufacturing and services flash PMIs fell to 52.3 and 47, respectively, from 52.7 and 51.6. The composite PMIs for the UK and the Euro area also fell short of expectations in July, declining to 52.8 and 49.4 respectively, from 53.7 and 52.0 in June.

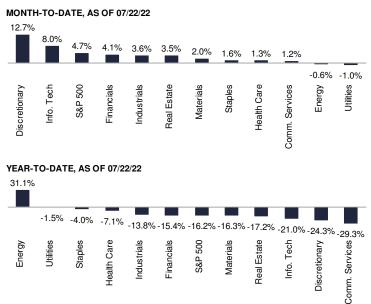
**INFLATION:** In the UK, headline CPI inflation continued to rise in June to 9.4% YoY, against consensus expectations of 9.3%, driven by a mix of higher food and petrol price inflation.

**LABOR:** The UK labor market remains tight at a 3M ILO rate of 3.8%. Given the tight labor market and strong inflationary pressures, Goldman Sachs Global Investment Research (GIR) anticipates the MPC to vote for 50bps hikes in August and September, reaching a terminal rate of 2.75% in December 2022.

**MONETARY POLICY:** The ECB surprised the market with a 50bps rate hike and dropped its forward guidance for September to a "meeting-by-meeting" approach. The Bank also unveiled details on a new anti-fragmentation tool, the Transmission Protection Instrument (TPI). Lack of clarity on the conditions under which TPI will be activated suggests that market participants could test the ECB's resolve, especially in the context of higher political uncertainty in Italy. GIR maintains its forecast that the ECB will hike to a terminal rate of 1.75% by March 2023.

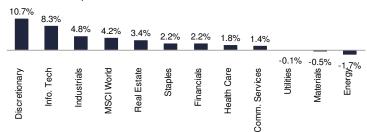
## **MARKET WATCH**

## S&P 500 INDEX SECTOR RETURNS

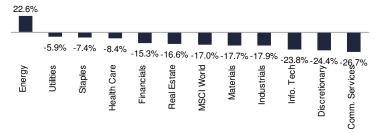


## MSCI WORLD INDEX SECTOR RETURNS

MONTH-TO-DATE, AS OF 07/22/22



#### YEAR-TO-DATE, AS OF 07/22/22



## **ECONOMIC WATCH**

#### Monday, July 25 Tuesday, July 26 Wednesday, July 27 Thursday, July 28 Friday, July 29 **Critical Future Events** US GDP (Cons: 0.4%, US U. Mich. Sentiment FOMC Meeting - July 26-Prior: -1.6%) (Cons: 51.1, Prior: 51.1) 27 US Core PCE (Cons: Euro Area GDP (Cons: -, BoE Meeting - Aug 4 4.7%, Prior: 4.7%) Prior: 0.6%) ECB Meeting - Sept 8 Euro Area CPI (Cons: 8.7%, Prior: 8.6%)

Source: Bloomberg and Goldman Sachs Asset Management. For style performance, Large, Mid, and Small for US Equity refer to the Russell 1000, Russell Midcap, and Russell 2000 indices, respectively. Value refers to companies with lower price-to-book ratios and lower expected growth values, and Growth refers to higher price-to-book ratios and higher forecasted growth values. For US Fixed Income, Government, Corporate, and High Yield refer to the Bloomberg Treasury, Bloomberg Corporate Credit, and Bloomberg High Yield indices, respectively. Short, Intermediate, and Long refer to the Short, Intermediate, and Long segments of their respective curves. For European Fixed Income, Government, Corporate, and High Yield refer to the Bloomberg Euro Treasury Index, the Bloomberg Euro Corporate Index, and the Bloomberg Euro High Yield Index, respectively. Quality returns refers to the credit quality of asset classes ranging from Government, highest quality, to High Yield, lowest quality. Since August 24, 2021, the Barclays indices are branded "Bloomberg indices". Please see end disclosures for footnotes. **Past performance does not guarantee future results, which may vary.** 

