MARKET PULSE

MACRO VIEWS

US GROWTH: Many banks have shored up liquidity, but moderate credit tightening appears likely, especially for institutions holding <\$250bn in assets. These banks account for roughly 50% of US commercial and industrial lending, 60% of residential real estate lending, 80% of commercial real estate lending, and 45% of consumer lending. As such, we believe a modest lending pullback may weigh on demand and now GIR forecasts 2023 Q4/Q4 GDP growth at 1.1%, revised from 1.5%.

EX-US GROWTH: We believe significant improvement in China's services sector will frontload the reopening impulse. GIR has revised on an annual basis its 2023 GDP growth forecast up from 5.5% to 6.0% and lowered its 2024 GDP growth forecast to 4.6%. In the Euro area, tightened bank lending standards may also weigh on growth. GIR modestly revised its 2023 GDP forecast down to 0.7%.

RECESSION RISK: GIR has raised its NTM US recession probability from 25% to 35% to reflect near-term bank stress, remaining below consensus forecast. Meanwhile, we no longer expect a recession in the UK following the sharp decline in energy prices and increase in fiscal support. Still, GIR anticipates 2023 UK GDP growth to stay weak at 0%.

MONETARY POLICY: GIR expects the Fed to hike by 25bps in May and June to end at a terminal rate of 5.25%-5.50%, which is above both market pricing and FOMC forecasts. We believe stress in the financial sector has moderately tightened credit conditions, potentially substituting for one or two Fed policy rate hikes. Accordingly, the market-implied terminal rate has broadly fallen from an earlier peak of 5.69%.

MARKET VIEWS

LIQUIDITY: Market volatility has been amplified by a lack of liquidity, leading 10-Year US Treasury top-of-book depth to deteriorate to the 1st percentile in the past five years. While measures of financial risk remain solid, prolonged illiquidity can present solvency stress if unresolved.

EQUITIES: Quality remains the key constant driving return differentials. We believe companies on stronger footing will continue to outperform, with March marking an extended stretch of time (13 consecutive trading days) in which strong balance sheets outperformed weaker ones by a total of 8.41pp. As macro drivers evolve, we advocate investors focus on what they can control and where they have visibility into future earnings and cash flows.

RATES: Movements in US Treasury yields have alternated between inflation-driven sell-offs and growth-driven buying sprees. In fact, the 2-Year US Treasury yield moved by 20+ bps for seven consecutive trading days in mid-March, registering a ~2.2 standard deviation daily move. Even at relatively lower yields, we believe the case for duration is still bolstered by a greater likelihood of a Fed pause this year.

CREDIT: Credit spreads have modestly widened following recent bank stress, though the impact is greatest in IG as banks constitute 25% of the index. Still, we believe contagion risk remains limited with regional banks representing ~6% of all IG banks, or 1.5% of total notional US IG bonds outstanding. Meanwhile, the office sector in CRE may be most vulnerable as challenged financing and low occupancy pose as headwinds.

OIL: GIR revised their year-end Brent oil forecast to \$95/bbl on the back of lower OPEC supply and diminished Western demand.

ASSET CLASS OUTLOOK ¹							
	Less Favorable	More Favorable					
EQUITY	Shorter Term	Longer Term					
US Equity							
European Equity							
Japanese Equity							
Emerging Market (EM) Equity							
RATES							
US Government Fixed Income							
DM Government Fixed Income							
EM Debt Local							
Municipal Bonds							
CREDIT							
US Investment Grade							
US High Yield							
Euro Area Corporates							
Asia High Yield							
EM Debt Hard							
REAL ASSETS							
Oil							
Copper							
Gold							
Global Real Estate							
CURRENCIES							
US Dollar							
Euro							
British Pound							
Japanese Yen							
Chinese Renminbi							

