

Munich Re

Updating estimates ahead of FY24 results and for 2025 guidance

We make minor changes to our FY24 estimates ahead of results on 26th February and update our FY25 estimates for the latest published outlook. Overall we forecast net income of €5,709m for FY24 (+2% change) and increase our FY25 net income to €6,047m (+6%) vs ~€6.0bn guidance. For FY24 we expect DPS of €16 and the annual share buyback program to be increased to €2bn (previously €1.7bn). We maintain our PT of €520.

FY24 estimates: Our P&C Re reported combined ratio estimate is 83.2%, in line with updated guidance and includes a ~€0.4bn impact for Hurricane Milton (previously ~€0.5bn). On a normalized basis, our forecast is ~81% for FY24 with an expectation for an increase in run-rate at 4Q24 as flagged by the company. In L&H Re our total technical result stands at ~€2.1bn vs ~€2.0bn guidance and for ERGO we forecast total net result of ~€0.8bn.

FY25 assumptions: We increase our P&C Re combined ratio to 83% (previously 82%) to reflect the expected growth in GSI, which would be a separate reporting segment from 1Q25 onwards, as well as a lower discounting assumption of ~7%. This is more than offset by a higher investment income with increased ROI assumption of ~3.0%. Elsewhere our assumptions are broadly in line with guidance which brings our net income to €6.0bn. We make no changes to our capital return forecasts.

Table 1: Munich Re - summary of estimate changes

€ million

	New 2024E	New 2025E	New 2025E	New 2024E	Old 2024E	Old 2024E	Old 2024E	% change 2024E	% change 2025E	% change 2025E	% change 2027E
Insurance service result	8,194	8,341	8,219	9,063	8,133	8,759	9,068	5.4%	-1%	-4%	-5%
Total technical result	8,814	8,861	9,259	9,623	8,733	9,272	9,609	9.9%	1%	-4%	-3%
Investment result	7,192	6,941	6,840	6,941	7,085	6,045	6,257	2%	15%	9%	9%
Operating result	7,766	8,349	8,400	8,613	7,597	7,865	8,166	8.3%	2%	6%	3%
Net result	5,709	6,047	6,084	6,294	5,983	5,685	5,998	6,107	2%	6%	3%
EPS	42.8	46.9	49.0	52.6	41.8	43.9	47.3	50.8	2%	7%	3%
DPS	16.1	17.0	18.0	19.0	16.1	17.0	18.0	19.0	0%	0%	0%
Operating result by divisions											
L&H Re	2,406	2,357	2,379	2,430	2,373	2,171	2,235	2,284	1%	9%	6%
P&C Re	4,238	4,539	4,558	4,699	4,115	4,373	4,530	4,683	3%	4%	1%
ERGO L&H	255	349	365	366	255	356	400	377	-1%	-2%	-9%
ERGO P&C	417	593	596	611	413	525	546	561	1%	13%	9%
ERGO Int	450	512	502	508	441	440	455	461	2%	16%	10%
P&C Re COR	83.2%	83.0%	83.1%	83.1%	83.6%	82.0%	82.1%	82.1%	-0.4%	1.0%	1.0%
ERGO P&C COR	88.6%	88.8%	88.8%	88.8%	88.6%	87.8%	87.8%	87.8%	0.0%	1.0%	1.0%

Source: J.P. Morgan estimates.

Sources for: Style Exposure – J.P. Morgan Quantitative and Derivatives Strategy; all other tables are company data and J.P. Morgan estimates.

See page 6 for analyst certification and important disclosures, including non-US analyst disclosures.

J.P. Morgan does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

This document is being provided for the exclusive use of JACOPO BAZZANO at SARANAC PARTNERS LIMITED.

Neutral

MUVGn.DE, MUV2 GR

Price (16 Jan 25):€497.90

Price Target (Jun-26):€520.00

European Insurance

Kamran M Hossain Ac

(44-20) 3493-3780

kamran.hossain@jpmorgan.com

J.P. Morgan Securities plc

Nadia Claressa

(44-20) 7134-7613

nadia.claressa@jpmorgan.com

J.P. Morgan Securities plc

Farooq Hanif

(44 207) 742-8091

farooq.hanif@jpmorgan.com

J.P. Morgan Securities plc

Bingdi Fan, CFA

(44-20) 7742-5336

bingdi.fan@jpmorgan.com

J.P. Morgan Securities plc

Kriti Jain

(91-22) 6157-5083

kriti.jain@jpmchase.com

J.P. Morgan India Private Limited

Specialist Sales contact details:

Gigi Sparling - Specialist Sales - European Financials

(44-20) 7134-0355

ghislaine.sparling@jpmorgan.com

Key Changes (FYE Dec)

	Prev	Cur
Adj. EPS - 25E (€)	43.94	46.95

Style Exposure

Quant Factors	Current %Rank	Hist %Rank (1=Top)			
		6M	1Y	3Y	5Y
Value	37	39	36	27	26
Growth	41	49		36	
Momentum	10				
Quality	62	16	27	23	44
Low Vol	80	39	15	35	1
ESGQ	9	3	5	20	12

Price Performance



Company Data

Shares O/S (mn)	134
52-week range (€)	526.00-381.80
Market cap (\$ mn)	68,602.29
Exchange rate	0.97
Free float (%)	100.0%
3M ADV (mn)	0.25
3M ADV (\$ mn)	127.1
Volatility (90 Day)	22
Index	MSCI Europe
BBG ANR (Buy Hold Sell)	9 12 3

Key Metrics (FYE Dec)

