

OIL ANALYST

High Product Margins for Longer; Smaller Downside Risks Than for Crude Prices

- **Limited relief to refined products margins from Hormuz reopening.** While crude prices declined by over \$10 following the US-Iran interim peace deal announcement, refined products margins have fallen less, with our global refined products margins index still double its pre-war level ([Exhibit 1](#)). While we remain constructive on products margins following the reopening, we have nudged down our diesel margins forecast given our assumption that Persian Gulf exports normalize by end-July (vs. our end-August assumption before the announcement). We now expect US/EU diesel margins to moderate to \$46/31/bbl by 2026Q4 (vs. \$50/37 prior), still 2-3 times above their 2013-2019 seasonal averages, but keep our gasoline margins forecast for 2026Q4 roughly unchanged at \$23/13 for US/Europe ([Exhibit 2](#)).
- **Not out of the (Hormuz) woods yet.** Lower-for-longer refined products stocks are the key reason for our constructive margins view. Both gasoline and diesel stocks remain below their 2022-2026 seasonal range in the US ([Exhibit 3](#)), and we expect diesel/gasoline stocks to edge down further for the next 1/4 months, followed by a gradual recovery to 2025 seasonal levels by 2027H2. Gasoline stocks are especially low as refineries have prioritized diesel and jet fuel production at the expense of gasoline over the last 4 months ([Exhibit 5](#)). Although Persian Gulf refinery outages decreased by 1/2 since the ceasefire announcement, the remaining 1.3mb/d of unplanned outages may take several months to repair ([Exhibit 6](#)).¹ While products supply is likely to remain constrained for longer, we expect refined product demand to largely rebound over the next quarter, with moderate demand scarring in 2027. As a result, we see gasoline and diesel margins averaging slightly above market forwards for the remainder of the year ([Exhibit 7](#)).
- **Structural tailwinds keep 2027 margins elevated.** Despite some sequential moderation in products margins next year as Asia and Middle East refineries ramp up production and stocks rebuild, we see margins remaining above their 2025 levels, with average 2027 US/EU diesel margins at \$38/25/bbl (vs. \$41/29 prior) and average 2027 US/EU gasoline margins at \$22/15/bbl (unchanged) ([Exhibit 7](#)). Extended delays in China and India refining capacity additions and

Yulia Zhestkova Grigsby
+1(646)446-3905 |
yulia.grigsby@gs.com
Goldman Sachs & Co. LLC

Filippo Cuscito
+44(20)7051-9073 |
filippo.cuscito@gs.com
Goldman Sachs International

Daan Struyven
+1(212)357-4172 |
daan.struyven@gs.com
Goldman Sachs & Co. LLC

¹ Recent unplanned refinery outages outside the Middle East (TotalEnergies' Port Arthur, Marathon's Galveston Bay refinery) have also supported gasoline margins in particular (given the refineries' yields skew), driving the recent gasoline margins rally despite the interim peace deal.

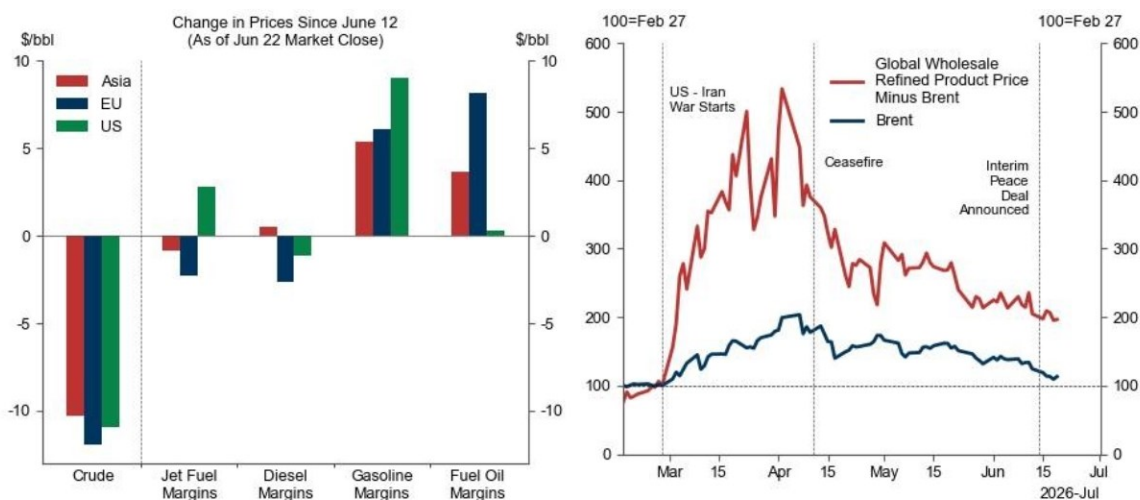
continuing attacks on Russian refineries are likely to keep global utilization rates near their all-time highs in 2027.²

