

Equity Strategy

Should SPW and SX5E, which stalled since March, break out higher?

- While the S&P500 was powered again this year by Mag-7, the equal weighted index - SPW, is up a more modest 6%, having peaked in March. Likewise, SX5E has also peaked in March - top chart. Indeed, the historical **spread between the performance of S&P500 and SPW is extreme**. Given this, it is probable that the divergence peaks, but that could happen through winners stalling, and not through laggards rallying. Post the benign CPI print last week, SPW is bouncing again, but we fear the conditions for a sustained rally are not there, and look for the consolidation beneath the surface to continue through the summer.
- The peaks in SPW and in SX5E coincided with the worsening in Growth - Policy tradeoff** - middle chart. Since March, Fed futures started to point to higher for longer rates, but at the same time the activity dataflow started to inflect lower, relative to the optimistic expectations. The more challenging macro tradeoff could stay with us.
- Consumer spending and labour markets are softening, while at the same time the PMI rebound that was in force earlier in the year stalled. On the other side, and in contrast to the start of the year, when the Fed was seen to be cutting quickly, frequently, and for the right reasons, such as falling inflation, the Fed could indeed commence the cuts from Sept, but not only due to falling inflation - softer labour markets could come into the mix. In a sense, the **Fed has moved from pre-emptive cuts to reactive ones**, and could fall behind the curve.
- The slowing growth is likely to impact earnings delivery in 2H**. The expectations are rather punchy, at 13-15% yoy EPS growth rate in Q3 and Q4. This could be challenged by softer corporate pricing and slowing topline, on top of weakening activity, in particular from the consumer.
- In terms of positioning, we **have been bullish on Growth over Value style**, the same as we had through 2023, and we are not changing it just yet, even as the risk is that Growth style struggles from here, given extreme concentration. For the leadership to broaden, we think one needs to see a genuine reflationary push, with accelerating growth and with rising bond yields for the right reasons - bottom chart, but we appear to be having the opposite. **Our view remains that bond yields will be lower, which favours Defensive positioning - we are in particular bullish on Utilities and Real Estate** - see our April [report](#). Within this, while small caps remain a poor performer in most places this year, the same as they were in 2023, we have last [month](#) argued to **get more constructive on selected small caps, such as in the UK**, and also in Eurozone. We note that FTSE250 is now starting to move ahead of FTSE100, after 2.5 years of significant weakness. A similar pattern could be seen in Eurozone.
- Regionally, we keep the view that it is too early to OW Eurozone vs the US - [report](#), but given the meaningful lag, **a good opportunity might present itself in 2H to buy Eurozone**. For this to have traction, Growth style needs to stop leading, French politics needs to demonstrate stability over next months, and USD and tariffs should not become the headwinds.

Equity Strategy

Mislav Matejka, CFA^{AC}

(44-20) 7134-9741

mislav.matejka@jpmorgan.com

J.P. Morgan Securities plc

Prabhav Bhadani, CFA

(44-20) 7742-4404

prabhav.bhadani@jpmorgan.com

J.P. Morgan Securities plc

Nitya Saldanha, CFA

(44 20) 7742 9986

nitya.saldanha@jpmchase.com

J.P. Morgan Securities plc

Karishma Manpuria, CFA

(91-22) 6157-4115

karishma.manpuria@jpmchase.com

J.P. Morgan India Private Limited

While SPX is at fresh highs, powered by a few stocks, both the equal weighted US equity index - SPW, as well as SX5E, have stalled since March...



...this consolidation beneath the surface is likely to continue through the summer, in our view, on softer growth, but at the same time on higher for longer Fed



For Value to work, one needs rising bond yields for the right reasons, but we fear bond yields will move further lower



Source: Datastream, Bloomberg Finance L.P.

See page 23 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.

Table Of Contents

When will the stalling in SPW and in SX5E, in force since March, change?.....	3
Equity Strategy Key Calls and Drivers	11
Top Picks	13
Equity Flows Snapshot.....	14
Technical Indicators.....	15
Performance	16
Earnings	17
Valuations.....	18
Economic, Interest Rate and Exchange Rate Outlook	20
Sector, Regional and Asset Class Allocations.....	21

When will the stalling in SPW and in SX5E, in force since March, change?