€ in millions	FY23A	FY24E	FY25E	FY26E
Financial Estimates				
Operating profit - Life	566	704	861	867
Life Reinsurance Operating Profit	1,686	2,406	2,357	2,379
P&C Insurance Operating Profit	397	417	593	596
P&C Reinsurance Operating Profit	3,052	4,238	4,539	4,558
Other pre-tax operating profit	(168)	(214)	(261)	(261)
Pre Tax Operational Income	5,534	7,552	8,088	8,139
Adj. net income	4,597	5,709	6,047	6,084
Comprehensive Profit	5,158	7,561	5,878	5,933
Adj. EPS	33.88	42.79	46.95	48.98
Comprehensive EPS	38.01	56.68	45.63	47.77
DPS	15.00	16.05	17.01	18.03
BVPS	218.5	250.7	267.5	293.1
Comprehensive BVPS	330.78	370.20	397.29	426.50
Margins and Growth				
Adj. EPS growth	-	26.3%	9.7%	4.3%
Comprehensive EPS growth	-	49.1%	(19.5%)	4.7%
DPS growth	29.3%	7.0%	6.0%	6.0%
Ratios				
Primary P&C combined ratio (%)	88.9%	88.6%	88.8%	88.8%
Reinsurance P&C combined ratio (%)	85.2%	83.2%	83.0%	83.1%
Life New Business CSM	2,414	2,463	1,424	1,429
Life New Business CSM Margin (%)	-	-	-	-
CSM Release Ratio (%)	7.9%	7.6%	7.7%	7.7%
ROE	16.2%	18.3%	18.1%	17.5%
Comprehensive ROE	12.1%	16.1%	11.8%	11.6%
Debt leverage ratio	10.0%	11.5%	11.3%	11.0%
Valuation				
Dividend yield	3.0%	3.2%	3.4%	3.6%
P/BV	2.3	2.0	1.9	1.7
Comprehensive P/BV	1.5	1.3	1.3	1.2

Summary Investment Thesis and Valuation

Investment Thesis

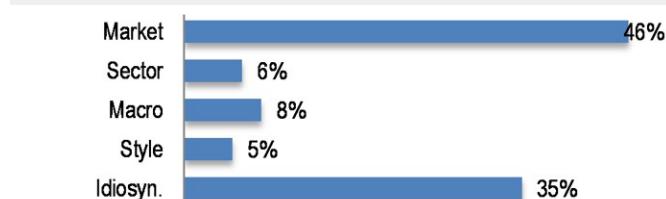
We see Munich Re as a reliable stock to own given its excellent track record. But with earnings trends now being reflected in estimates and the stock having re-rated in the last couple of years, we see limited near-term scope for further re-rating with a likely slowing in the reinsurance market in 2025. Neutral.

- Track record of reliability.** The company produces dependable returns and has a premier track record on dividend payments in the sector.
- Earnings estimates have increased materially since 2022.** Looking ahead, we expect to see less earnings surprises given the rapid earnings upgrades that the company has seen and high expectations built into numbers, especially as the reinsurance market slows down.
- Growth in capital returns expected but now built into expectations.** We assume that the SBB increases to €2bn but we think that this is as far as the company would be willing to push the level to in the near term.

Valuation

We value Munich Re by estimating its sustainable across-the-cycle comprehensive ROE of 10% and derive a valuation multiple on Comprehensive Equity. We adjust for dividends and share buybacks and apply a CoE of 8% and growth rate of 0%. This results in our Jun-26 PT of €520.

Performance Drivers



Factors	6M Corr	1Y Corr
Market: MSCI Europe ex UK	0.73	0.68
Sect: Financials	0.38	0.34
Ind: Insurance	0.78	0.73
Macro:		
Eurozone CPI	-0.06	-0.25
Eurozone Exports	0.16	0.13
Markit Eurozone Comp PMI	0.32	0.04
Quant Styles:		
LowVol	0.52	0.41
Size	0.44	0.39
Momentum	0.48	0.32

Investment Thesis, Valuation and Risks

Munich Re (*Neutral; Price Target: €520.00*)

Investment Thesis

We view Munich Re as a reliable stock to own given its excellent track record. But with earnings trends now being reflected in estimates and the stock having re-rated in the last couple of years, we see limited near-term scope for further re-rating with the likely slowing down in the reinsurance market in 2025 and rate the stock Neutral.

- **Track record of reliability.** This conservatism and reliability has a value with the company producing dependable returns and has also translated this into the premier track record on dividend payments in the sector with share buybacks complementing the regular dividends in recent years.
- **Earnings estimates have increased materially since 2022.** Munich Re has seen a material increase in its level of earnings which have increased more than 50% between 2022 and 2025E. Looking ahead, we expect to see less earnings surprises at Munich Re given the rapid earnings upgrades that the company has seen and high expectations built into numbers, especially as the reinsurance market slows down.
- **Growth in capital returns expected but now built into expectations.** We assume that the SBB programme increases to €2bn but we think that this is as far as the company would be willing to push the level to in the near term and is well built into consensus.

Valuation

We value Munich Re by estimating its sustainable across-the-cycle comprehensive ROE of 10% and derive a valuation multiple on Comprehensive Equity. We adjust for dividends and share buybacks and apply a CoE of 8% and growth rate of 0%. This results in our Jun-26 PT of €520.

Munich Re – IFRS17-based valuation

€ million, unless stated otherwise

Business unit	Sustainable comprehensive profit €mn	Insurance service result €mn	Sustainable life margin on liabilities (%)	Sustainable P&C combined ratio (%)	Net financial result €mn	Investment margin (%)	Other profit €mn	CSM value added €mn	Sustainable life new business margin (%)
P&C Re	3,804	4,778	-	84.5%	2,334	3.50%	-3,308		
L&H Re	1,966	955	5.00%	-	802	4.20%	71	137	
ERGO P&C	442	484	-	90.0%	314	4.30%	-357		
ERGO L&H	-116	947	0.80%	-	2,130	1.80%	-2,835	-358	
ERGO Intl	348	581	2.70%	92.0%	474	2.20%	-730	23	
Pre-tax sustainable comprehensive profit FY26E	6,443	7,745	-	-	6,054	-	-7,159	-198	-
Tax	-1,611	Assume 25%							
Minorities and other	0								
Sustainable comprehensive profit FY26E	4,832								
Comprehensive equity FY25E	50,261								
Sustainable comprehensive ROE	9.6%								
COE	8.2%								
g	0%								
Valuation price to Comp BV	1.2x								
Valuation FY25E	58,605								
Dividends / buybacks outstanding	4,152								
Valuation roll-forward	2,819								
Valuation	65,575								
NOSH mn	127								
Value per share €	518.3								
Target price €	520.0								

Source: J.P. Morgan estimates.