■ **Two-sided risks, with more limited downside than for crude prices.**

- With structural tailwinds providing a floor under products margins, we see more limited downside risk to margins than to crude prices.
- **More limited downside.** Assuming Gulf exports normalize by early July, crude production beats, and demand losses appear to be stickier, US diesel/gasoline margins might average 14/9% (\$5/2/bbl) below our 2027 base case vs. 28% (\$21/bbl) lower for Brent ([Exhibit 8](#), green line).
- **More upside.** Assuming Hormuz remains disrupted through 2027 with Gulf crude exports recovering gradually by 10mb/d by Dec 2027 ([Exhibit 9](#)), 2027 average US diesel/gasoline margins might exceed our base case by 66% (\$25/bbl) vs. Brent by 41% (\$30/bbl) given a larger Hormuz supply hit to middle distillates than for crude ([Exhibit 8](#), red line).

High Product Margins for Longer

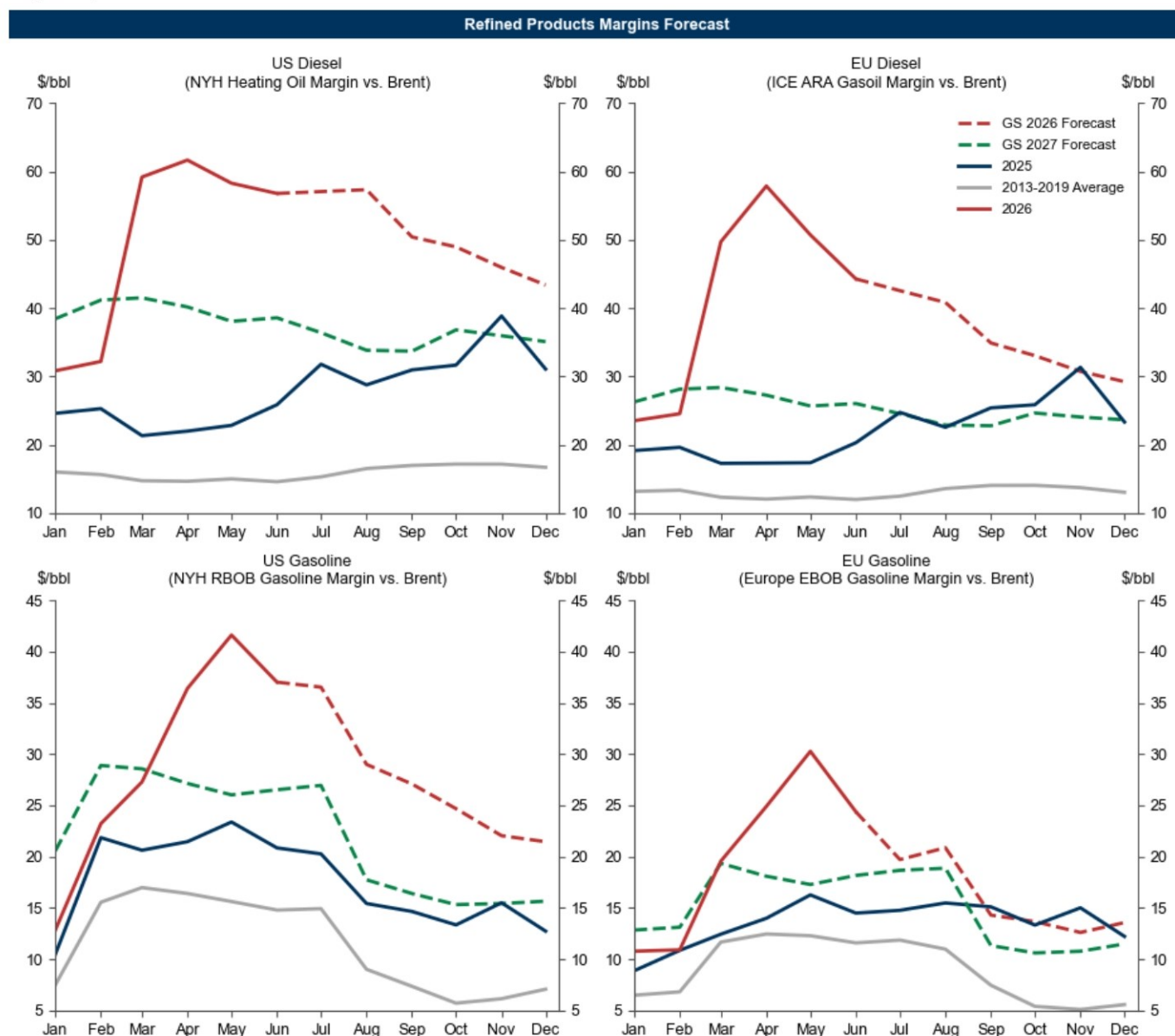
Exhibit 1: Refined Products Margins Have Fallen Less Since the Interim Peace Deal Announcement Than Crude Prices, With Our Global Refined Product Margin Index Still Double Its Pre-War Level