ASSET CLASS FORECASTS²

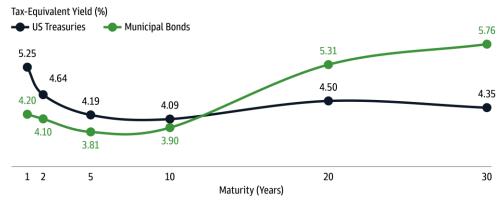
	Current	3m	12m	% Δ to 12m
S&P 500 (\$)	4109	4000	4000	-2.7
STOXX Europe (€)	458	465	475	3.7
MSCI Asia-Pacific Ex-Japan (\$)	524	535	610	16.4
TOPIX (¥)	2004	2000	2200	9.8
10-Year Treasury	3.5	4.1	4.1	62 bp
10-Year Bund	2.3	2.8	2.6	29 bp
10-Year JGB	0.4	8.0	0.9	50 bp
Euro (€/\$)	1.09	1.05	1.10	1.2
Pound (£/\$)	1.24	1.18	1.25	1.1
Yen (\$/¥)	133	132	125	-5.8
Brent Crude Oil (\$/bbl)	79.8	88	100	25.3
London Gold (\$/troy oz)	1977	2050	2050	3.7

Source: Goldman Sachs Global Investment Research (GIR) and Goldman Sachs Asset Management as of March 2023. "US GDP growth" refers to US real gross domestic product growth, year-on-year. The economic and market forecasts presented herein are for informational purposes as of the date of this document. There can be no assurance that the forecasts will be achieved. Please see additional disclosures at the end of this document. Past performance does not guarantee future results, which may vary.

Here, There, Everywhere

Recent banking events have been a reminder that weak confidence and idiosyncratic risks can pose market stress even in a well-balanced economy. While financial stability concerns remain fluid, our fundamental outlook is mostly unchanged. In our view, investment opportunities remain plentiful across varying risk appetites: 1) short-duration and municipal bonds solve for income needs, 2) international DM equities capture global recovery beta, and 3) alternatives improve portfolio risk-return characteristics.

HERE: ATTRACTIVE INCOME POTENTIAL THROUGH A BARBELL STRUCTURE



Investors looking for liquidity may find comfort staying with short duration fixed income. Traditionally, bonds maturing within two years have been a sweet spot for the best risk-return qualities. However, reducing volatility may require locking in higher yields through adding duration. We believe long-dated municipal bonds are the best candidate to exploit favorable pricing and higher coupons, while still owning quality assets.

Source: Bloomberg and Goldman Sachs Asset Management.

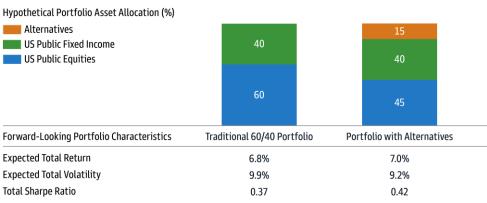
THERE: GOOD DEFENSE IS NON-US EQUITY OFFENSE



Against a higher hurdle of beating bond returns, we believe improving the equity upside will require tactically reallocating back into international developed markets. While the fundamental backdrop for US equities still seems attractive over a long horizon, a global equity tilt may further amplify exposure to 1) China's recovery momentum, 2) greater valuation tailwind, 3) higher dividend income, and 4) beneficiaries of a rising rate regime.

Source: Bloomberg and Goldman Sachs Global Investment Research.

EVERYWHERE: A RISK-AWARE APPROACH WITH ALTERNATIVES



A core tenet to a durable portfolio is optimizing returns per unit of risk. In our view, alternatives are complementary to traditional markets, potentially enhancing portfolios through excess returns and more risk diversification, all while providing distinct return premiums and access to publicly limited investment themes. Moreover, private assets within alternatives have historically aimed to increase returns by delivering operational and strategic improvements.

Source: Goldman Sachs Asset Management.

Top Section Notes: As of March 28, 2023. Duration is a measure of the sensitivity of the price of a bond to a change in interest rates. Chart shows the tax-equivalent yields of US Treasuries and investment grade municipal bonds at various maturities, assuming a California state income tax rate of 13.3% and a federal income tax rate of 40.8%. The tax-equivalent yield measures what an investor would have to yield on a fully-taxable bond to match the yield on a bond exempt from state or federal taxes. Middle Section Notes: As of March 20, 2023. "NTM" refers to next twelve months. Bottom Section Notes: As of March 30, 2023. "US Public Equities" is represented by the S&P 500 Index. "US Public Income" is represented by the Bloomberg US Aggregate Bond Index. The economic and market forecasts presented herein are for informational purposes as of the date of this document. There can be no assurance that the forecasts will be achieved. Please see additional disclosures at the end of this document. Past performance does not guarantee future results, which may vary.