Risks to Rating and Price Target

Upside risks include better-than-expected improvements in P&C Re margins and a special one-off capital return. Downside risks include elevated catastrophe losses, reserve deficiency due to rising inflation and lower capital returns than we forecast.

Munich Re: Summary of Financials

INCOME STATEMENT	FY23A	FY24E	FY25E	FY26E	BALANCE SHEET	FY23A	FY24E	FY25E	FY26E
Divisional profit									
Life operating profit	566	704	861	867	Cash & Cash Equivalents	5,595	6,524	6,524	6,524
Life reinsurance operating profit	1,686	2,406	2,357	2,379	Investments	200,715	210,289	218,258	225,079
P&C operating profit	397	417	593	596	Investment property	9,384	9,817	9,817	9,817
P&C reinsurance operating profit	3,052	4,238	4,539	4,558	Goodwill	3,184	3,304	3,304	3,304
Other pre-tax profit	(168)	(214)	(261)	(261)	Other intangibles	1,028	882	882	882
					Other assets	30,616	28,252	28,858	29,377
					Total Assets	273,793	281,298	290,372	298,140
Consolidated P&L									
Insurance revenue	57,884	61,618	63,900	66,280	Insurance liabilities	214,153	221,012	229,387	236,557
Insurance service result	7,045	8,194	8,341	8,719	o/w CSM	-	-	-	-
Insurance net financial result	507	1,098	1,878	1,531	o/w Risk adjustment	-	-	-	-
Interest expense	(168)	(214)	(261)	(261)	o/w PVCF	-	-	-	-
Other income and expenses	(1,850)	(1,527)	(1,870)	(1,850)	Investment contract liabilities	0	0	0	0
Total pre-tax profit	5,534	7,552	8,088	8,139	Senior debt	300	200	200	200
Income taxes	(936)	(1,843)	(2,041)	(2,055)	Subordinated debt	4,713	6,211	6,211	6,211
Minority interest	9	-	-	-	Other liabilities	22,178	18,487	18,211	16,924
Net income	4,597	5,709	6,047	6,084	Total Liabilities	244,021	248,310	256,409	262,292
Pre Tax Operational Income	5,534	7,552	8,088	8,139	Shareholders' equity	29,650	32,867	33,842	35,728
Adjusted Net income	4,597	5,709	6,047	6,084	Preferred equity / hybrid capital	0	0	0	0
Comprehensive profit	5,158	7,561	5,878	5,933	Minority Interests	122	120	120	120
Adj. EPS	33.88	42.79	46.95	48.98	Total Liabilities and Shareholder Equity	273,793	281,298	290,372	298,140
Comprehensive EPS	38.01	56.68	45.63	47.77	Comprehensive equity	44,766	49,335	50,141	51,875
DPS	15.00	16.05	17.01	18.03	Net CSM	19,200	20,576	20,407	20,256
Ratio Analysis									
Insurance margin	-	-	-	-	Ratio Analysis				
Adj. EPS y/y Growth	-	26.3%	9.7%	4.3%	BVPS	218.5	250.7	267.5	293.1
Comprehensive EPS y/y growth	-	49.1%	(19.5%)	4.7%	Comprehensive BVPS	330.78	370.20	397.29	426.50
DPS y/y Growth	29.3%	7.0%	6.0%	6.0%	ROE	16.2%	18.3%	18.1%	17.5%
Adj. P/E (x)	14.7	11.6	10.6	10.2	Comprehensive ROE	12.1%	16.1%	11.8%	11.6%
Comprehensive P/E (x)	13.1	8.8	10.9	10.4	P/BV	2.3	2.0	1.9	1.7
Dividend Yield	3.0%	3.2%	3.4%	3.6%	Comprehensive P/BV	1.5	1.3	1.3	1.2
P&C combined ratio	88.9%	88.6%	88.8%	88.8%	Debt leverage ratio	10.0%	11.5%	11.3%	11.0%
Reinsurance P&C combined ratio	85.2%	83.2%	83.0%	83.1%					
Life new business CSM	2,414	2,463	1,424	1,429					
Life new business CSM margin	-	-	-	-					
CSM release ratio	7.9%	7.6%	7.7%	7.7%					

Source: Company reports and J.P. Morgan estimates.
 Note: € in millions (except per-share data). Fiscal year ends Dec

Analyst Certification: The Research Analyst(s) denoted by an “AC” on the cover of this report certifies (or, where multiple Research Analysts are primarily responsible for this report, the Research Analyst denoted by an “AC” on the cover or within the document individually certifies, with respect to each security or issuer that the Research Analyst covers in this research) that: (1) all of the views expressed in this report accurately reflect the Research Analyst’s personal views about any and all of the subject securities or issuers; and (2) no part of any of the Research Analyst’s compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the Research Analyst(s) in this report. For all Korea-based Research Analysts listed on the front cover, if applicable, they also certify, as per KOFIA requirements, that the Research Analyst’s analysis was made in good faith and that the views reflect the Research Analyst’s own opinion, without undue influence or intervention.