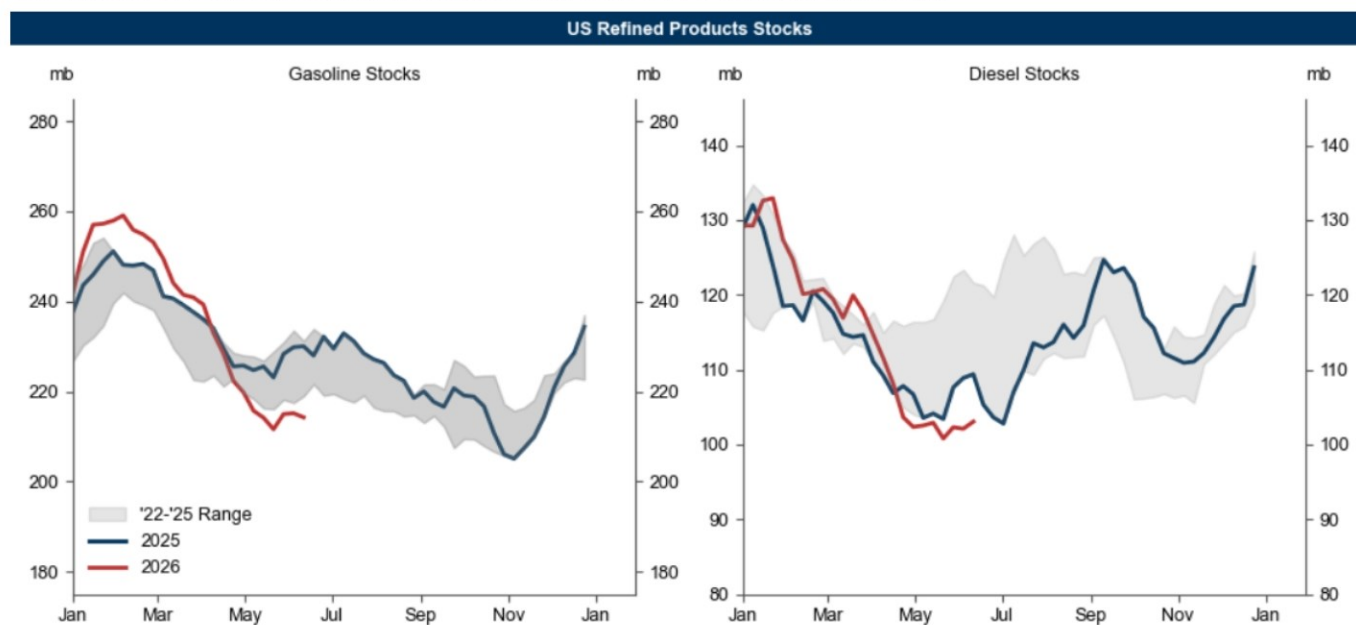
Source: ICE, Platts, Goldman Sachs Global Investment Research

² While we see global tanker freight rates moderating further, we expect premium for refined products tankers over crude tankers to remain elevated on prolonged products restocking and continuing structural relocation of global refining capacity from West to East of Suez.

