

US Daily: Assessing the Potential Impact of the East and Gulf Coast Port Strike on GDP Growth and Nonfarm Payrolls (Peng/Rindels)

- As of today, 45k East Coast and Gulf Coast dockworkers have gone on strike following the expiration of the International Longshoremen's Association (ILA) union contract with the US Maritime Alliance (USMX). The strike has halted operations at 14 major ports and a host of smaller ports that operate within the larger ports' districts, and it has the potential to negatively impact GDP growth, nonfarm payrolls and other upcoming data releases, but the impact will depend on how long the strike lasts.
- The 14 largest ports affected by the strike collectively handle 25% of US goods imports and 27% of goods exports, which are worth 2.8% and 1.9% of US GDP, respectively. If the strike lasts for only a short period of time, the effects on net exports and inventories would be roughly offsetting, resulting in little net effect on GDP growth. A longer strike may force domestic producers to scale back production, resulting in a larger drag on GDP growth. We estimate that a 10-day full shutdown of East Coast and Gulf Coast ports would result in a 0.2pp hit to quarterly annualized GDP growth in Q4.
- The strike has the potential to cause a sizeable drag on October nonfarm payrolls, but the timing of the strike and the payroll reference period make this less likely from a historical perspective. Most transportation-industry strikes since 2000 have lasted less than 2 weeks. In order to weigh on October payrolls, the strike would need to last the entire pay period including October 12th. If the strike lasts through the reference period, it would directly weigh on October payroll growth by 45k, but the effect would subsequently reverse upon the end of the strike.
- While the net effect on GDP growth is likely to be small, we expect the strike to have a more pronounced negative impact on monthly trade volumes in October if it lasts for more than a week. In that case, we expect it to disproportionately affect retailers and manufacturers in the clothing, furniture, and home appliance industries that heavily rely on imports. Effects on jobless claims should be minimal.

Jan Hatzius

+1(212)902-0394 | jan.hatzius@gs.com Goldman Sachs & Co. LLC

Alec Phillins

+1(202)637-3746 | alec.phillips@gs.com Goldman Sachs & Co. LLC

David Mericle

+1(212)357-2619 | david.mericle@gs.com Goldman Sachs & Co. LLC

Ronnie Walker

+1(917)343-4543 | ronnie.walker@gs.com Goldman Sachs & Co. LLC

Manuel Abecasis

+1(212)902-8357 | manuel.abecasis@gs.com Goldman Sachs & Co. LLC

Tim Krupa

+1(202)637-3771 | tim.krupa@gs.com Goldman Sachs & Co. LLC

Elsie Peng

+1(212)357-3137 | elsie.peng@gs.com Goldman Sachs & Co. LLC

Jessica Rindels

+1(972)368-1516 | jessica.rindels@gs.com Goldman Sachs & Co. LLC

Assessing the Potential Impact of the East and Gulf Coast Port Strike on GDP Growth and Nonfarm Payrolls

As of today, 45k East and Gulf Coast dockworkers have gone on strike following the expiration of the International Longshoremen's Association (ILA) union contract. The ILA is arguing for a 61.5% pay raise over the next 6-year contract and a ban on the automation of cranes, gates, and container-moving trucks. As the ILA and the US Maritime Alliance (USMX) have not yet reached an agreement, the strike has now halted operations at 14 major ports and a host of smaller ports that operate within the larger ports' districts. The strike has the potential to negatively impact GDP growth, nonfarm payrolls, and other upcoming data releases, but the magnitude of the effect will depend on how long the strike lasts.

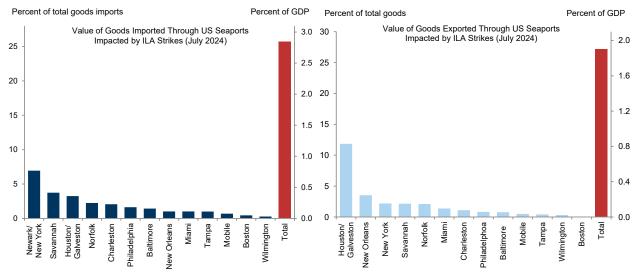
The impacted ports handle a significant share of total US goods imports and exports. Around 40% of total US international trade value occurs via water and roughly half of seaborne trade goes through the East and Gulf Coast ports. Exhibit 1 shows that the major 14 ports impacted by the ILA strike collectively handle 25% of total US goods imports and 27% of total US goods exports, which are worth 2.8% and 1.9% of total US GDP, respectively.