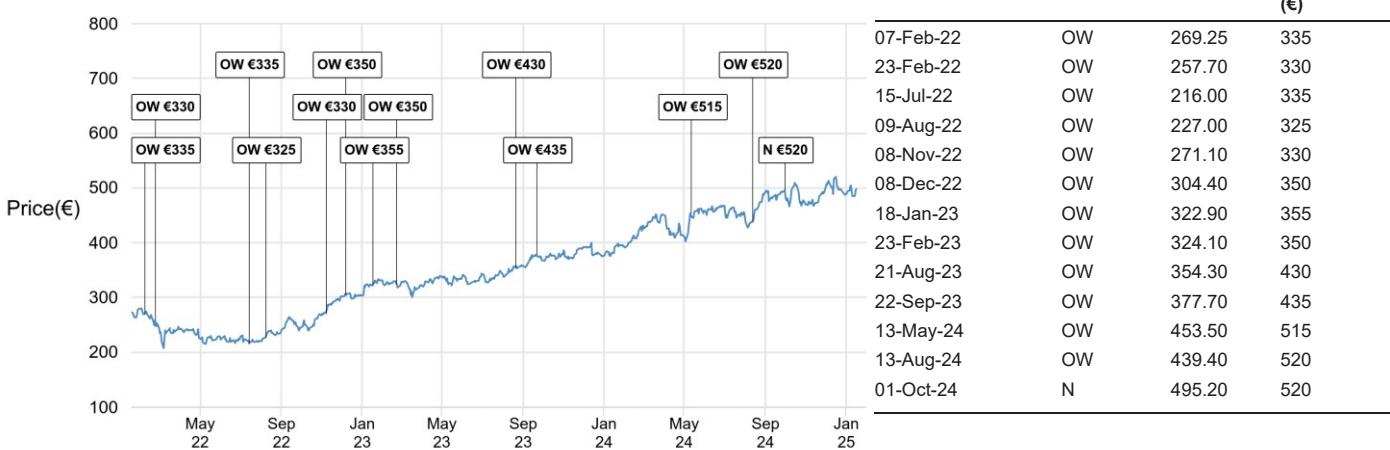
All authors named within this report are Research Analysts who produce independent research unless otherwise specified. In Europe, Sector Specialists (Sales and Trading) may be shown on this report as contacts but are not authors of the report or part of the Research Department.

Important Disclosures

- **Market Maker/ Liquidity Provider:** J.P. Morgan is a market maker and/or liquidity provider in the financial instruments of/related to Munich Re or related entities.
- **Manager or Co-manager:** J.P. Morgan acted as manager or co-manager in a public offering of securities or financial instruments (as such term is defined in Directive 2014/65/EU) of/for Munich Re or related entities within the past 12 months.
- **Client:** J.P. Morgan currently has, or had within the past 12 months, the following entity(ies) as clients: Munich Re or related entities.
- **Client/Investment Banking:** J.P. Morgan currently has, or had within the past 12 months, the following entity(ies) as investment banking clients: Munich Re or related entities.
- **Client/Non-Investment Banking, Securities-Related:** J.P. Morgan currently has, or had within the past 12 months, the following entity(ies) as clients, and the services provided were non-investment-banking, securities-related: Munich Re or related entities.
- **Client/Non-Securities-Related:** J.P. Morgan currently has, or had within the past 12 months, the following entity(ies) as clients, and the services provided were non-securities-related: Munich Re or related entities.
- **Investment Banking Compensation Received:** J.P. Morgan has received in the past 12 months compensation for investment banking services from Munich Re or related entities.
- **Potential Investment Banking Compensation:** J.P. Morgan expects to receive, or intends to seek, compensation for investment banking services in the next three months from Munich Re or related entities.
- **Non-Investment Banking Compensation Received:** J.P. Morgan has received compensation in the past 12 months for products or services other than investment banking from Munich Re or related entities.
- **Debt Position:** J.P. Morgan may hold a position in the debt securities of Munich Re or related entities, if any.

Company-Specific Disclosures: Important disclosures, including price charts and credit opinion history tables, are available for compendium reports and all J.P. Morgan-covered companies, and certain non-covered companies, by visiting <https://www.jpmm.com/research/disclosures>, calling 1-800-477-0406, or e-mailing research.disclosure.inquiries@jpmorgan.com with your request.

Munich Re (MUVGn.DE, MUV2 GR) Price Chart



Source: Bloomberg Finance L.P. and J.P. Morgan; price data adjusted for stock splits and dividends.
 Initiated coverage Apr 14, 2000. All share prices are as of market close on the previous business day.

The chart(s) show J.P. Morgan's continuing coverage of the stocks; the current analysts may or may not have covered it over the entire period. J.P. Morgan ratings or designations: OW = Overweight, N= Neutral, UW = Underweight, NR = Not Rated

Explanation of Equity Research Ratings, Designations and Analyst(s) Coverage Universe:

J.P. Morgan uses the following rating system: Overweight (over the duration of the price target indicated in this report, we expect this stock will outperform the average total return of the stocks in the Research Analyst's, or the Research Analyst's team's, coverage universe); Neutral (over the duration of the price target indicated in this report, we expect this stock will perform in line with the average total return of the stocks in the Research Analyst's, or the Research Analyst's team's, coverage universe); and Underweight (over the duration of the price target indicated in this report, we expect this stock will underperform the average total return of the stocks in the Research Analyst's, or the Research Analyst's team's, coverage universe). NR is Not Rated. In this case, J.P. Morgan has removed the rating and, if applicable, the price target, for this stock because of either a lack of a sufficient fundamental basis or for legal, regulatory or policy reasons. The previous rating and, if applicable, the price target, no longer should be relied upon. An NR designation is not a recommendation or a rating. In our Asia (ex-Australia and ex-India) and U.K. small- and mid-cap Equity Research, each stock's expected total return is compared to the expected total return of a benchmark country market index, not to those Research Analysts' coverage universe. If it does not appear in the Important Disclosures section of this report, the certifying Research Analyst's coverage universe can be found on J.P. Morgan's Research website, <https://www.jpmorganmarkets.com>.