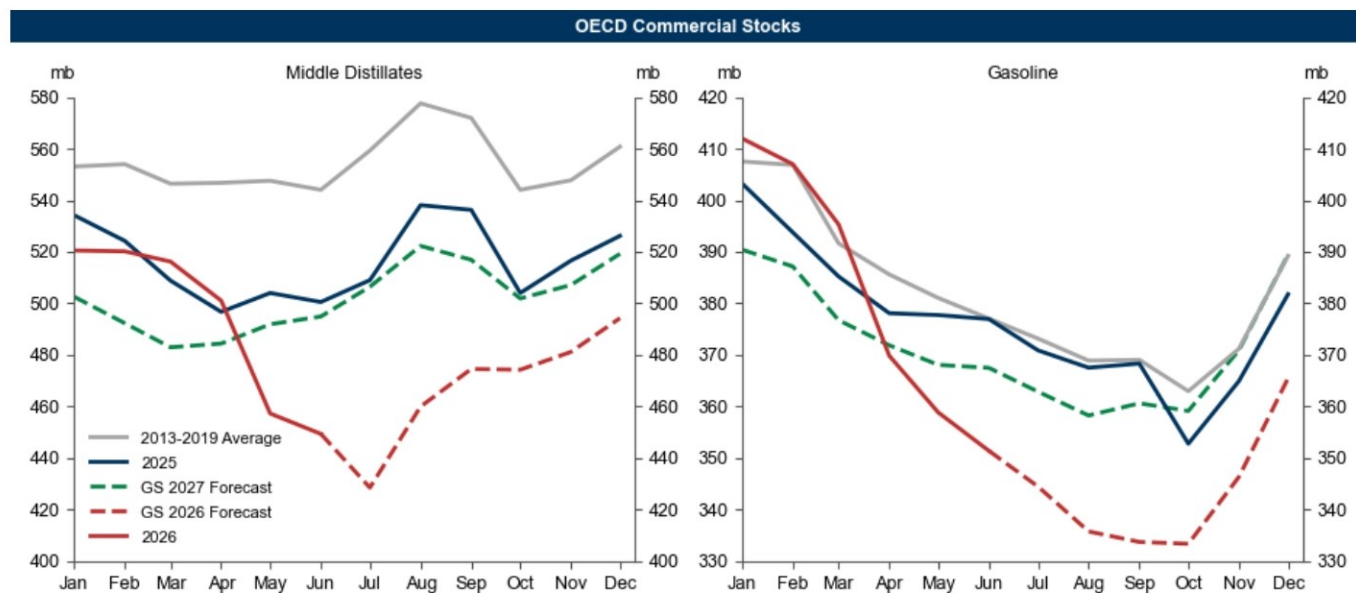
Exhibit 2: We Have Nudged Down Our Diesel Margins Forecast and Now Expect US/EU Diesel Margins to Decline to \$50/35/bbl in 2026H2, While Keeping Our Gasoline Margins Forecast for 2026H2 Roughly Unchanged at \$27/16 for US/Europe



Source: Platts, ICE, Goldman Sachs Global Investment Research

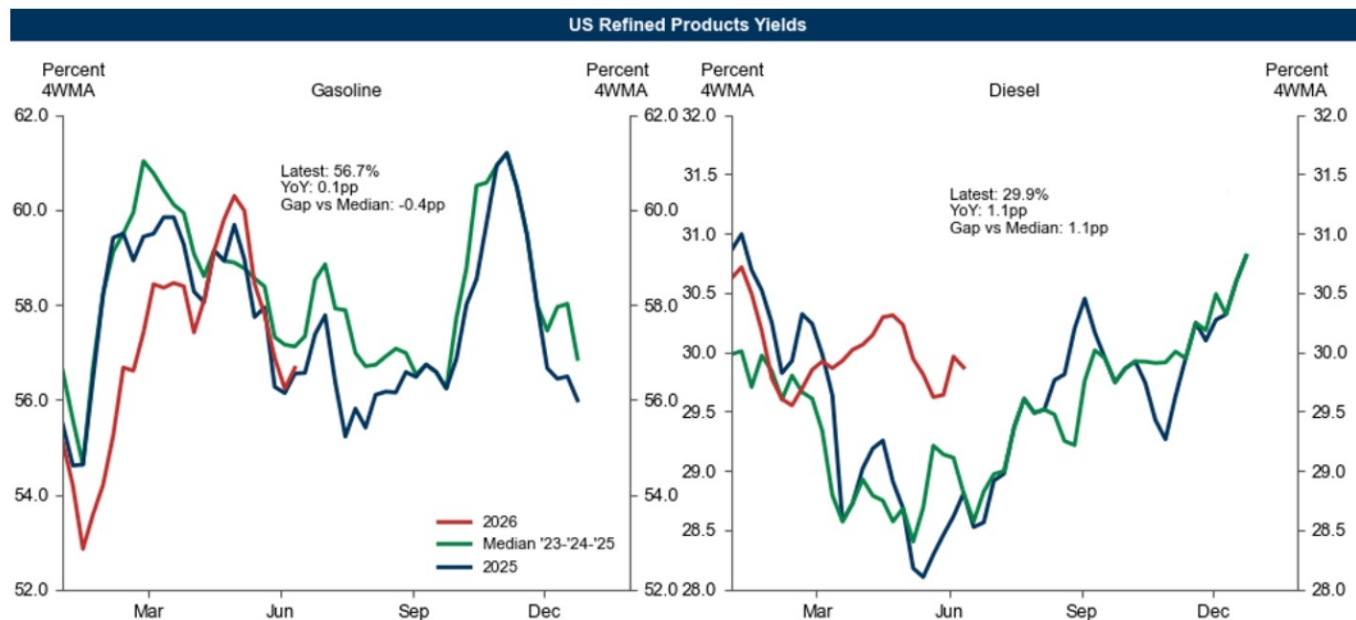
Exhibit 3: US Gasoline and Diesel Stocks Are Below Their 2022-2026 Seasonal Range