## Style Performance

#### **US EQUITY SIZE & STYLE RETURNS** Month-to-Date (as of 07/22/22) Year-to-Date Value Core Growth Value Core Growth 3.14% 4.90% 6.68% -10.12% -17.07% -23.27% Large 4.29% 5.29% 7.16% Medium -26.06% -12.64% -17.42% 5.10% 5.84% 6.58% Small -13.09% -18.96% -24.81%

#### MSCI WORLD SIZE & STYLE RETURNS

Month-to-Date		(as of 07/22/22)	Year-to-Date			
Value	Core	Growth		Value	Core	Growth
1.19%	4.13%	7.19%	Large	-9.98%	-16.80%	-23.57%
2.97%	4.31%	5.98%	Medium	-14.92%	-19.28%	-25.22%
4.01%	5.28%	6.62%	Small	-13.05%	-18.47%	-24.10%

#### US FIXED INCOME MATURITY AND QUALITY RETURNS

Month-to-Date		(as of 07/22/22)	Year-to-Date			
Short	Intermed.	Long		Short	Intermed.	Long
0.42%	0.80%	3.42%	Government	-3.79%	-5.05%	-18.56%
0.94%	1.60%	4.77%	Corporate	-4.71%	-7.51%	-19.06%
3.04%	4.29%	4.60%	High Yield	-6.96%	-9.87%	-20.73%

#### EUROPEAN FIXED INCOME MATURITY AND QUALITY RETURNS

					-	
Month-to-Date		(as of 07/22/22)	Year-to-Date			
Short	Intermed.	Long		Short	Intermed.	Long
0.30%	1.58%	4.38%	Government	-2.03%	-7.31%	-19.46%
1.20%	3.91%	8.89%	Corporate	-2.72%	-10.50%	-18.78%
3.84%		High Yield	-11.15%			

## WEEKLY MARKET RECAP

## INDEX RETURNS

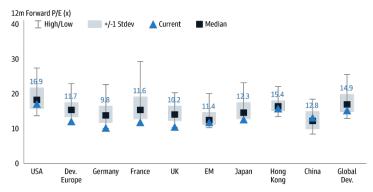
INDEX RETURNS	1 WEEK	MTD	QTD	YTD
EQUITIES				
S&P 500	2.57%	4.73%	4.73%	-16.17%
DJ Industrial Average	2.00%	3.74%	3.74%	-11.24%
Russell 2000	3.59%	5.84%	5.84%	-18.96%
Russell Midcap	3.69%	5.29%	5.29%	-17.42%
STOXX Europe 50 (€)	3.49%	4.24%	4.24%	-13.95%
STOXX Europe 600 (€)†	2.90%	4.63%	4.63%	-11.03%
MSCI EAFE Small Cap	6.07%	4.40%	4.40%	-21.13%
FTSE 100 (£)	1.64%	1.58%	1.58%	0.60%
DAX (€)	3.02%	3.68%	3.68%	-16.56%
FTSE MIB (€)	1.77%	0.05%	0.05%	-19.56%
CAC 40 (€)†	3.00%	5.06%	5.06%	-11.26%
SWISS MKT (CHF)	1.04%	3.30%	3.30%	-11.48%
TOPIX (¥)	3.35%	4.55%	4.55%	-0.45%
Hang Seng (HKD)	1.53%	-5.24%	-5.24%	-9.80%
MSCI World	3.21%	4.18%	4.18%	-16.95%
MSCI China Free†	1.19%	-5.02%	-5.02%	-11.47%
MSCI EAFE	4.43%	2.82%	2.82%	-16.98%
MSCI EM	3.00%	-0.58%	-0.58%	-17.95%
MSCI Brazil (BRL)	2.53%	0.15%	0.15%	-3.27%
MSCI India (INR)	4.11%	6.99%	6.99%	-3.48%
MSCI Russia (RUB)	0.00%	0.00%	0.00%	-100.00%
FIXED INCOME				
Bloomberg Aggregate	1.17%	1.79%	1.79%	-8.74%
Bloomberg Euro Aggregate	2.18%	0.18%	0.18%	-19.08%
Bloomberg US High Yield	2.48%	4.30%	4.30%	-10.50%
Bloomberg Euro High Yield (€)	2.41%	3.84%	3.84%	-11.15%
Bloomberg Muni Aggregate	0.24%	1.70%	1.70%	-7.43%
Bloomberg TIPS	1.19%	2.45%	2.45%	-7.45%
JPM EMBI Glbl. Divers.	2.97%	0.45%	0.45%	-19.95%
JPM GBI-EM Glbl. Divers.	1.32%	-1.80%	-1.80%	-16.07%
OTHER				
DJ US Real Estate	2.91%	3.72%	3.72%	-17.05%
FTSE EPRA/NAREIT Dvlpd. Ex-US	5.42%	3.89%	3.89%	-17.01%
S&P GSCI	0.80%	-4.30%	-4.30%	29.96%
Alerian MLP *	4.01%	5.39%	5.39%	15.97%
US Dollar Index	-1.44%	1.56%	1.56%	11.31%
VIX	-4.95%	-19.78%	-19.78%	33.74%