Disruption at the East and Gulf Coast ports will affect GDP growth directly through net exports and inventories. As we have discussed in analysis ahead of <u>previous port</u> <u>strikes</u>, the strike will limit both exports and imports. If the strike lasts for only a short time, blocked exports will lead to an increase in domestic inventories because firms will continue to produce and products that are meant for export will pile up in inventory. Blocked imports will lead to a decline in inventories because firms are unlikely to scale back their production in the short term as they can rely on intermediate inputs already in their inventories. The effects on inventories and net exports will be roughly offsetting, resulting in little net impact on GDP growth.

If the port disruption lasts longer, domestic producers may be forced to scale back production and some of the accumulated inventory could lose its value, resulting in a larger drag on GDP growth.

Using cost estimates from <u>CBO</u> and <u>our prior</u> studies as a reference, we estimate that a 10-day full shutdown of the East and Gulf Coast ports will cause a 0.2pp hit to quarterly annualized GDP growth in Q4 (or a 2bp hit per day).

Exhibit 1: Ports Affected by the ILA Strike Handle About 25% of Total US Goods Imports (2.8% of US GDP) and 27% of Total US Goods Exports (1.9% of US GDP)



Source: Census, US Bureau of Economic Analysis (BEA), Data compiled by Goldman Sachs Global Investment Research

While the strike could assert a sizeable drag on October nonfarm payrolls, the timing of the strike and the payroll survey week make this less likely from a historical perspective. First, most transportation-industry strikes since 2000 have lasted less than 2 weeks and the largest strikes have tended to last less than one week, possibly because larger strikes hinder business operations to a greater degree which might incentivize quicker negotiations (Exhibit 2). The ILA strike is notably larger than the next largest transportation-industry strike since 2000—the 2005 New York City Metro strike which impacted 35k workers—suggesting some scope for a shorter-lived strike if this one follows recent trends.

Second, to be excluded from payroll employment, striking workers must miss work for the entire payroll survey reference period, which is the pay period that includes the 12th of the month. Because employers can pay workers on varying schedules (weekly, biweekly, monthly, etc.), the reference period is not necessarily the same for all establishments. However, several states¹ with ports that will be impacted have labor laws that require weekly or biweekly pay schedules for hourly employees. This means that the strike will need to last at least 12 days in order for workers to miss the entire payroll survey reference week that includes October 12.² If the ILA strike lasts through the payroll reference week, we would expect a direct hit of 45k to payroll growth in October. While large, the hit to October payrolls would be temporary, easily identified in the data (the BLS's strike report released on October 25th would reveal the direct impact), and would reverse upon the end of the strike.

1 October 2024 3

1

¹ For example, the New York Department of Labor requires that hourly employees are paid weekly, while the Texas, North Carolina, Louisiana, Virginia, Pennsylvania, and Maryland Departments of Labor require that non-exempt employees are paid at least twice a month.

² For workers paid on a biweekly schedule, the strike will need to last 19 days for workers to miss the entire reference period, which runs from October 6 through October 19 on the standard biweekly pay schedule. If some workers are paid on a monthly basis, then the strike will need to last until the end of the month in order for the impact of the strike to be fully counted by the payroll report.

Exhibit 2: Most Transportation-Industry Strikes Since 2000 Lasted for Less Than 2 Weeks; Shorter Strikers Were Less Likely to Occupy the Entire Payroll Survey Reference Pay Period, So They Were Also Less Likely to Be Captured by the Payroll Report



Source: Goldman Sachs Global Investment Research, US Bureau of Labor Statistics

We expect the impact of the port strike on jobless claims to be modest, as most <u>states</u> <u>do not allow workers</u> who are on strike to receive unemployment insurance benefits and some that do, including <u>New York</u>, only allow striking workers to receive benefits if the strike lasts at least 14 days. Nonetheless, we think that initial jobless claims could be impacted because 1) some workers may still file for unemployment insurance even though their applications might not get approved and 2) workers who are not participating in the strike may still be negatively impacted and would qualify for unemployment insurance benefits. Using detailed data on strikes since 1993, we estimate that the port strike could boost initial jobless claims for the week ending October 12 by a modest amount if it lasts about 1-2 weeks. If it lasts more than 2 weeks, we estimate that the boost to initial claims will be slightly larger and could spill over into the subsequent week.