Source: EIA, Goldman Sachs Global Investment Research

Exhibit 4: Already Low Storage, a Stretched Refining System, and Rapidly Recovering Demand Will Likely Keep Product Stocks at Low Levels Over the Next 12 Months

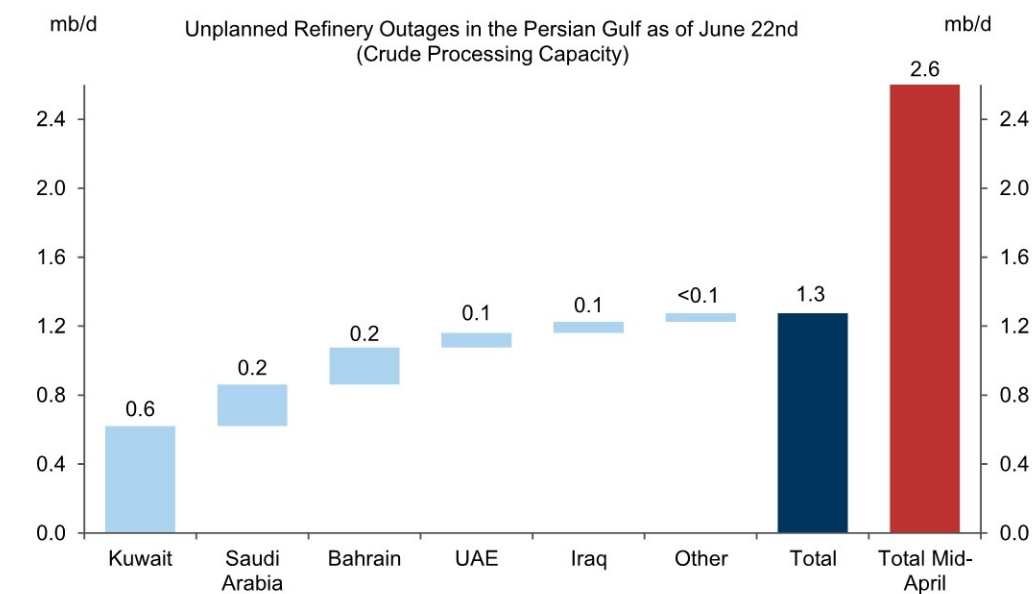
Source: IEA, Goldman Sachs Global Investment Research

Exhibit 5: High Diesel and Jet Fuel Margins Following the Hormuz Shock Pushed Refineries to Prioritize Middle Distillates Production Over Gasoline



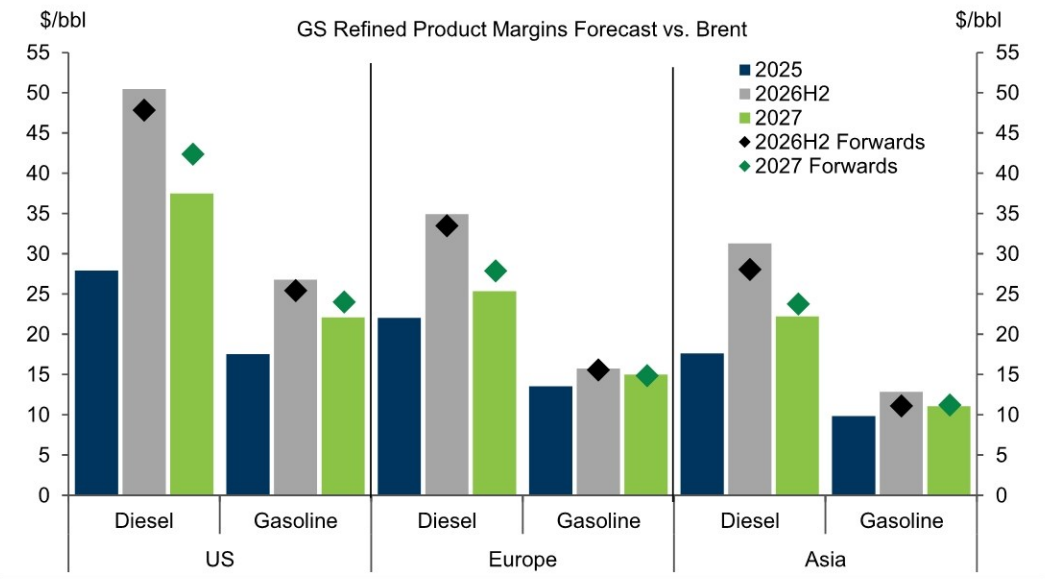
Source: EIA, Goldman Sachs Global Investment Research