Figure 1: S&P500 and SPW - equal weighted SPX index



The big 17% year to date gain for S&P500 masks the less punchy performance of the average stock within the index. The equal weighted S&P500 index is up 6% year to date, having peaked in March. In the past few days SPW is showing signs of life, on the benign inflation print, but the question is whether the rally can sustain.

Market concentration is extreme, which calls for a reversal...

Figure 2: Market capitalization weight of top 5 stocks in MSCI US



It is the case that the US market has been getting more and more narrow for a while now. The bulk of the move higher in US equities has been driven by a handful of megacap stocks. The top 5 stocks by market cap in the US index represent almost a quarter of the total market capitalization of the index.

Figure 3: Ratio of S&P500 to Equal weighted S&P500 index - 10Y run up to 2000 Tech bubble peak and current



Looking at the ratio of S&P500 to the equal weighted index - SPW over the past 10 years, and compared to the 10 years run-up to the 2000 bubble bursting, we are at similar extremes currently.

Figure 4: Market capitalization weight of top 5 stocks in MSCI Europe



European equities have also seen an increase in concentration, though not to the same extent as seen in the US.

...the reversal might not happen in a good way, with laggards rebounding... this is because the Growth - Policy trade-off has deteriorated again since Q1...

Figure 5: CESIs in key regions



Source: Bloomberg Finance L.P.

The extreme concentration suggests the leaders might stall, but in order for the laggards to rally, we think one needs to see a genuine reflation in the background, which is underpinned by strengthening growth. We are seeing the opposite right now, after accelerating early in the year, economic surprise indices have moved into negative territory across key regions in the past months.

Figure 6: US CESI and Fed policy rate expectations



Source: Bloomberg Finance L.P.

The March peaks in both SPW and in SX5E coincided with the weakening activity, but at the same time with Fed cuts being pushed out.

Figure 7: US ISM Manufacturing and Eurozone Manufacturing PMI



Source: Bloomberg Finance L.P.

We think this stalling could have legs. The PMI rebound that was seen at the turn of the year in manufacturing and in Europe appears to have stopped.

Figure 8: US jobless claims and recessions



Source: Bloomberg Finance L.P.

Labour market was rock solid until now, but there are some indications of softening. Claims have been steadily climbing higher.

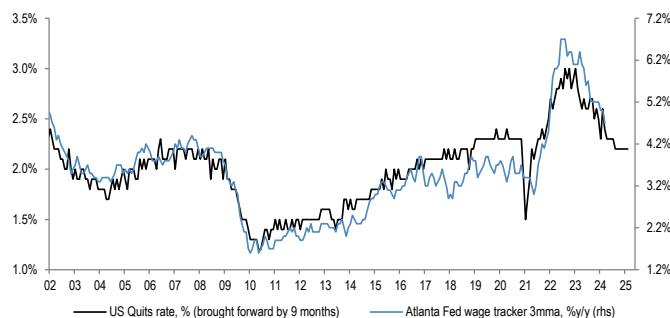
Figure 9: US unemployment rate and recessions



Source: Bloomberg Finance L.P.

The unemployment rate has made a turn.

Figure 10: US Quits rate vs Atlanta Fed wage tracker



Source: Bloomberg Finance L.P.

Weaker wage growth ahead is likely, which could be a headwind for the consumer spend.

Figure 11: US Savings rate



Source: Bloomberg Finance L.P.

US savings rate is below trend.

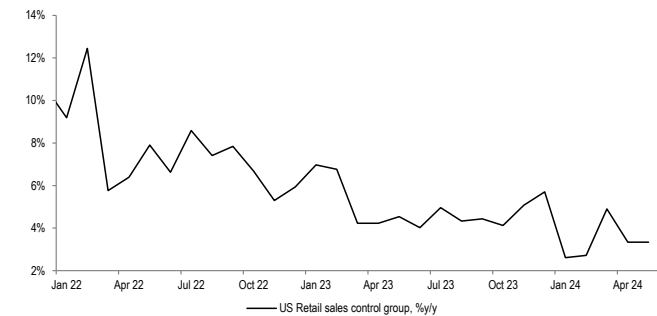
Figure 12: University of Michigan Consumer Sentiment index



Source: Bloomberg Finance L.P.

Consumer sentiment has been weakening as well.