COMMODITIES				
	07/22/22	06/30/22	03/31/22	12/31/21
WTI Oil (\$/barrel)	\$94.70	\$105.76	\$100.28	\$75.21
Brent Oil (\$/barrel)	\$103.20	\$114.81	\$107.91	\$77.78
Gold (\$/oz)	\$1745.30	\$1827.50	\$1954.00	\$1831.00
Natural Gas (\$/mmBtu)	\$8.30	\$5.42	\$5.64	\$3.73

CURRENCIES				
	07/22/22	06/30/22	03/31/22	12/31/21
Euro (\$/€)	1.0195	1.0481	1.1070	1.1386
Pound (\$/£)	1.1979	1.2182	1.3135	1.3535
Japanese Yen (¥/\$)	136.19	135.57	121.61	115.03
Swiss Franc (CHF/€)	0.9825	0.9995	1.0213	1.0378
Chinese Yuan Renminbi (CNY/\$)	6.7514	6.6993	6.3460	6.3797

RATES & SPREADS				
	07/22/22	06/30/22	03/31/22	12/31/21
RATES				
Fed Funds Target	1.75%	1.75%	0.50%	0.25%
Secured Overnight Financing Rate *	1.53%	1.50%	0.29%	0.05%
ECB Depo Rate	-0.00%	-0.50%	-0.50%	-0.50%
3-Month US Dollar Libor	2.77%	2.29%	0.96%	0.21%
US Treasuries 2-Year	2.99%	2.92%	2.28%	0.73%
US Treasuries 10-Year	2.78%	2.97%	2.32%	1.50%
US Treasury 2-10 Slope	-0.21%	0.05%	0.04%	0.77%
German Bunds 2-Year	0.45%	0.65%	-0.07%	-0.62%
German Bunds 10-Year	1.03%	1.34%	0.55%	-0.18%
Japanese Govt Bonds 10-Year	0.21%	0.23%	0.22%	0.07%
UK Gilts 10-Year	1.94%	2.23%	1.61%	0.97%
Swiss Govt Bonds 10-Year	0.72%	1.07%	0.60%	-0.14%
French OATs 10-Year	1.62%	1.92%	0.98%	0.20%
Italian BTPs 10-Year	3.32%	3.26%	2.04%	1.17%
Spanish Bonos 10-Year	2.25%	2.42%	1.44%	0.56%
SPREADS				
HY Corp. Spread (bps)	487	569	321	283
Bank Loan Spread (bps) *	613	658	449	439
IG Corp. Spread (bps)	144	156	115	92
EMD Spread (bps)	576	554	409	376

## **Global Equity Valuations**



Goldman Sachs Asset Management and Bloomberg as of close of trading on June 30, 2022. Chart data shows next 12 month P/E ratio from July 2012 to the current period. 12m forward P/E(x) refers to price-to-earnings ratio for the next 12 months, which is a valuation measure applied to respective broad equity indices. Please see additional disclosures at the end of this presentation.

Weekly Market Recap Notes:

All data is denominated in USD unless noted otherwise.

† Data is released weekly, as of Monday.

If data displays an asterisk:

- \* Data is lagged by 1 day.
- \*\* Data is lagged by 2 days.

Source: Goldman Sachs Asset Management. Past performance does not guarantee future results, which may vary. Please see end disclosures for footnotes.