Exhibit 6: Nearly 1.3mb/d of Persian Gulf Refining Capacity Remains Under Unplanned Maintenance/Repair More Than Two Months After the Ceasefire Announcement



Source: IIR, Goldman Sachs Global Investment Research

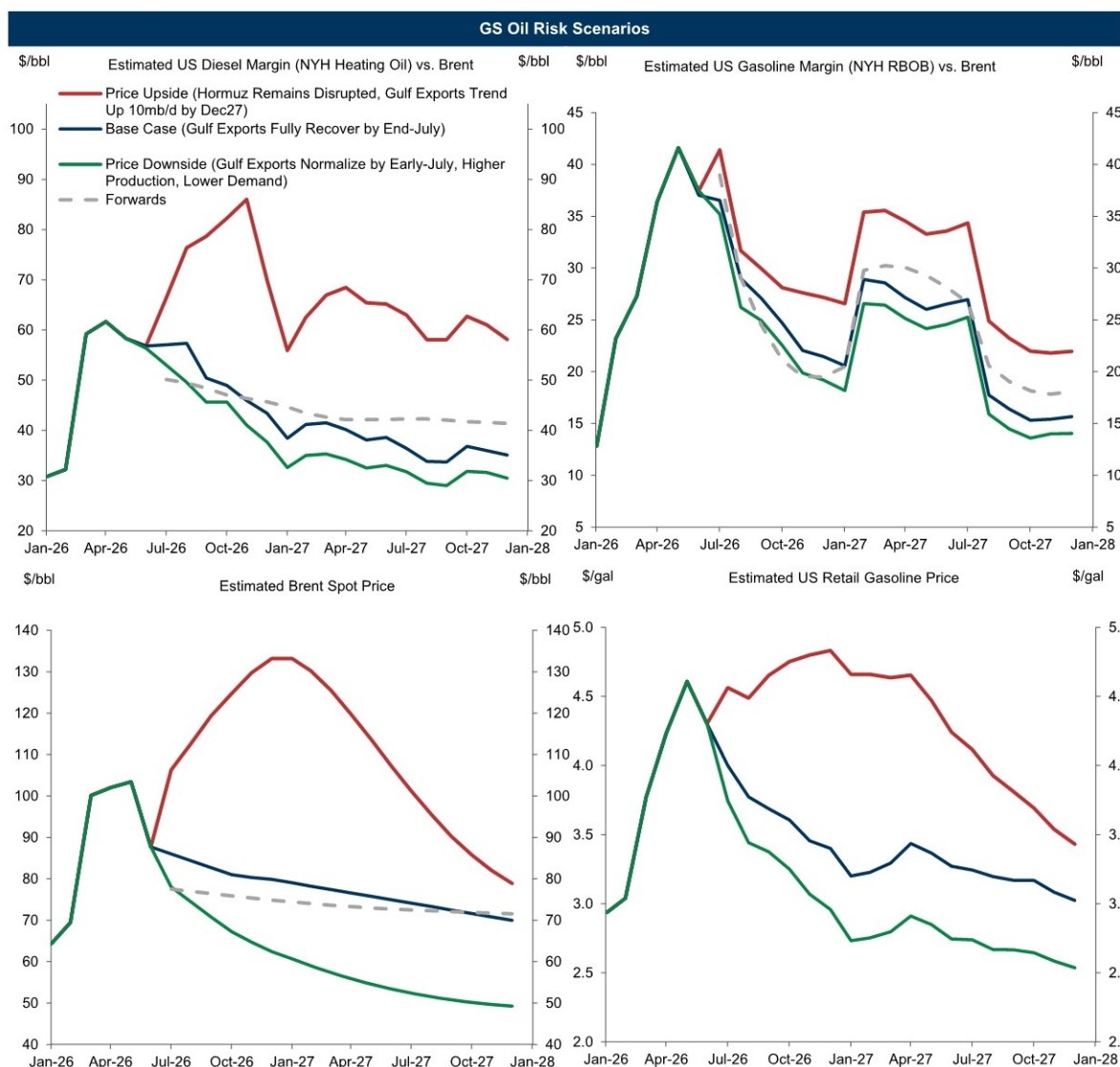
Exhibit 7: We Expect Diesel and Gasoline Margins to Stay Slightly Above Market Forwards in 2026H2 and Remain Above 2025 Levels Through 2027