Figure 13: US Retail sales control group



Source: Bloomberg Finance L.P.

Retail sales have been softening for a while now, and the number of recent corporate profit warnings in consumer space suggests this could continue.

Figure 14: Real Fed Policy rate minus Holston Laubach Williams Natural Rate of interest



Source: Bloomberg Finance L.P., Holston Laubach Williams Natural Rate is the real short-term interest rate expected to prevail when an economy is at full strength and inflation is stable

Even if Fed starts cutting in November, as JPM expects, we expect interest rates will remain well above the neutral rate, i.e. monetary policy could remain restrictive for the foreseeable future.

...earnings hurdle rate for 2H is too high if activity continues to slow

Figure 15: S&P500 quarterly EPS, with projections for the rest of the year



Source: Thomson Reuters

S&P500 earnings are projected to increase sequentially every quarter this year. Q4 EPS is forecast to be 15% above Q1.

Table 1: S&P500 historical quarterly earnings: Q4 vs Q1 move

	1Q	2Q	3Q	4Q	4Q vs 1Q
2010	19.7	21.5	21.8	22.6	14%
2011	23.5	24.1	25.7	24.6	4%
2012	25.6	25.8	26.0	26.3	3%
2013	26.7	27.4	27.6	28.6	7%
2014	28.2	30.1	30.0	30.5	8%
2015	28.6	30.1	30.0	29.5	3%
2016	27.0	29.6	31.2	31.3	16%
2017	30.9	32.6	33.5	36.0	17%
2018	38.1	41.0	42.7	41.2	8%
2019	39.2	41.3	42.1	42.0	7%
2020	33.1	28.0	38.7	42.6	29%
2021	49.1	52.6	53.7	54.0	10%
2022	54.8	57.6	56.0	53.2	-3%
2023	53.1	54.3	58.4	57.2	8%
2024e	56.6	59.2	63.3	65.2	15%
Average					10%
Median					8%

Source: Thomson Reuters

This is well above the 8% median growth seen historically for Q4 EPS compared to Q1.

Figure 16: US Real GDP growth forecasts - JPM



Source: J.P. Morgan

This is also at odds with the projected slowdown in growth momentum in the US in 2H of this year. We believe corporate profitability is likely to come under pressure as topline growth weakens and margins soften on account of weaker pricing.

We reiterate our preference for Growth over Value, for now...

Figure 17: US and European Growth vs Value ytd



Source: Datastream

We have been OW Growth vs Value again this year, the same as through 2023, and, despite the extreme concentration risk, expect the trade to keep working, for now.

Figure 18: MSCI Europe Value vs Growth and US 10Y bond yields



Source: Datastream

The performance of Value factor is very much dependent on the direction of bond yields, Value needs rising bond yields for the right reasons to work. We believe bond yields are likely to keep moving lower as the Fed starts easing and / or growth continues to moderate.

...and for Defensives over Cyclical

Figure 19: Stoxx 600 Real Estate price relative and German bond yield



Source: Bloomberg Finance L.P.

We have in early [April](#) argued to add to bond proxies, Utilities and Real Estate, on a likely move lower in bond yields.

Figure 20: MSCI Europe sectors' performance last 3 months



Source: Datastream

In the last 3 months there has been some turn in performance, with those two sectors picking up in the rankings. We think this will continue.

Figure 21: MSCI US sectors' performance last 3 months



Source: Datastream

The same is visible in the US.

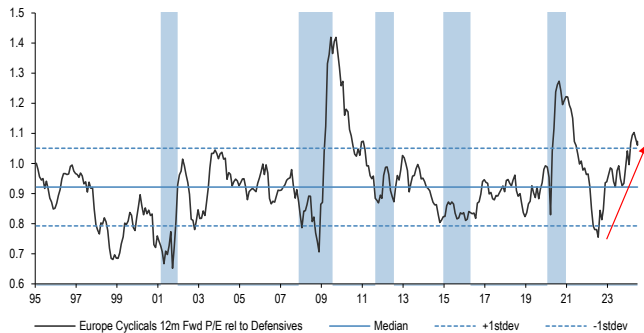
Figure 22: MSCI World Defensives relative and US 10Y bond yields



Source: Datastream

More broadly, if the last 3-4 years of a move higher in bond yields turns, then traditional Defensive sectors are likely to see an improvement, as well.