## **IMPORTANT INFORMATION**

## Page 1 Chart of the Week Notes:

As of July 12, 2022. The chart shows the 12-month rent growth of four different commercial real estate property types (apartment, office, retail, and industrial), indexed to January 2012, based on CoStar's commercial real estate data. "Industrial" refers to a variety of properties with specific use-cases, including but not limited to heavy manufacturing, light assembly, and flex warehouses. For illustrative purposes.

### Page 1 Market Summary Notes:

"Bps" refers to basis points, which are one hundredth of a percent. "WTI" stands for West Texas Intermediate crude oil, a common US benchmark for oil prices. "Brent" is a global benchmark for oil prices worldwide. "2s10s spread inversion" refers to the 2-Year Treasury yield being higher than the 10-Year Treasury yield. "ECB" refers to the European Central Bank.

### Page 1 Economic Summary Notes:

"Philadelphia Fed manufacturing index" refers to the Federal Reserve Bank of Philadelphia's Manufacturing Index. "US manufacturing and services flash PMIs" refer to the S&P Global US Flash Manufacturing Purchasing Managers Index and S&P Global US Flash Services Purchasing Managers Index, respectively. "Composite PMIs for the UK and the Euro area" refer to the S&P Global Flash Composite Purchasing Managers Index and UK Composite Purchasing Managers Index, respectively. The S&P Global PMI prints used to be known as IHS Market PMI. "Headline CPI" refers to the UK Consumer Price Index, year-over-year. "3M ILO" refers to the 3-month International Labour Organization Unemployment Rate. "MPC" refers to the Bank of England's Monetary Policy Committee. "ECB" refers to the European Central Bank.

### Page 2 Style Performance Notes:

For US Fixed Income, Government, Corporate, and High Yield refer to the Bloomberg US Treasury, the Bloomberg US Corporate Credit, and the Bloomberg US High Yield indices, respectively. For European Fixed Income, Government, Corporate, and High Yield refer to the Bloomberg Euro Treasury Index, the Bloomberg Euro Corporate Index, and the Bloomberg Euro High Yield Index, respectively. Short, Intermediate, and Long refer to the Short, Intermediate, and Long segments of their respective curves. Quality returns refers to the credit quality of asset classes ranging from Government, highest quality, to High Yield, lowest quality. Since August 24, 2016, the Barclays indices are co-branded "Bloomberg Barclays indices".

## Page 2 Economic Watch Notes:

"US GDP" refers to US Gross Domestic Product, quarter-over-quarter annualized. "US Core PCE" refers to US Personal Consumption Expenditures year-over-year, excluding food and energy. "US U. Mich. Sentiment" refers to the University of Michigan's Consumer Sentiment Index. "Euro Area GDP" refers to Euro area Gross Domestic Product, quarter-over-quarter. "Euro Area CPI" refers to Euro area Consumer Price Index, year-over-year. "FOMC Meeting" refers to the Federal Reserve's Federal Open Market Committee meeting. "BoE Meeting" refers to the Bank of England's Monetary Policy Committee meeting. "ECB Meeting" refers to the European Central Bank's meeting.

## Page 3 Global Equity Valuations Chart Notes:

Earnings are forward looking Bloomberg estimates of operating earnings per share over the next four quarters, which may exclude one-time extraordinary gains and losses. Please see index disclosures for additional definitions on the indices.

USA is represented by the MSCI USA Index, Dev. Europe is represented by MSCI Europe Index, Germany is represented by MSCI Germany Index, France is represented by MSCI France Index, UK is represented by MSCI UK Index, EM is represented by MSCI EM Index, Japan is represented by MSCI Japan Index, Hong Kong is represented by MSCI Hong Kong Index, China is represented by MSCI China Index, Global Dev. is represented by MSCI World Index. Equity securities are more volatile than bonds and subject to greater risks. Small and mid-sized company stocks involve greater risks than those customarily associated with larger companies. Bonds are subject to interest rate, price and credit risks. Prices tend to be inversely affected by changes in interest rates. Unlike stocks and bonds, U.S. Treasuries securities are guaranteed as to payment of principal and interest if held to maturity. High yield fixed income securities are considered speculative, involve greater risk of default, and tend to be more volatile than investment grade fixed income securities. Income from municipal securities is generally free from federal taxes and state taxes for residents of the issuing state. While the interest income is tax-free, capital gains, if any, will be subject to taxes. Income for some investors may be subject to the federal Alternative Minimum Tax (AMT). Investments in foreign securities entail special risks such as currency, political, economic, and market risks. These risks are heightened in emerging markets. Investments in commodities may be affected by changes in overall market movements, commodity index volatility, changes in interest rates or factors affecting a particular industry or commodity.