Source: Platts, ICE, Goldman Sachs Global Investment Research

Two-Sided Risks to Margins, With a Smaller Downside Than for Crude

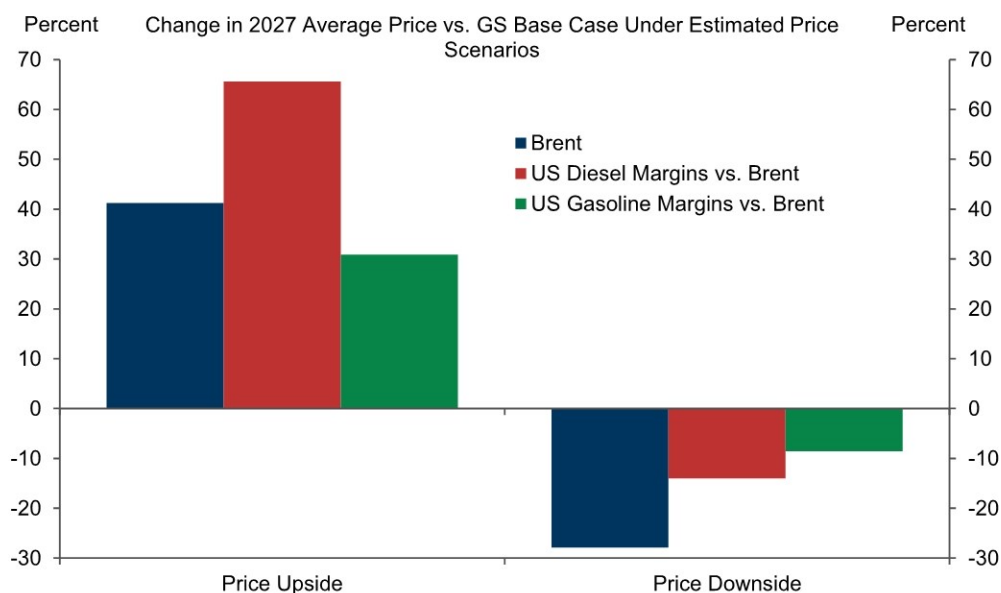
Exhibit 8: We See a Limited Downside to Refined Products Margins if Demand Recovery Disappoints, and a Much Larger Upside for Diesel Margins Than For Gasoline in Case of Prolonged Disruptions to Hormuz Flows



Source: Goldman Sachs Global Investment Research



Exhibit 9: We See a Relatively Higher Upside for Diesel Margins Than for Crude Prices in Case of a Prolong Disruption to Gulf Flows, but a Smaller Upside for Gasoline Margins

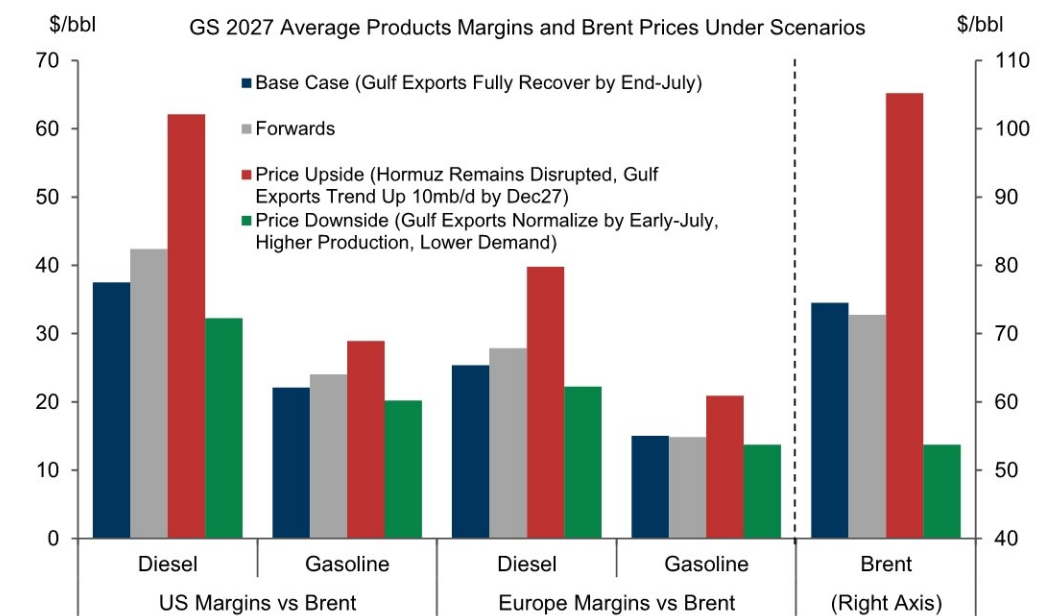


Price upside scenario assumes that Hormuz flows remain disrupted indefinitely, but Gulf exports trend up 10mb/d by end-2027 due to more redirections and eventual slow pick up in Hormuz flows. Price downside scenario assumes that Gulf exports normalize to pre-war levels by early-July (vs. late-July in our base case), crude production beats expectations 1.4mb/d, demand losses are stickier at 1.5mb/d vs. 0.5mb/d in our baseline, and \$5/bbl higher backend (36M-ahead Brent forwards).