Thousands Thousands Estimated Impact on Initial Jobless Claims From Port Strike, by Week 0.7 0.7 ■ Strike lasts <1 week ■ Strike lasts 1-2 weeks ■ Strike lasts > 2 weeks 0.6 0.6 0.5 0.5 0.4 0.4 0.3 0.3 0.2 0.2 0.1 0.1 0 0 -0.1 -0.1 -0.2 -0.2 -0.3 -0.3 0 2 3 Weeks Since the Start of the Strike 5 4

Exhibit 3: The Port Strike Will Only Have a Modest Impact on Weekly Initial Jobless Claims

Source: Goldman Sachs Global Investment Research, Department of Labor, US Bureau of Labor Statistics

While the strike's near-term effect on GDP should be small, it is more likely to have a pronounced and front-loaded impact on monthly goods trade. Certain sectors are more exposed to trade through the East and Gulf Coast ports than others, so the strike will have more notable impacts on their production and hiring plans in the near term. Our prior analysis and conversations with our transportation analysts suggest that the strike will disproportionately negatively affect the clothing, furniture, home appliance, food product, and auto industries because of their high exposure to imports and commodity-based industries including plastic, wood/paper, and auto manufacturers because they rely on ports to export.

If the proposed wage contract (61.5% pay raise over the next 6 years) is approved as a result of the strike, we expect the wage increase to assert a modest 3bp of upward pressure on sequential wage growth for unionized workers when the new contract becomes effective.

Under the Taft-Hartley Act, the White House is authorized to intervene in strikes that threaten national security or safety by imposing the 80-day cooling-off period. So far, the Biden Administration has maintained that <u>it will not intervene</u> in the ILA strike to reopen the ports.

Elsie Peng

Jessica Rindels

Disclosure Appendix

Reg AC

We, Jan Hatzius, Alec Phillips, David Mericle, Ronnie Walker, Manuel Abecasis, Tim Krupa, Elsie Peng and Jessica Rindels, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

Unless otherwise stated, the individuals listed on the cover page of this report are analysts in Goldman Sachs' Global Investment Research division.

Disclosures

Regulatory disclosures

Disclosures required by United States laws and regulations

See company-specific regulatory disclosures above for any of the following disclosures required as to companies referred to in this report: manager or co-manager in a pending transaction; 1% or other ownership; compensation for certain services; types of client relationships; managed/co-managed public offerings in prior periods; directorships; for equity securities, market making and/or specialist role. Goldman Sachs trades or may trade as a principal in debt securities (or in related derivatives) of issuers discussed in this report.

The following are additional required disclosures: **Ownership and material conflicts of interest:** Goldman Sachs policy prohibits its analysts, professionals reporting to analysts and members of their households from owning securities of any company in the analyst's area of coverage. **Analyst compensation:** Analysts are paid in part based on the profitability of Goldman Sachs, which includes investment banking revenues. **Analyst as officer or director:** Goldman Sachs policy generally prohibits its analysts, persons reporting to analysts or members of their households from serving as an officer, director or advisor of any company in the analyst's area of coverage. **Non-U.S. Analysts:** Non-U.S. analysts may not be associated persons of Goldman Sachs & Co. LLC and therefore may not be subject to FINRA Rule 2241 or FINRA Rule 2242 restrictions on communications with subject company, public appearances and trading securities held by the analysts.

Additional disclosures required under the laws and regulations of jurisdictions other than the United States