The currency market affords investors a substantial degree of leverage. This leverage presents the potential for substantial profits but also entails a high degree of risk including the risk that losses may be similarly substantial. Such transactions are considered suitable only for investors who are experienced in transactions of that kind. Currency fluctuations will also affect the value of an investment.

## General Disclosures

This information discusses general market activity, industry or sector trends, or other broad-based economic, market or political conditions and should not be construed as research or investment advice. This material is not financial research and was not prepared by Goldman Sachs Global Investment Research (GIR). It was not prepared in compliance with applicable provisions of law designed to promote the independence of financial analysis and is not subject to a prohibition on trading following the distribution of financial research.

The views and opinions expressed may differ from those of GIR or other departments or divisions of Goldman Sachs and its affiliates. Investors are urged to consult with their financial advisors before buying or selling any securities. This information may not be current and Goldman Sachs Asset Management has no obligation to provide any updates.

This material is provided for educational purposes only and should not be construed as investment advice or an offer or solicitation to buy or sell securities.

# THIS MATERIAL DOES NOT CONSTITUTE AN OFFER OR SOLICITATION IN ANY JURISDICTION WHERE OR TO ANY PERSON TO WHOM IT WOULD BE UNAUTHORIZED OR UNLAWFUL TO DO SO.

Prospective investors should inform themselves as to any applicable legal requirements and taxation and exchange control regulations in the countries of their citizenship, residence or domicile which might be relevant. The information contained in this presentation is not intended to be used as a general guide to investing, or as a source of any specific investment recommendations. This presentation makes no implied or express recommendations concerning the manner in which any client's account should or would be handled, as appropriate investment strategies depend upon the client's investment objectives.

Views and opinions expressed are for informational purposes only and do not constitute a recommendation by Goldman Sachs Asset Management to buy, sell, or hold any security. Views and opinions are current as of the date of this presentation and may be subject to change, they should not be construed as investment advice.

Economic and market forecasts presented herein reflect a series of assumptions and judgments as of the date of this presentation and are subject to change without notice. These forecasts do not take into account the specific investment objectives, restrictions, tax and financial situation or other needs of any specific client. Actual data will vary and may not be reflected here. These forecasts are subject to high levels of uncertainty that may affect actual performance. Accordingly, these forecasts should be viewed as merely representative of a broad range of possible outcomes. These forecasts are estimated, based on assumptions, and are subject to significant revision and may change materially as economic and market conditions change. Goldman Sachs has no obligation to provide updates or changes to these forecasts. Case studies and examples are for illustrative purposes only.

Past performance does not guarantee future results, which may vary. The value of investments and the income derived from investments will fluctuate and can go down as well as up. A loss of principal may occur.

**United Kingdom and European Economic Area (EEA)**: In the United Kingdom, this material is a financial promotion and has been approved by Goldman Sachs Asset Management International, which is authorized and regulated in the United Kingdom by the Financial Conduct Authority.

**Switzerland**: This document is provided to you by Goldman Sachs Bank AG, Zürich. Any future contractual relationships will be entered into with affiliates of Goldman Sachs Bank AG, which are domiciled outside of Switzerland. We would like to remind you that foreign (Non-Swiss) legal and regulatory systems may not provide the same level of protection in relation to client confidentiality and data protection as offered to you by Swiss law.

Asia Pacific: Please note that neither Goldman Sachs Asset Management International nor any other entities involved in the Goldman Sachs Asset Management (GSAM) business maintain any licenses, authorizations or registrations in Asia (other than Japan), except that it conducts businesses (subject to applicable local regulations) in and from the following jurisdictions: Hong Kong, Singapore, Malaysia, and India. This material has been issued for use in or from Hong Kong by Goldman Sachs (Asia) L.L.C, in or from Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W), in or from Malaysia by Goldman Sachs(Malaysia) Sdn Berhad (880767W) and in or from India by Goldman Sachs Asset Management (India) Private Limited (GSAM India).