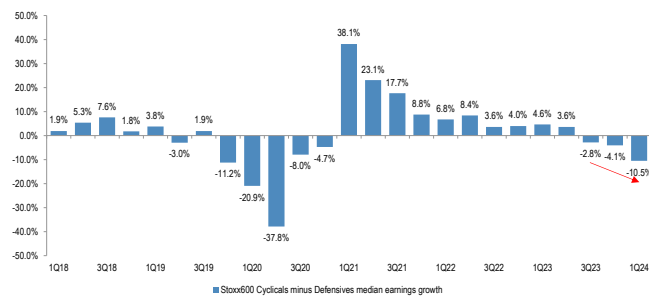
Figure 23: Cyclical vs Defensives 12m Fwd. P/E relative



Source: Datastream

Some of the Defensive sectors have derated significantly, and offer an attractive entry point, in our view.

Figure 24: Stoxx 600 Cyclical minus Defensives median earnings growth, %/y



Source: J.P. Morgan

We also note that Cyclical sectors' relative earnings momentum is starting to deteriorate versus Defensives.

Selected Small Cap stocks could trade better versus Large caps in 2H

Table 2: Small caps vs large caps – YTD performance

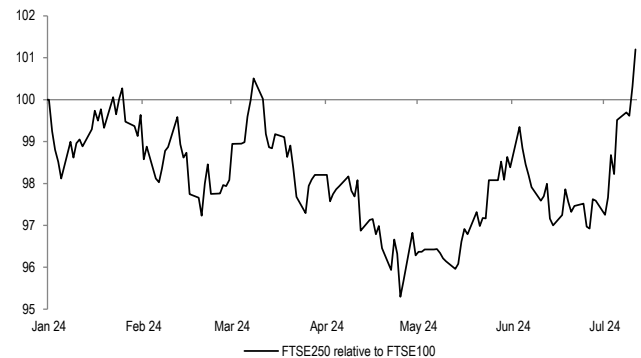
YTD performance		
MSCI US	Small Caps	1.1%
	Large Caps	17.6%
MSCI Eurozone	Small Caps	1.7%
	Large Caps	7.9%
MSCI UK	Small Caps	5.3%
	Large Caps	5.7%
MSCI Japan	Small Caps	12.6%
	Large Caps	25.3%

Source: Datastream

Small caps had another poor start to the year, on the back of underperformance in the past 2 years. They are back to the

lows in the US, and we are not changing our UW there. Having said that, we have last month closed our long-standing UW on European and UK small caps, given the big underperformance, cheap valuations, improving domestic activity momentum and the start of the easing cycle in Europe.

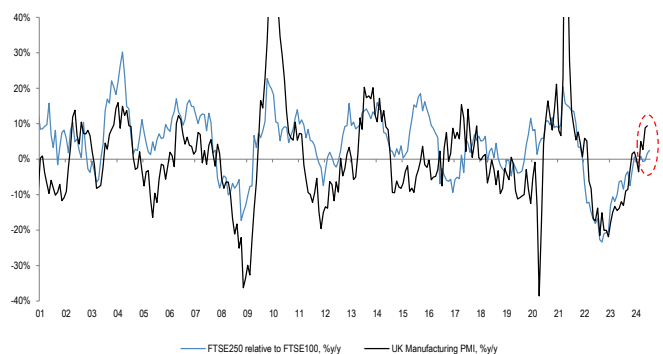
Figure 25: FTSE250 relative to FTSE100 ytd



Source: Datastream

UK small caps in particular have responded positively to the recent political changes.

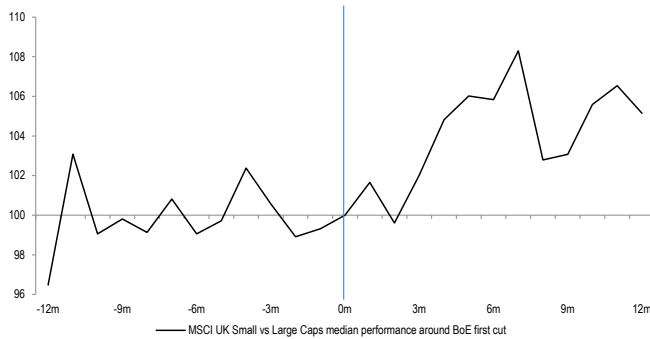
Figure 26: FTSE250 relative to FTSE100 and UK Manufacturing PMI



Source: Datastream, J.P. Morgan

They are also more sensitive to the domestic economic outlook and should trade better as PMIs stabilize.