Important Information

- 1. Asset Class Outlook for equities, credits, sovereigns, real assets, and currencies are informed by Goldman Sachs Asset Management, Goldman Sachs Global Investment Research, and Goldman Sachs Investment Strategy Group views. The views expressed herein are as of March 2023 and subject to change in the future. "Shorter Term" view refers to less than 6 months. "Longer Term" view refers to 1–5 years. Individual portfolio management teams for Goldman Sachs Asset Management may have views and opinions and/or make investment decisions that, in certain instances, may not always be consistent with the views and opinions expressed herein.
- Price targets of major asset classes are provided by Goldman Sachs Global Investment Research. Source: "Global equities gained 3.5%, Cyclicals outperformed" – 04/03/2023.

Page 1 Definitions

Beta is a measure of the volatility of a security in comparison to the market.

Brent crude oil is a common international benchmark for oil prices.

Bbl refers to per barrel.

Bp refers to basis points.

CRE refers to commercial real estate.

GDP refers to Gross Domestic Product.

Fed refers to the Federal Reserve.

FOMC refers to Federal Open Market Committee.

IG refers to investment grade.

NTM refers to next twelve months.

Pp refers to percentage point.

Top-of-Book Depth refers to the highest bid and the lowest ask in an order book.

Sharpe Ratio is a measure of excess return received for the volatility of holding a riskier asset.

Standard Deviation is a statistic that measures the dispersion of a dataset relative to its mean and is calculated as the square root of the variance.

YE refers to year end.

Page 2 Definitions

Top Section Notes: Municipal Bonds refer to data from the Bloomberg BVAL AAA Muni Yield Curve.

Bottom Section Notes: Asset allocation shown reflect allocations to benchmarks and/or asset classes. Allocation metrics and characteristics are not attributed to specific investment products. Alpha and tracking error assumptions reflect Multi-Asset Solutions' estimates for above-average active managers and are based on a historical study of the net-of-fee results of active management. Strategic long-term assumptions are subject to high levels of uncertainty regarding future economic and market factors that may affect future performance. They are hypothetical indications of a broad range of possible returns. All numbers reflect Multi-Asset Solutions' strategic assumptions as of December 31, 2022. Expected returns are estimates of hypothetical average returns of economic asset classes derived from statistical models. There can be no assurance that these returns can be achieved. Actual returns are likely to vary. The returns are gross and do not reflect the deduction of investment advisory fees, which will reduce returns. For illustrative purposes only. Diversification does not protect an investor from market risk and does not ensure a profit.

Alternatives considered in the "Portfolio with Alternatives" include Multi-Strategy Liquid Alternatives (5%), Private Equity (5%), Private Real Estate (1.25%), Non-Listed Global Infrastructure (1.25%), and Private Credit (2.5%). Total alternative allocation in the "Portfolio with Alternatives" is 15%.

Volatility is a measure of variation of a financial instrument's price.

Glossary

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 Dow Jones Equal Weight US Issued Corporate Bond Index is designed to track the total returns of 100 large and liquid investment-grade bonds issued by companies in the US corporate bond market.

The MSCI AC Asia Pacific ex Japan Index captures large and mid cap representation across 4 of 5 Developed Markets countries and 8 Emerging Markets countries in the Asia Pacific region.

The MSCI EAFE Index is designed to represent the performance of large and mid-cap securities across 21 developed markets, including countries in Europe, Australasia and the Far East, excluding the U.S. and Canada. The Index represents approximately 85% of the free float-adjusted market capitalization in each of the 21 countries.

The MSCI Emerging Markets Equity Index is a free float-adjusted market capitalization index that is designed to measure equity market performance of emerging markets.

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 index figures do not reflect any deduction for fees, expenses or taxes. It is not possible to invest directly in an unmanaged index.

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.

The Tokyo Price Index (TOPIX) is a metric for stock prices on the Tokyo Stock Exchange (TSE). A capitalization-weighted index, TOPIX lists all firms that have been determined to be part of the "first section" of the TSE.

The 10-Year US Treasury Bond is a US Treasury debt obligation that has a maturity of 10 years.

Indices are unmanaged. The figures for the index reflect the reinvestment of all income or dividends, but do not reflect the deduction of any fees or expenses which would reduce returns. Investors cannot invest directly in indices.