**Japan**: This material has been issued or approved in Japan for the use of professional investors defined in Article 2 paragraph (31) of the Financial Instruments and Exchange Law by Goldman Sachs Asset Management Co., Ltd.

**United Arab Emirates:** This document and the information contained herein, does not constitute, and is not intended to constitute, a public offer of securities in the United Arab Emirates and accordingly should not be construed as such. This document has not been approved by, or filed with the Central Bank of the United Arab Emirates or the Securities and Commodities Authority. If you do not understand the contents of this document, you should consult with a financial advisor. This document is provided to the recipient only and should not be provided to or relied on by any other person.

**Bahrain**: This material has not been reviewed by the Central Bank of Bahrain (CBB) and the CBB takes no responsibility for the accuracy of the statements or the information contained herein, or for the performance of the securities or related investment, nor shall the CBB have any liability to any person for damage or loss resulting from reliance on any statement or information contained herein. This material will not be issued, passed to, or made available to the public generally.

**Oman**: The Capital Market Authority of the Sultanate of Oman (the "CMA") is not liable for the correctness or adequacy of information provided in this document or for identifying whether or not the services contemplated within this document are appropriate investment for a potential investor. The CMA shall also not be liable for any damage or loss resulting from reliance placed on the document.

**Qatar**: This document has not been, and will not be, registered with or reviewed or approved by the Qatar Financial Markets Authority, the Qatar Financial Centre Regulatory Authority or Qatar Central Bank and may not be publicly distributed. It is not for general circulation in the State of Qatar and may not be reproduced or used for any other purpose.

**Canada:** This material has been communicated in Canada by Goldman Sachs Asset Management, L.P. (GSAM LP). GSAM LP is registered as a portfolio manager under securities legislation in certain provinces of Canada, as a nonresident commodity trading manager under the commodity futures legislation of Ontario and as a portfolio manager under the derivatives legislation of Quebec. In other provinces, GSAM LP conducts its activities under exemptions from the adviser registration requirements. In certain provinces, GSAM LP is not registered to provide investment advisory or portfolio management services in respect of exchange-traded futures or options contracts and is not offering to provide such investment advisory or portfolio management services in such provinces by delivery of this material.

**South Africa**: Goldman Sachs Asset Management International is authorised by the Financial Services Board of South Africa as a financial services provider.

Chile: Este material está sujeto a la Norma General N ° 336 de la Superintendencia de Valores y Seguros de Chile;(ii) Corresponde a valores no inscritos en el Registro de Valores o en el Registro de Valores Extranjeros mantenido por la Superintendencia de Valores y Seguros, los valores sobre los que se basa, no están sujetos a su control; (iii) Dado que estos valores no están registrados, no existe obligación por parte del emisor de entregar información pública sobre estos valores en Chile; Y (iv) Estos valores no podrán ser objeto de oferta pública hasta su inscripción en el correspondiente Registro de Valores.

Israel: This document has not been, and will not be, registered with or reviewed or approved by the Israel Securities Authority ("ISA"). It is not for general circulation in Israel and may not be reproduced or used for any other purpose. Goldman Sachs Asset Management International is not licensed to provide investment advisory or management services in Israel.

## Index Benchmarks

## Equities

The S&P 500 Index is the Standard & Poor's 500 Composite Stock Prices Index of 500 stocks, an unmanaged index of common stock prices. The Dow Jones Industrial Average Index is a price-weighted average of 30 actively traded blue-chip stocks. The Russell 1000 Index is a market-cap weighted index that measures the performance of the 1,000 largest companies in the Russell 3000 Index. The Russell Mid Cap Index measures the performance of the 800 smallest companies in the Russell 1000 Index, which represent approximately 30% of the total market capitalization of the Russell 1000 Index. The Russell 2000 Index is an unmanaged index of common stock prices that measures the performance of the 2000 smallest companies in the Russell 3000 Index. The MSCI EAFE Index is a free-float weighted equity index, which covers developed markets countries in Europe, Australasia, Israel, and the Far East. The MSCI Emerging Markets (EM) Index is a free float-adjusted market capitalization index that captures large and mid-cap representation across five EM countries in Latin America. The STOXX Europe 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 18 countries of the European region. The Japan TOPIX Index is a capitalizationweighted index of the largest companies and corporations that are found in the First Section of the Tokyo Stock Exchange.