Coverage Universe: Hossain, Kamran M: Admiral Group Plc (ADML.L), Allianz (ALVG.DE), Beazley (BEZG.L), Direct Line Insurance Group plc (DLGD.L), Hannover Re (HNRGn.DE), Hiscox (HSX.L), Lancashire (LRE.L), Munich Re (MUVGn.DE), SCOR (SCOR.PA), Sampo (SAMPO.HE), Swiss Re (SRENH.S), Zurich Insurance Group AG (ZURN.S)

J.P. Morgan Equity Research Ratings Distribution, as of January 01, 2025

	Overweight (buy)	Neutral (hold)	Underweight (sell)
J.P. Morgan Global Equity Research Coverage*	50%	37%	13%
IB clients**	50%	48%	37%
JPMS Equity Research Coverage*	47%	40%	13%
IB clients**	73%	68%	52%

*Please note that the percentages may not add to 100% because of rounding.

**Percentage of subject companies within each of the "buy," "hold" and "sell" categories for which J.P. Morgan has provided investment banking services within the previous 12 months.

For purposes of FINRA ratings distribution rules only, our Overweight rating falls into a buy rating category; our Neutral rating falls into a hold rating category; and our Underweight rating falls into a sell rating category. Please note that stocks with an NR designation are not included in the table above. This information is current as of the end of the most recent calendar quarter.

Equity Valuation and Risks: For valuation methodology and risks associated with covered companies or price targets for covered companies, please see the most recent company-specific research report at <http://www.jpmorganmarkets.com>, contact the primary analyst or your J.P. Morgan representative, or email research.disclosure.inquiries@jpmorgan.com. For material information about the proprietary models used, please see the Summary of Financials in company-specific research reports and the Company Tearsheets, which are available to download on the company pages of our client website, <http://www.jpmorganmarkets.com>. This report also sets out within it the material underlying assumptions used.

A history of J.P. Morgan investment recommendations disseminated during the preceding 12 months can be accessed on the Research & Commentary page of <http://www.jpmorganmarkets.com> where you can also search by analyst name, sector or financial instrument.

Analysts' Compensation: The research analysts responsible for the preparation of this report receive compensation based upon various factors, including the quality and accuracy of research, client feedback, competitive factors, and overall firm revenues.

Registration of non-US Analysts: Unless otherwise noted, the non-US analysts listed on the front of this report are employees of non-US affiliates of J.P. Morgan Securities LLC, may not be registered as research analysts under FINRA rules, may not be associated persons of J.P. Morgan Securities LLC, and may not be subject to FINRA Rule 2241 or 2242 restrictions on communications with covered companies, public appearances, and trading securities held by a research analyst account.

Other Disclosures

J.P. Morgan is a marketing name for investment banking businesses of JPMorgan Chase & Co. and its subsidiaries and affiliates worldwide.

UK MIFID FICC research unbundling exemption: UK clients should refer to [UK MIFID Research Unbundling exemption](#) for details of J.P. Morgan's implementation of the FICC research exemption and guidance on relevant FICC research categorisation.

All research material made available to clients are simultaneously available on our client website, J.P. Morgan Markets, unless specifically permitted by relevant laws. Not all research content is redistributed, e-mailed or made available to third-party aggregators. For all research material available on a particular stock, please contact your sales representative.

Any long form nomenclature for references to China; Hong Kong; Taiwan; and Macau within this research material are Mainland China; Hong Kong SAR (China); Taiwan (China); and Macau SAR (China).

J.P. Morgan Research may, from time to time, write on issuers or securities targeted by economic or financial sanctions imposed or administered by the governmental authorities of the U.S., EU, UK or other relevant jurisdictions (Sanctioned Securities). Nothing in this report is intended to be read or construed as encouraging, facilitating, promoting or otherwise approving investment or dealing in such Sanctioned Securities. Clients should be aware of their own legal and compliance obligations when making investment decisions.

Any digital or crypto assets discussed in this research report are subject to a rapidly changing regulatory landscape. For relevant regulatory advisories on crypto assets, including bitcoin and ether, please see <https://www.jpmorgan.com/disclosures/cryptoasset-disclosure>.

The author(s) of this research report may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so.

Exchange-Traded Funds (ETFs): J.P. Morgan Securities LLC (“JPMS”) acts as authorized participant for substantially all U.S.-listed ETFs. To the extent that any ETFs are mentioned in this report, JPMS may earn commissions and transaction-based compensation in connection with the distribution of those ETF shares and may earn fees for performing other trade-related services, such as securities lending to short sellers of the ETF shares. JPMS may also perform services for the ETFs themselves, including acting as a broker or dealer to the ETFs. In addition, affiliates of JPMS may perform services for the ETFs, including trust, custodial, administration, lending, index calculation and/or maintenance and other services.

Options and Futures related research: If the information contained herein regards options- or futures-related research, such information is available only to persons who have received the proper options or futures risk disclosure documents. Please contact your J.P. Morgan Representative or visit <https://www.theocc.com/components/docs/riskstoc.pdf> for a copy of the Option Clearing Corporation's Characteristics and Risks of Standardized Options or http://www.finra.org/sites/default/files/Security_Futures_Risk_Disclosure_Statement_2018.pdf for a copy of the Security Futures Risk Disclosure Statement.

Changes to Interbank Offered Rates (IBORs) and other benchmark rates: Certain interest rate benchmarks are, or may in the future become, subject to ongoing international, national and other regulatory guidance, reform and proposals for reform. For more information, please consult: https://www.jpmorgan.com/global/disclosures/interbank_offered_rates

Private Bank Clients: Where you are receiving research as a client of the private banking businesses offered by JPMorgan Chase & Co. and its subsidiaries (“J.P. Morgan Private Bank”), research is provided to you by J.P. Morgan Private Bank and not by any other division of J.P. Morgan, including, but not limited to, the J.P. Morgan Corporate and Investment Bank and its Global Research division.