Source: Goldman Sachs Global Investment Research

Appendix

Exhibit 10: We See a Narrower Risk Range for Refined Products Than for Brent Prices Given Near-Term Tailwinds (Ongoing Middle East and Russia Refinery Outages, Low Current Stocks, Hurricane Season in the US) and Structural Support (Tight Refining, Stricter Government Policies)



Source: Goldman Sachs Global Investment Research

Exhibit 11: We Expect US/Europe Diesel Refined Products Margins to Average \$38/25/bbl in 2027 and US 3-2-1 Crack Spread to Average at \$27/bbl

	GS Forecast of Average Monthly Refined Products Margins vs. Brent (\$/bbl)						
	Diesel			Gasoline			3-2-1 Crack Spread
	US	Europe	Asia	US	Europe	Asia	
	NYH Heating Oil	ICE ARA Gasoil	Singapore Gasoil	NYH RBOB Gasoline	Europe EBOB Gasoline	Singapore Mogas	US
2025	28	22	18	18	14	10	21
2026	50	38	35	28	18	15	36
2027	38	25	22	22	15	11	27
1Q26	41	33	30	21	14	13	28
2Q26	59	51	47	38	27	23	45
3Q26	55	39	35	31	18	15	39
4Q26	46	31	28	23	13	11	31
1Q27	40	28	25	26	15	12	31
2Q27	39	26	23	27	18	12	31
3Q27	35	23	20	20	16	11	25
4Q27	36	24	21	15	11	10	22
Jan-26	31	24	18	13	11	8	19
Feb-26	32	25	19	23	11	8	26
Mar-26	59	50	53	27	20	23	38
Apr-26	62	58	56	36	25	25	45
May-26	58	51	46	42	30	24	47
Jun-26	56	43	38	37	25	19	44
Jul-26	57	42	40	37	20	17	43
Aug-26	57	40	35	29	21	15	38
Sep-26	50	35	30	27	14	13	35
Oct-26	49	33	29	25	14	11	33
Nov-26	46	31	28	22	13	10	30
Dec-26	43	29	26	21	14	10	29
Jan-27	38	26	24	21	13	12	27
Feb-27	41	28	25	29	13	12	33
Mar-27	42	28	25	29	19	12	33
Apr-27	40	27	24	27	18	11	32
May-27	38	26	23	26	17	12	30
Jun-27	39	26	23	27	18	13	31
Jul-27	36	25	21	27	19	13	30
Aug-27	34	23	20	18	19	10	23
Sep-27	34	23	20	16	11	9	22
Oct-27	37	25	21	15	11	10	22
Nov-27	36	24	21	15	11	10	22
Dec-27	35	24	20	16	11	10	22

Source: Goldman Sachs Global Investment Research

Team Oil

Daan Struyven
+1(212)357-4172
daan.struyven@gs.com
Goldman Sachs & Co. LLC

Yulia Zhestkova Grigsby
+1(646)446-3905
yulia.grigsby@gs.com
Goldman Sachs & Co. LLC

Filippo Cuscito
+44(20)7051-9073
filippo.cuscito@gs.com
Goldman Sachs International

Alexandra Paulus
+1(212)902-7111
alexandra.paulus@gs.com
Goldman Sachs & Co. LLC

Disclosure Appendix

Reg AC

We, Yulia Zhestkova Grigsby, Filippo Cuscito and Daan Struyven, 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.

Contributing Authors: Yulia Zhestkova Grigsby Goldman Sachs & Co. LLC, Filippo Cuscito Goldman Sachs International, Daan Struyven Goldman Sachs & Co. LLC.

Unless otherwise stated, the individuals listed in the Contributing Authors disclosure 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 a subject company, public appearances and trading in securities covered 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, 10th Floor, Ascent-Worli, Sudam Kalu Ahire Marg, Worli, 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 compliance officer and investor grievance contact details can be found at: <https://www.goldmansachs.com/worldwide/india/documents/Grievance-Redressal-and-Escalation-Matrix.pdf>, and a copy of the annual audit compliance report can be found at this link: <https://publishing.gs.com/content/site/india-annual-compliance-report.html>. **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, and Investment Management Association of Japan. 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 Brasil: 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: 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 within the European Economic Area.

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.jsp> and https://www.goldmansachs.com/disclosures/cftc_fcm_disclosures. 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.

© 2026 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.