The German DAX is a capitalization-weighted blue chip stock market index consisting of the 30 major German companies trading on the Frankfurt Stock Exchange. The Shanghai Composite is a market capitalization weighted index of all A-shares and B-shares that trade on the Shanghai Stock Exchange. Euro Stoxx 50 Index, Europe's leading Blue-chip index for the Eurozone, provides a Blue-chip representation of supersector leaders in the Eurozone. The Financial Times Stock Exchange (FTSE) 100 Index is an index of the 100 companies listed on the London Stock Exchange with the highest market capitalization. FTSE MIB Index is composed of 40 Italian equities and seeks to replicate the broad sector weights of the Italian stock market. CAC 40 Index is composed of the 40 largest equities listed in France. SWISS Market Index is composed of the largest and most liquid stocks traded on the Geneva, Zurich, and Basel Stock Exchanges. Hang Seng Composite Index covers about 95% of the total market capitalization of companies listed on the Main Board of the Hong Kong Stock Exchange. The MSCI World Index is a broad global equity index that represents large and mid-cap equity performance across 23 developed markets countries. It covers approximately 85% of the free float-adjusted market capitalization in each country. CSI 300 Index covers 300 stocks traded in the Shanghai and Shenzhen stock exchanges. The MSCI China Index captures large and mid cap representation across China H shares, B shares, Red chips, P chips and foreign listings (e.g. ADRs). With 461 constituents, the index covers about 85% of this China equity universe. Currently, the index also includes Large Cap A shares represented at 5% of their free float adjusted market capitalization. MSCI Brazil Index covers about 85% of the total market capitalization of the Brazilian equity universe. MSCI India Index covers about 85% of the total market capitalization of the Indian equity universe. MSCI Russia Index covers about 85% of the free float-adjusted market capitalization in Russia. The CBOE Volatility Index (VIX) is a leading measure of market expectations of near-term volatility conveyed by S&P 500 Index option prices.

## Fixed Income

The Bloomberg US Aggregate Bond Index represents an unmanaged diversified portfolio of fixed-income securities, including US Treasuries, investment-grade corporate bonds, and mortgage-backed and asset-backed securities. The Bloomberg US High-Yield Index covers the USD-denominated, non-investment grade, fixed-rate, taxable corporate bond market. The Bloomberg US Aggregate Municipal Bond Index is an unmanaged broadbased total return index composed of approximately 8,000 investment grade, fixed rate, and tax-exempt issues, with a remaining maturity of at least one year. The Bloomberg US High Yield Municipal Bond Index (formerly the Lehman Brothers High Yield Municipal Bond Index) is an unmanaged index made up of bonds that are noninvestment grade, unrated, or rated below Ba1 by Moody's Investors Service with a remaining maturity of at least one year. The J.P. Morgan Emerging Markets Bond Index (EMBI Global Index) is an unmanaged market capitalization Index that tracks total returns for USDdenominated debt instruments issued by emerging market sovereign and quasisovereign issuers. The J.P. Morgan Government Bond Index-Emerging Markets Global Diversified (GBI-EM Global Index) is a market capitalization Index that tracks the performance of local currency debt issued by emerging market governments. Bloomberg Euro Aggregate Index refers to the Bloomberg EuroAgg Index. The index measures the market of 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. Bloomberg Euro High Yield Index refers to the Bloomberg Euro High Yield 3% Issuer Capped Index. The index measures the of non-investment grade, fixed-rate corporate bonds denominated in USD. Inclusion is based on the currency of issue, and not the domicile of the issuer. The index excludes emerging market debt.

## <u>Other</u>

The S&P 500 Utilities Sector comprises those companies included in the S&P 500 that are classified as members of the GICS® utilities sector. The FTSE EPRA/NAREIT Developed ex US Index is a subset of the FTSE EPRA/NAREIT Developed Index and is designed to track the performance of listed real estate companies and REITS.