The following disclosures are those required by the jurisdiction indicated, except to the extent already made above pursuant to United States laws and regulations. Australia: Goldman Sachs Australia Pty Ltd and its affiliates are not authorised deposit-taking institutions (as that term is defined in the Banking Act 1959 (Cth)) in Australia and do not provide banking services, nor carry on a banking business, in Australia. This research, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act, unless otherwise agreed by Goldman Sachs. In producing research reports, members of Global Investment Research of Goldman Sachs Australia may attend site visits and other meetings hosted by the companies and other entities which are the subject of its research reports. In some instances the costs of such site visits or meetings may be met in part or in whole by the issuers concerned if Goldman Sachs Australia considers it is appropriate and reasonable in the specific circumstances relating to the site visit or meeting. To the extent that the contents of this document contains any financial product advice, it is general advice only and has been prepared by Goldman Sachs without taking into account a client's objectives, financial situation or needs. A client should, before acting on any such advice, consider the appropriateness of the advice having regard to the client's own objectives, financial situation and needs. A copy of certain Goldman Sachs Australia and New Zealand disclosure of interests and a copy of Goldman Sachs' Australian Sell-Side Research Independence Policy Statement are available at: https://www.goldmansachs.com/disclosures/australia-new-zealand/index.html. Brazil: Disclosure information in relation to CVM Resolution n. 20 is available at https://www.gs.com/worldwide/brazil/area/gir/index.html. Where applicable, the Brazil-registered analyst primarily responsible for the content of this research report, as defined in Article 20 of CVM Resolution n. 20, is the first author named at the beginning of this report, unless indicated otherwise at the end of the text. Canada: This information is being provided to you for information purposes only and is not, and under no circumstances should be construed as, an advertisement, offering or solicitation by Goldman Sachs & Co. LLC for purchasers of securities in Canada to trade in any Canadian security. Goldman Sachs & Co. LLC is not registered as a dealer in any jurisdiction in Canada under applicable Canadian securities laws and generally is not permitted to trade in Canadian securities and may be prohibited from selling certain securities and products in certain jurisdictions in Canada. If you wish to trade in any Canadian securities or other products in Canada please contact Goldman Sachs Canada Inc., an affiliate of The Goldman Sachs Group Inc., or another registered Canadian dealer. Hong Kong: Further information on the securities of covered companies referred to in this research may be obtained on request from Goldman Sachs (Asia) L.L.C. India: Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (India) Securities Private Limited, Research Analyst - SEBI Registration Number INH000001493, 951-A, Rational House, Appasaheb Marathe Marg, Prabhadevi, Mumbai 400 025, India, Corporate Identity Number U74140MH2006FTC160634, Phone +91 22 6616 9000, Fax +91 22 6616 9001. Goldman Sachs may beneficially own 1% or more of the securities (as such term is defined in clause 2 (h) the Indian Securities Contracts (Regulation) Act, 1956) of the subject company or companies referred to in this research report. Investment in securities market are subject to market risks. Read all the related documents carefully before investing. Registration granted by SEBI and certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors. Goldman Sachs (India) Securities Private Limited Investor Grievance E-mail: india-client-support@gs.com. Compliance Officer: Anil Rajput |Tel: + 91 22 6616 9000 | Email: anil.m.rajput@gs.com. Japan: See below. Korea: This research, and any access to it, is intended only for "professional investors" within the meaning of the Financial Services and Capital Markets Act, unless otherwise agreed by Goldman Sachs. Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (Asia) L.L.C., Seoul Branch. New Zealand: Goldman Sachs New Zealand Limited and its affiliates are neither "registered banks" nor "deposit takers" (as defined in the Reserve Bank of New Zealand Act 1989) in New Zealand. This research, and any access to it, is intended for "wholesale clients" (as defined in the Financial Advisers Act 2008) unless otherwise agreed by Goldman Sachs. A copy of certain Goldman Sachs Australia and New Zealand disclosure of interests is available at: https://www.goldmansachs.com/disclosures/australia-new-zealand/index.html. Russia: Research reports distributed in the Russian Federation are not advertising as defined in the Russian legislation, but are information and analysis not having product promotion as their main purpose and do not provide appraisal within the meaning of the Russian legislation on appraisal activity. Research reports do not constitute a personalized investment recommendation as defined in Russian laws and regulations, are not addressed to a specific client, and are prepared without analyzing the financial circumstances, investment profiles or risk profiles of clients. Goldman Sachs assumes no responsibility for any investment decisions that may be taken by a client or any other person based on this research report. Singapore: Goldman Sachs (Singapore) Pte. (Company Number: 198602165W), which is regulated by the Monetary Authority of Singapore, accepts legal responsibility for this research, and should be contacted with respect to any matters arising from, or in connection with, this research. Taiwan: This material is for reference only and must not be reprinted without permission. Investors should carefully consider their own investment risk. Investment results are the responsibility of the individual investor. United Kingdom: Persons who would be categorized as retail clients in the United Kingdom, as such term is defined in the rules of the Financial Conduct Authority, should read this research in conjunction with prior Goldman Sachs research on the covered companies referred to herein and should refer to the risk warnings that have been sent to them by Goldman Sachs International. A copy of these risks warnings, and a glossary of certain financial terms used in this report, are available from Goldman Sachs International on request.