Legal entity responsible for the production and distribution of research: The legal entity identified below the name of the Reg AC Research Analyst who authored this material is the legal entity responsible for the production of this research. Where multiple Reg AC Research Analysts authored this material with different legal entities identified below their names, these legal entities are jointly responsible for the production of this research. Research Analysts from various J.P. Morgan affiliates may have contributed to the production of this material but may not be licensed to carry out regulated activities in your jurisdiction (and do not hold themselves out as being able to do so). Unless otherwise stated below, this material has been distributed by the legal entity responsible for production. If you have any queries, please contact the relevant Research Analyst in your jurisdiction or the entity in your jurisdiction that has distributed this research material.

Legal Entities Disclosures and Country-/Region-Specific Disclosures:

Argentina: JPMorgan Chase Bank N.A Sucursal Buenos Aires is regulated by Banco Central de la República Argentina (“BCRA”- Central Bank of Argentina) and Comisión Nacional de Valores (“CNV”- Argentinian Securities Commission - ALYC y AN Integral N°51). **Australia:** J.P. Morgan Securities Australia Limited (“JPMSAL”) (ABN 61 003 245 234/AFS Licence No: 238066) is regulated by the Australian Securities and Investments Commission and is a Market Participant of ASX Limited, a Clearing and Settlement Participant of ASX Clear Pty Limited and a Clearing Participant of ASX Clear (Futures) Pty Limited. This material is issued and distributed in Australia by or on behalf of JPMSAL only to "wholesale clients" (as defined in section 761G of the Corporations Act 2001). A list of all financial products covered can be found by visiting <https://www.jpmm.com/research/disclosures>. J.P. Morgan seeks to cover companies of relevance to the domestic and international investor base across all Global Industry Classification Standard (GICS) sectors, as well as across a range of market capitalisation sizes. If applicable, in the course of conducting public side due diligence on the subject company(ies), the Research Analyst team may at times perform such diligence through corporate engagements such as site visits, discussions with company representatives, management presentations, etc. Research issued by JPMSAL has been prepared in accordance with J.P. Morgan Australia’s Research Independence Policy which can be found at the following link: [J.P. Morgan Australia - Research Independence Policy](#). **Brazil:** Banco J.P. Morgan S.A. is regulated by the Comissão de Valores Mobiliários (CVM) and by the Central Bank of Brazil. Ombudsman J.P. Morgan: 0800-7700847 / 0800-7700810 (For Hearing Impaired) / ouvidoria.jp.morgan@jpmorgan.com. **Canada:** J.P. Morgan Securities Canada Inc. is a registered investment dealer, regulated by the Canadian Investment Regulatory Organization and the Ontario Securities Commission and is the participating member on Canadian exchanges. This material is distributed in Canada by or on behalf of J.P.Morgan Securities Canada Inc. **Chile:** Inversiones J.P. Morgan Limitada is an unregulated entity incorporated in Chile. **China:** J.P. Morgan Securities (China) Company Limited has been approved by CSRC to conduct the securities investment consultancy business. **Dubai International Financial Centre (DIFC):** JPMorgan Chase Bank, N.A., Dubai Branch is regulated by the Dubai Financial Services Authority (DFSA) and its registered address is Dubai International Financial Centre - The Gate, West Wing, Level 3 and 9 PO Box 506551, Dubai, UAE. This material has been distributed by JP Morgan Chase Bank, N.A., Dubai Branch to persons regarded as professional clients or market counterparties as defined under the DFSA rules. **European Economic Area (EEA):** Unless specified to the contrary, research is distributed in the EEA by J.P. Morgan SE (“JPM SE”), which is authorised as a credit