The **S&P GSCI Commodity Index** is a composite index of commodity sector returns, representing an unleveraged, long-only investment in commodity futures that is broadly diversified across the spectrum of commodities. The **S&P 500 Consumer Staples Index** comprises those companies included in the S&P 500 that are classified as members of the GICS® consumer staples sector. The **USD Index** tracks the value of the USD relative to 6 major foreign currencies. The **Housing Starts** refers to US Housing Starts.

## **Commodities**

WTI Oil refers to West Texas Intermediate (WTI) Crude Oil, a land-locked crude, delivered via pipeline into Cushing, Oklahoma. **Brent Oil** refers to Brent crude oil, a waterborne crude oil produced in the North Sea. **OPEC** refers to the Organization of the Petroleum Exporting Countries. The **Gold** Spot price is quoted as US Dollars per Troy Ounce.

## **Currencies**

**Euro** (\$/€) refers to the Euro's exchange rate with the Dollar. **Pound** (\$/£) refers to the British Pound's exchange rate with the US Dollar. **Japanese Yen** (¥/\$) refers to the US Dollar's exchange rate with the Japanese Yen. **Swiss Franc** (CHF/€) refers the Euro's exchange rate with the Swiss Franc. Chinese Yuan Renminbi (CNY/\$) refers to the US Dollar's exchange rate with the Chinese Yuan Renminbi.

## Rates

The federal funds rate is the interest rate at which depository institutions lend balances at the Federal Reserve to other depository institutions overnight. The LIBOR is the USD-denominated London Interbank Offered Rate, and is the average of interest rates estimated by each of the leading banks in London that it would be charged were it to borrow from other banks. The 2-Year Treasury is a US Treasury debt obligation that has a maturity of 2 years. The 10-Year Treasury is a US Treasury debt obligation that has a maturity of 10 years. The 2-10 Treasury Slope is the difference between the 10-Year Treasury and the 2-Year Treasury. The Core-Periphery spreads refers to the spread between sovereign debt yields of core European countries and peripheral European countries. The German Bunds 2-Year is a German debt obligation that has a maturity of 2 years. The German Bunds 10-Year is a German debt obligation that has a maturity of 10 years. The Japanese Govt Bonds 2-Year is a Japanese debt obligation that has a maturity of 2 years. The Japanese Govt Bonds 10-Year is a Japanese debt obligation that has a maturity of 10 years. The UK Gilts 10-Year is a UK debt obligation that has a maturity of 10 years. The Swiss Govt Bonds 10-Year is a Swiss debt obligation that has a maturity of 10 years. The French OATs 10-Year is a French debt obligation that has a maturity of 10 years. The Italian BTPs 10-Year is a Italian debt obligation that has a maturity of 10 years. The Spanish Bonos 10-Year is a Spanish debt obligation that has a maturity of 10 years.

## Spreads

High Yield (HY) Corporate Spread is the Bloomberg US Corporate High Yield Average Option Adjusted Spread (OAS), which measures the spread between the US Treasury yield curve and the Bloomberg US Corporate High Yield curve. The **Bank Loan Spread** is the daily discount margin (3-year life) of the Credit Suisse Leveraged Loan Index, which is designed to mirror the investable universe of the USD-denominated leveraged loan market. The **Investment Grade (IG) Corporate Spread** is the Bloomberg US Aggregate Corporate Average OAS, which measures the spread between the US Treasury yield curve and the Bloomberg US Corporate Average curve. The **EMD Spread** is the J.P. Morgan EMBI Global Diversified Sovereign Spread, which measures the spread between the US Treasury yield curve and the J.P. Morgan EMBI Global Diversified Sovereign curve.

It is not possible to invest in an unmanaged index.

Although certain information has been obtained from sources believed to be reliable, we do not guarantee its accuracy, completeness or fairness. We have relied upon and assumed without independent verification, the accuracy and completeness of all information available from public sources.

© 2022 Goldman Sachs. All rights reserved. Date of First Use: July 23, 2022. Compliance Code: 286192-OTU-1642561.