European Union and United Kingdom: Disclosure information in relation to Article 6 (2) of the European Commission Delegated Regulation (EU)

(2016/958) supplementing Regulation (EU) No 596/2014 of the European Parliament and of the Council (including as that Delegated Regulation is implemented into United Kingdom domestic law and regulation following the United Kingdom's departure from the European Union and the European Economic Area) with regard to regulatory technical standards for the technical arrangements for objective presentation of investment recommendations or other information recommending or suggesting an investment strategy and for disclosure of particular interests or indications of conflicts of interest is available at https://www.gs.com/disclosures/europeanpolicy.html which states the European Policy for Managing Conflicts of Interest in Connection with Investment Research.

Japan: Goldman Sachs Japan Co., Ltd. is a Financial Instrument Dealer registered with the Kanto Financial Bureau under registration number Kinsho 69, and a member of Japan Securities Dealers Association, Financial Futures Association of Japan Type II Financial Instruments Firms Association, The Investment Trusts Association, Japan, and Japan Investment Advisers Association. Sales and purchase of equities are subject to commission pre-determined with clients plus consumption tax. See company-specific disclosures as to any applicable disclosures required by Japanese stock exchanges, the Japanese Securities Dealers Association or the Japanese Securities Finance Company.

Global product; distributing entities

Goldman Sachs Global Investment Research produces and distributes research products for clients of Goldman Sachs on a global basis. Analysts based in Goldman Sachs offices around the world produce research on industries and companies, and research on macroeconomics, currencies, commodities and portfolio strategy. This research is disseminated in Australia by Goldman Sachs Australia Pty Ltd (ABN 21 006 797 897); in Brazil by Goldman Sachs do Brasil Corretora de Títulos e Valores Mobiliários S.A.; Public Communication Channel Goldman Sachs Brazil: 0800 727 5764 and / or contatogoldmanbrasil@gs.com. Available Weekdays (except holidays), from 9am to 6pm. Canal de Comunicação com o Público Goldman Sachs Brasil: 0800 727 5764 e/ou contatogoldmanbrasil@gs.com. Horário de funcionamento: segunda-feira à sexta-feira (exceto feriados), das 9h às 18h; in Canada by Goldman Sachs & Co. LLC; in Hong Kong by Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (India) Securities Private Ltd.; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs New Zealand Limited; in Russia by OOO Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W); and in the United States of America by Goldman Sachs & Co. LLC. Goldman Sachs International has approved this research in connection with its distribution in the United Kingdom.

Goldman Sachs International ("GSI"), authorised by the Prudential Regulation Authority ("PRA") and regulated by the Financial Conduct Authority ("FCA") and the PRA, has approved this research in connection with its distribution in the United Kingdom.

European Economic Area: GSI, authorised by the PRA and regulated by the FCA and the PRA, disseminates research in the following jurisdictions within the European Economic Area: the Grand Duchy of Luxembourg, Italy, the Kingdom of Belgium, the Kingdom of Denmark, the Kingdom of Norway, the Republic of Finland and the Republic of Ireland; GSI - Succursale de Paris (Paris branch) which is authorised by the French Autorité de contrôle prudentiel et de resolution ("ACPR") and regulated by the Autorité de contrôle prudentiel et de resolution and the Autorité des marches financiers ("AMF") disseminates research in France; GSI - Sucursal en España (Madrid branch) authorized in Spain by the Comisión Nacional del Mercado de Valores disseminates research in the Kingdom of Spain; GSI - Sweden Bankfilial (Stockholm branch) is authorized by the SFSA as a "third country branch" in accordance with Chapter 4, Section 4 of the Swedish Securities and Market Act (Sw. lag (2007:528) om värdepappersmarknaden) disseminates research in the Kingdom of Sweden; Goldman Sachs Bank Europe SE ("GSBE") is a credit institution incorporated in Germany and, within the Single Supervisory Mechanism, subject to direct prudential supervision by the European Central Bank and in other respects supervised by German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin) and Deutsche Bundesbank and disseminates research in the Federal Republic of Germany and those jurisdictions within the European Economic Area where GSI is not authorised to disseminate research and additionally, GSBE, Copenhagen Branch filial af GSBE, Tyskland, supervised by the Danish Financial Authority disseminates research in the Kingdom of Denmark; GSBE - Sucursal en España (Madrid branch) subject (to a limited extent) to local supervision by the Bank of Spain disseminates research in the Kingdom of Spain: GSBE - Succursale Italia (Milan branch) to the relevant applicable extent, subject to local supervision by the Bank of Italy (Banca d'Italia) and the Italian Companies and Exchange Commission (Commissione Nazionale per le Società e la Borsa "Consob") disseminates research in Italy; GSBE - Succursale de Paris (Paris branch), supervised by the AMF and by the ACPR disseminates research in France; and GSBE - Sweden Bankfilial (Stockholm branch), to a limited extent, subject to local supervision by the Swedish Financial Supervisory Authority (Finansinpektionen) disseminates research in the Kingdom of Sweden.