Risk Considerations

Equity securities are more volatile than bonds and subject to greater risks. Foreign and emerging markets investments may be more volatile and less liquid than investments in US securities and are subject to the risks of currency fluctuations and adverse economic or political developments. 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. Currency fluctuations will also affect the value of an investment.

Investments in fixed income securities are subject to the risks associated with debt securities generally, including credit, liquidity, interest rate, call and extension risk.

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).

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.

A 10-Year Treasury is a debt obligation backed by the United States government and its interest payments are exempt from state and local taxes. However, interest payments are not exempt from federal taxes.

MARKET PULSE: APRIL 2023

Gold is a specialized, concentrated asset that comes with unique risks. All investing is subject to risk, including the possible loss of the money you invest. Investments that concentrate on a relatively narrow market sector face the risk of higher share-price volatility.

An investment in **private credit** and **private equities** is not suitable for all investors. Investors should carefully review and consider the potential investments, risks, chargers, and expenses of private equity before investing. They are speculative, highly illiquid, involve a high degree of risk, have high fees and expenses that could reduce returns, and subject to the possibility of partial or total loss of capital. They are, therefore, intended for experienced and sophisticated long-term investors who can accept such risks.

General Disclosures

Hedge funds and other private investment funds (collectively, "Alternative Investments") are subject to less regulation than other types of pooled investment vehicles such as mutual funds. Alternative Investments may impose significant fees, including incentive fees that are based upon a percentage of the realized and unrealized gains and an individual's net returns may differ significantly from actual returns. Such fees may offset all or a significant portion of such Alternative Investment's trading profits. Alternative Investments are not required to provide periodic pricing or valuation information. Investors may have limited rights with respect to their investments, including limited voting rights and participation in the management of such Alternative Investments.

Alternative Investments often engage in leverage and other investment practices that are extremely speculative and involve a high degree of risk. Such practices may increase the volatility of performance and the risk of investment loss, **including the loss of the entire amount that is invested**. There may be conflicts of interest relating to the Alternative Investment and its service providers, including Goldman Sachs and its affiliates. Similarly, interests in an Alternative Investment are highly illiquid and generally are not transferable without the consent of the sponsor, and applicable securities and tax laws will limit transfers.

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 has been prepared by Goldman Sachs Asset Management and is not financial research nor a product of 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 Goldman Sachs Global Investment Research 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 or changes.

Neither MSCI nor any other party involved in or related to compiling, computing, or creating the MSCI data makes any express or implied warranties or representations with respect to such data (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability, or fitness for a particular purpose with respect to any of such data. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in or related to compiling, computing or creating the data have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages. No further distribution or dissemination of the MSCI data is permitted without MSCI's express written consent.

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, including any Goldman Sachs product or service. Views and opinions are current as of the date of this document

and may be subject to change, they should not be construed as investment advice.

Goldman Sachs Asset Management leverages the resources of Goldman Sachs & Co. LLC subject to legal, internal and regulatory restrictions.

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.

Economic and market forecasts presented herein reflect a series of assumptions and judgments as of the date of this document 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.

Goldman Sachs does not provide legal, tax or accounting advice, unless explicitly agreed between you and Goldman Sachs (generally through certain services offered only to clients of Private Wealth Management). Any statement contained in this document concerning US tax matters is not intended or written to be used and cannot be used for the purpose of avoiding penalties imposed on the relevant taxpayer. Notwithstanding anything in this document to the contrary, and except as required to enable compliance with applicable securities law, you may disclose to any person the US federal and state income tax treatment and tax structure of the transaction and all materials of any kind (including tax opinions and other tax analyses) that are provided to you relating to such tax treatment and tax structure, without Goldman Sachs imposing any limitation of any kind. Investors should be aware that a determination of the tax consequences to them should take into account their specific circumstances and that the tax law is subject to change in the future or retroactively and investors are strongly urged to consult with their own tax advisor regarding any potential strategy, investment or transaction.

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.

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.

© 2023 Goldman Sachs. All rights reserved. Compliance code: 312832-OTU-1773095 Date of First Use: April 3, 2023

For more information contact your Goldman Sachs sales representative:

ICG: 800-312-GSAM Bank: 888-444-1151 Retirement: 800-559-9778 IAC: 866-473-8637 Global Liquidity Management: 800-621-2550

VA: 212-902-8157 MPAPR2023