institution by the Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB). JPM SE is a company headquartered in Frankfurt with registered address at TaunusTurm, Taunustor 1, Frankfurt am Main, 60310, Germany. The material has been distributed in the EEA to persons regarded as professional investors (or equivalent) pursuant to Art. 4 para. 1 no. 10 and Annex II of MiFID II and its respective implementation in their home jurisdictions ("EEA professional investors"). This material must not be acted on or relied on by persons who are not EEA professional investors. Any investment or investment activity to which this material relates is only available to EEA relevant persons and will be engaged in only with EEA relevant persons. **Hong Kong:** J.P. Morgan Securities (Asia Pacific) Limited (CE number AAJ321) is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission in Hong Kong, and J.P. Morgan Broking (Hong Kong) Limited (CE number AAB027) is regulated by the Securities and Futures Commission in Hong Kong. JP Morgan Chase Bank, N.A., Hong Kong Branch (CE Number AAL996) is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission, is organized under the laws of the United States with limited liability. Where the distribution of this material is a regulated activity in Hong Kong, the material is distributed in Hong Kong by or through J.P. Morgan Securities (Asia Pacific) Limited and/or J.P. Morgan Broking (Hong Kong) Limited. **India:** J.P. Morgan India Private Limited (Corporate Identity Number - U67120MH1992FTC068724), having its registered office at J.P. Morgan Tower, Off. C.S.T. Road, Kalina, Santacruz - East, Mumbai – 400098, is registered with the Securities and Exchange Board of India (SEBI) as a 'Research Analyst' having registration number INH000001873. J.P. Morgan India Private Limited is also registered with SEBI as a member of the National Stock Exchange of India Limited and the Bombay Stock Exchange Limited (SEBI Registration Number – INZ000239730) and as a Merchant Banker (SEBI Registration Number - MB/INM000002970). Telephone: 91-22-6157 3000, Facsimile: 91-22-6157 3990 and Website: <http://www.jpmipl.com>. JPMorgan Chase Bank, N.A. - Mumbai Branch is licensed by the Reserve Bank of India (RBI) (Licence No. 53/ Licence No. BY.4/94; SEBI - IN/CUS/014/ CDSL : IN-DP-CDSL-444-2008/ IN-DP-NSDL-285-2008/ INBI00000984/ INE231311239) as a Scheduled Commercial Bank in India, which is its primary license allowing it to carry on Banking business in India and other activities, which a Bank branch in India are permitted to undertake. For non-local research material, this material is not distributed in India by J.P. Morgan India Private Limited. Compliance Officer: Spurthi Gadamsetty; spurthi.gadamsetty@jpmchase.com; +912261573225. Grievance Officer: Ramprasadh K, jpmipl.research.feedback@jpmorgan.com; +912261573000. Registration granted by SEBI and certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors. **Indonesia:** PT J.P. Morgan Sekuritas Indonesia is a member of the Indonesia Stock Exchange and is registered and supervised by the Otoritas Jasa Keuangan (OJK). **Korea:** J.P. Morgan Securities (Far East) Limited, Seoul Branch, is a member of the Korea Exchange (KRX). JPMorgan Chase Bank, N.A., Seoul Branch, is licensed as a branch office of foreign bank (JPMorgan Chase Bank, N.A.) in Korea. Both entities are regulated by the Financial Services Commission (FSC) and the Financial Supervisory Service (FSS). For non-macro research material, the material is distributed in Korea by or through J.P. Morgan Securities (Far East) Limited, Seoul Branch. **Japan:** JPMorgan Securities Japan Co., Ltd. and JPMorgan Chase Bank, N.A., Tokyo Branch are regulated by the Financial Services Agency in Japan. **Malaysia:** This material is issued and distributed in Malaysia by JPMorgan Securities (Malaysia) Sdn Bhd (18146-X), which is a Participating Organization of Bursa Malaysia Berhad and holds a Capital Markets Services License issued by the Securities Commission in Malaysia. **Mexico:** J.P. Morgan Casa de Bolsa, S.A. de C.V. and J.P. Morgan Grupo Financiero are members of the Mexican Stock Exchange and are authorized to act as a broker dealer by the National Banking and Securities Exchange Commission. **New Zealand:** This material is issued and distributed by JPMSAL in New Zealand only to "wholesale clients" (as defined in the Financial Markets Conduct Act 2013). JPMSAL is registered as a Financial Service Provider under the Financial Service providers (Registration and Dispute Resolution) Act of 2008. **Philippines:** J.P. Morgan Securities Philippines Inc. is a Trading Participant of the Philippine Stock Exchange and a member of the Securities Clearing Corporation of the Philippines and the Securities Investor Protection Fund. It is regulated by the Securities and Exchange Commission. **Singapore:** This material is issued and distributed in Singapore by or through J.P. Morgan Securities Singapore Private Limited (JPMS) [MDDI (P) 068/08/2024 and Co. Reg. No.: 199405335R], which is a member of the Singapore Exchange Securities Trading Limited, and/or JPMorgan Chase Bank, N.A., Singapore branch (JPMCB Singapore), both of which are regulated by the Monetary Authority of Singapore. This material is issued and distributed in Singapore only to accredited investors, expert investors and institutional investors, as defined in Section 4A of the Securities and Futures Act, Cap. 289 (SFA). This material is not intended to be issued or distributed to any retail investors or any other investors that do not fall into the classes of "accredited investors," "expert investors" or "institutional investors," as defined under Section 4A of the SFA. Recipients of this material in Singapore are to contact JPMS or JPMCB Singapore in respect of any matters arising from, or in connection with, the material. **South Africa:** J.P. Morgan Equities South Africa Proprietary Limited and JPMorgan Chase Bank, N.A., Johannesburg Branch are members of the Johannesburg Securities Exchange and are regulated by the Financial Services Conduct Authority (FSCA). **Taiwan:** J.P. Morgan Securities (Taiwan) Limited is a participant of the Taiwan Stock Exchange (company-type) and regulated by the Taiwan Securities and Futures Bureau. Material relating to equity securities is issued and distributed in Taiwan by J.P. Morgan Securities (Taiwan) Limited, subject to the license scope and the applicable laws and the regulations in Taiwan. According to Paragraph 2, Article 7-1 of Operational Regulations Governing Securities Firms Recommending Trades in Securities to Customers (as amended or supplemented) and/or other applicable laws or regulations, please note that the recipient of this material is not permitted to engage in any activities in connection with the material that may give rise to conflicts of interests, unless otherwise disclosed in the "Important Disclosures" in this material. **Thailand:** This material is issued and distributed in Thailand by JPMorgan Securities (Thailand) Ltd., which is a member of the Stock Exchange of Thailand and is regulated by the Ministry of Finance and the Securities and Exchange Commission, and its registered address is 3rd Floor, 20 North Sathorn Road, Silom, Bangkok, Bangkok 10500. **UK:** Unless specified to the contrary, research is distributed in the UK by J.P. Morgan Securities plc ("JPMS plc") which is a member of the London Stock Exchange and is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. JPMS plc is registered in England & Wales No. 2711006, Registered Office 25 Bank Street, London, E14 5JP. This material is directed in the UK only to: (a) persons having professional experience in matters relating to investments falling within article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) (Order) 2005 ("the FPO"); (b) persons outlined in article 49 of the FPO (high net worth companies, unincorporated associations or partnerships, the trustees of high value trusts, etc.); or (c) any persons to whom this communication may otherwise lawfully be made; all such persons being referred to as "UK relevant persons". This material must not be

acted on or relied on by persons who are not UK relevant persons. Any investment or investment activity to which this material relates is only available to UK relevant persons and will be engaged in only with UK relevant persons. Research issued by JPMS plc has been prepared in accordance with JPMS plc's policy for prevention and avoidance of conflicts of interest related to the production of Research which can be found at the following link: [J.P. Morgan EMEA - Research Independence Policy](#). U.S.: J.P. Morgan Securities LLC ("JPMS") is a member of the NYSE, FINRA, SIPC, and the NFA. JPMorgan Chase Bank, N.A. is a member of the FDIC. Material published by non-U.S. affiliates is distributed in the U.S. by JPMS who accepts responsibility for its content.