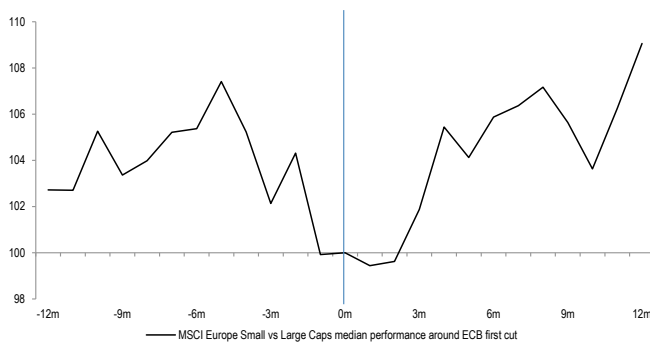
Figure 27: MSCI UK Small vs large cap performance around BoE first cut



Source: Datastream

The start of the rate cut cycle has historically coincided with better performance of small caps over large caps.

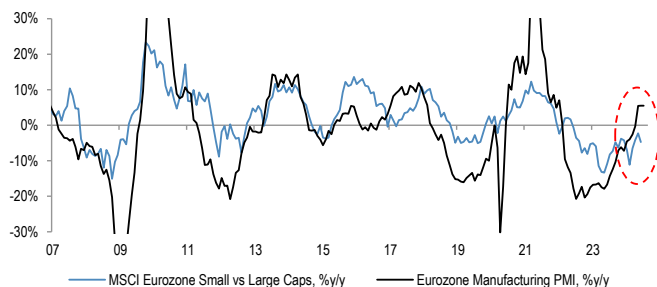
Figure 28: MSCI Europe Small vs large cap performance around ECB first cut



Source: Datastream

Similarly, European small caps also outperform post the start of the rate cut cycle.

Figure 29: MSCI Eurozone Small vs Large Caps and Manufacturing PMI



Source: Datastream, J.P. Morgan

PMIs also suggest that small caps in Eurozone could be supported.

Regionally, we still believe it is too early to go OW Eurozone vs the US...

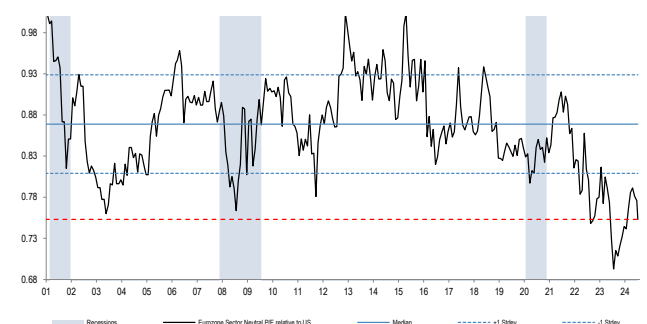
Figure 30: MSCI Eurozone relative performance to MSCI US (\$)



Source: Datastream

In Q1, we closed our UW Eurozone vs the US call that we had held since May '23. Key considerations at the time included cheaper valuations, stabilizing China economy and start of the ECB easing cycle ahead of any Fed move.

Figure 31: Eurozone sector neutral P/E relative to US



Source: Datastream

Despite the recent weakness following the French election triggered volatility, we do not think one needs to go outright long Eurozone versus the US just yet. We acknowledge that valuations do look attractive; however, we believe there could be a better entry point for the trade in the coming months.

Figure 32: MSCI US vs Eurozone and World Growth vs Value



Source: Datastream

Eurozone equities typically struggle during periods of Value underperformance. We need a reversal in styles for Eurozone to work, and also in the near-term a market friendly outcome from the French political deadlock would be needed. Finally, dollar strength and worsening US-China trade relations could be headwinds. We look to buy Eurozone at some point in 2H, but think that there might be a better opportunity later on.