General disclosures

This research is for our clients only. Other than disclosures relating to Goldman Sachs, this research is based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. The information, opinions, estimates and forecasts contained herein are as of the date hereof and are subject to change without prior notification. We seek to update our research as appropriate, but various regulations may prevent us from doing so. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment.

Goldman Sachs conducts a global full-service, integrated investment banking, investment management, and brokerage business. We have investment banking and other business relationships with a substantial percentage of the companies covered by Global Investment Research. Goldman Sachs & Co. LLC, the United States broker dealer, is a member of SIPC (https://www.sipc.org).

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and principal trading desks that reflect opinions that are contrary to the opinions expressed in this research. Our asset management area, principal trading desks and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

We and our affiliates, officers, directors, and employees will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives, if any, referred to in this research, unless otherwise prohibited by regulation or Goldman Sachs policy.

The views attributed to third party presenters at Goldman Sachs arranged conferences, including individuals from other parts of Goldman Sachs, do not necessarily reflect those of Global Investment Research and are not an official view of Goldman Sachs.

Any third party referenced herein, including any salespeople, traders and other professionals or members of their household, may have positions in the products mentioned that are inconsistent with the views expressed by analysts named in this report.

This research is focused on investment themes across markets, industries and sectors. It does not attempt to distinguish between the prospects or performance of, or provide analysis of, individual companies within any industry or sector we describe.

Any trading recommendation in this research relating to an equity or credit security or securities within an industry or sector is reflective of the investment theme being discussed and is not a recommendation of any such security in isolation.

This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur.

Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Investors should review current options and futures disclosure documents which are available from Goldman Sachs sales representatives or at https://www.theocc.com/about/publications/character-risks.isp and

https://www.fiadocumentation.org/fia/regulatory-disclosures_1/fia-uniform-futures-and-options-on-futures-risk-disclosures-booklet-pdf-version-2018.

Transaction costs may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be supplied upon request.

Differing Levels of Service provided by Global Investment Research: The level and types of services provided to you by Goldman Sachs Global Investment Research may vary as compared to that provided to internal and other external clients of GS, depending on various factors including your individual preferences as to the frequency and manner of receiving communication, your risk profile and investment focus and perspective (e.g., marketwide, sector specific, long term, short term), the size and scope of your overall client relationship with GS, and legal and regulatory constraints. As an example, certain clients may request to receive notifications when research on specific securities is published, and certain clients may request that specific data underlying analysts' fundamental analysis available on our internal client websites be delivered to them electronically through data feeds or otherwise. No change to an analyst's fundamental research views (e.g., ratings, price targets, or material changes to earnings estimates for equity securities), will be communicated to any client prior to inclusion of such information in a research report broadly disseminated through electronic publication to our internal client websites or through other means, as necessary, to all clients who are entitled to receive such reports.

All research reports are disseminated and available to all clients simultaneously through electronic publication to our internal client websites. Not all research content is redistributed to our clients or available to third-party aggregators, nor is Goldman Sachs responsible for the redistribution of our research by third party aggregators. For research, models or other data related to one or more securities, markets or asset classes (including related services) that may be available to you, please contact your GS representative or go to https://research.gs.com.

Disclosure information is also available at https://www.gs.com/research/hedge.html or from Research Compliance, 200 West Street, New York, NY 10282.

© 2024 Goldman Sachs.

You are permitted to store, display, analyze, modify, reformat, and print the information made available to you via this service only for your own use. You may not resell or reverse engineer this information to calculate or develop any index for disclosure and/or marketing or create any other derivative works or commercial product(s), data or offering(s) without the express written consent of Goldman Sachs. You are not permitted to publish, transmit, or otherwise reproduce this information, in whole or in part, in any format to any third party without the express written consent of Goldman Sachs. This foregoing restriction includes, without limitation, using, extracting, downloading or retrieving this information, in whole or in part, to train or finetune a machine learning or artificial intelligence system, or to provide or reproduce this information, in whole or in part, as a prompt or input to any such system.