General: Additional information is available upon request. The information in this material has been obtained from sources believed to be reliable. While all reasonable care has been taken to ensure that the facts stated in this material are accurate and that the forecasts, opinions and expectations contained herein are fair and reasonable, JPMorgan Chase & Co. or its affiliates and/or subsidiaries (collectively J.P. Morgan) make no representations or warranties whatsoever to the completeness or accuracy of the material provided, except with respect to any disclosures relative to J.P. Morgan and the Research Analyst's involvement with the issuer that is the subject of the material. Accordingly, no reliance should be placed on the accuracy, fairness or completeness of the information contained in this material. There may be certain discrepancies with data and/or limited content in this material as a result of calculations, adjustments, translations to different languages, and/or local regulatory restrictions, as applicable. These discrepancies should not impact the overall investment analysis, views and/or recommendations of the subject company(ies) that may be discussed in the material. J.P. Morgan accepts no liability whatsoever for any loss arising from any use of this material or its contents, and neither J.P. Morgan nor any of its respective directors, officers or employees, shall be in any way responsible for the contents hereof, apart from the liabilities and responsibilities that may be imposed on them by the relevant regulatory authority in the jurisdiction in question, or the regulatory regime thereunder. Opinions, forecasts or projections contained in this material represent J.P. Morgan's current opinions or judgment as of the date of the material only and are therefore subject to change without notice. Periodic updates may be provided on companies/industries based on company-specific developments or announcements, market conditions or any other publicly available information. There can be no assurance that future results or events will be consistent with any such opinions, forecasts or projections, which represent only one possible outcome. Furthermore, such opinions, forecasts or projections are subject to certain risks, uncertainties and assumptions that have not been verified, and future actual results or events could differ materially. The value of, or income from, any investments referred to in this material may fluctuate and/or be affected by changes in exchange rates. All pricing is indicative as of the close of market for the securities discussed, unless otherwise stated. Past performance is not indicative of future results. Accordingly, investors may receive back less than originally invested. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. The opinions and recommendations herein do not take into account individual client circumstances, objectives, or needs and are not intended as recommendations of particular securities, financial instruments or strategies to particular clients. This material may include views on structured securities, options, futures and other derivatives. These are complex instruments, may involve a high degree of risk and may be appropriate investments only for sophisticated investors who are capable of understanding and assuming the risks involved. The recipients of this material must make their own independent decisions regarding any securities or financial instruments mentioned herein and should seek advice from such independent financial, legal, tax or other adviser as they deem necessary. J.P. Morgan may trade as a principal on the basis of the Research Analysts' views and research, and it may also engage in transactions for its own account or for its clients' accounts in a manner inconsistent with the views taken in this material, and J.P. Morgan is under no obligation to ensure that such other communication is brought to the attention of any recipient of this material. Others within J.P. Morgan, including Strategists, Sales staff and other Research Analysts, may take views that are inconsistent with those taken in this material. Employees of J.P. Morgan not involved in the preparation of this material may have investments in the securities (or derivatives of such securities) mentioned in this material and may trade them in ways different from those discussed in this material. This material is not an advertisement for or marketing of any issuer, its products or services, or its securities in any jurisdiction.

Confidentiality and Security Notice: This transmission may contain information that is privileged, confidential, legally privileged, and/or exempt from disclosure under applicable law. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution, or use of the information contained herein (including any reliance thereon) is STRICTLY PROHIBITED. Although this transmission and any attachments are believed to be free of any virus or other defect that might affect any computer system into which it is received and opened, it is the responsibility of the recipient to ensure that it is virus free and no responsibility is accepted by JPMorgan Chase & Co., its subsidiaries and affiliates, as applicable, for any loss or damage arising in any way from its use. If you received this transmission in error, please immediately contact the sender and destroy the material in its entirety, whether in electronic or hard copy format. This message is subject to electronic monitoring: <https://www.jpmorgan.com/disclosures/email>

MSCI: Certain information herein ("Information") is reproduced by permission of MSCI Inc., its affiliates and information providers ("MSCI") ©2025. No reproduction or dissemination of the Information is permitted without an appropriate license. MSCI MAKES NO EXPRESS OR IMPLIED WARRANTIES (INCLUDING MERCHANTABILITY OR FITNESS) AS TO THE INFORMATION AND DISCLAIMS ALL LIABILITY TO THE EXTENT PERMITTED BY LAW. No Information constitutes investment advice, except for any applicable Information from MSCI ESG Research. Subject also to msci.com/disclaimer

Sustainalytics: Certain information, data, analyses and opinions contained herein are reproduced by permission of Sustainalytics and: (1) includes the proprietary information of Sustainalytics; (2) may not be copied or redistributed except as specifically authorized; (3) do not constitute investment advice nor an endorsement of any product or project; (4) are provided solely for informational purposes; and (5) are not warranted to be complete, accurate or timely. Sustainalytics is not responsible for any trading decisions, damages or other losses related to it or its use. The use of the data is subject to conditions available at <https://www.sustainalytics.com/legal-disclaimers>. ©2025 Sustainalytics. All Rights Reserved.

"Other Disclosures" last revised January 01, 2025.

Copyright 2025 JPMorgan Chase & Co. All rights reserved. This material or any portion hereof may not be reprinted, sold or redistributed without the written consent of J.P. Morgan. It is strictly prohibited to use or share without prior written consent from J.P. Morgan any research material received from J.P. Morgan or an authorized third-party (“J.P. Morgan Data”) in any third-party artificial intelligence (“AI”) systems or models when such J.P. Morgan Data is accessible by a third-party. It is permissible to use J.P. Morgan Data for internal business purposes only in an AI system or model that protects the confidentiality of J.P. Morgan Data so as to prevent any and all access to or use of such J.P. Morgan Data by any third-party.

Completed 17 Jan 2025 03:24 PM GMT

Disseminated 17 Jan 2025 03:24 PM GMT