Equity Strategy Key Calls and Drivers

SPW, an equal-weighted S&P500 index, has stalled since March, and is behind SPX so far this year by more than 10%. We think this is reflecting a changing Growth-Policy narrative vs early 2024. Entering this year, investor expectations were for a Goldilocks outcome – growth acceleration and at the same time quick Fed easing, starting already in March. The early Fed cuts and the consequent improving credit impulse didn't materialize, which should weigh on growth in 2H. US activity momentum is slowing, with CESI outright negative at present, putting EPS growth projections of as much as 15% acceleration between Q1 and Q4 of this year at risk. Instead of easing preemptively for market-friendly reasons, such as falling inflation, as was the view at the start of the year, the Fed could end up easing, but reactively, in a response to weakening growth. At the same time, there is no safety net any more, the market is positioned long, Vix is at lows, potentially underpricing risks and credit spreads are extremely tight – this is as good as it gets. Adding to the picture strengthening USD and elevated political uncertainty currently, we arrive at a problematic setup for the equity market during summer. In terms of positioning, we have entered this year again OW Growth vs Value style and Large vs Small caps, and we are keeping these for 2H in the US, not expecting much broadening. The recent relative dip due to French political uncertainty is likely to become a buying opportunity as we move through 2H, but we think the risk of further drawdowns is not finished, as the potential new French government will likely try to test the limits of what they can do. Cyclical were the best performing sectors in Q1, but struggled to outperform in Q2. We reiterate our barbell of OW Defensives and Commodities.

Table 3: J.P. Morgan Equity Strategy — Factors driving our medium-term views

Driver	Impact	Our Core Working Assumptions	Recent Developments
Global Growth	Neutral	At risk of weakening as consumer strength wanes	Global composite PMI is at 52.9
European Growth	Positive	reset last year, manufacturing improving, consumer can pick up	
Monetary Policy	Neutral	Fed pivot could be accompanied by activity weakness	
Currency	Neutral	USD could strengthen again	
Earnings	Negative	Corporate pricing power is likely to weaken from here	2024 EPS projections are continuing their downtrend
Valuations	Negative	At 21x, US forward P/E is still stretched, especially vs real yield	MSCI Europe on 13.7x Fwd P/E
Technicals	Negative	Sentiment and positioning are stretched post the rally since November	RSIs are in overbought territory

Source: J.P. Morgan estimates

Table 4: : Base Case and Risk

Scenario	Assumption
Upside scenario	No further hawkish tilt by the Fed. No landing
Base-case scenario	Inflation to fall further, risk of downturn still elevated. Earnings downside from here
Downside scenario	Further Fed tightening and global recession to become a base case again

Source: J.P. Morgan estimates.

Table 5: Index targets

	Dec '24 Target	11-Jul-24	% upside
MSCI Eurozone	256	295	-13%
FTSE 100	7,700	8,223	-6%
MSCI EUROPE	1,850	2,082	-11%
DJ EURO STOXX 50	4,250	4,976	-15%
DJ STOXX 600 E	460	520	-11%

Source: J.P. Morgan.

Table 6: Key Global sector calls

Overweight	Neutral	Underweight
Healthcare	Technology	Capital Goods ex A&D
Telecoms	Mining	Food& Drug Retail
Food, Beverage & Tobacco	Transportation	Autos
Real Estate		Banks
Utilities		Discretionary
Energy		
Aerospace & Defence		

Source: J.P. Morgan

Table 7: J.P. Morgan Equity Strategy — Key sector calls*

Sector	Recommendations	Key Drivers
Utilities	Overweight	Sector is low beta, has strong cash flow generation, resilient earnings, and power prices are higher than pre-Ukraine but P/E relative is near record cheap
Healthcare	Overweight	Potential for lower yields and stronger dollar are supports, better earnings
Staples	Overweight	Sector is one of the best performers around the last Fed hike in the cycle, lower bond yields and better relative EPS momentum should help
Banks	Underweight	3 years of strong performance, NII likely peaking, central banks moving to cuts, underprovisioning
Autos	Underweight	Pricing and volume could come under pressure with rising inventories, increasing China competition and weaker demand
Chemicals	Underweight	The sector trades at 70% premium to the market, well above historical norm. pricing continues to deteriorate, downside risks to current earnings and margin projections

Source: J.P. Morgan estimates. * Please see the last page for the full list of our calls and sector allocation.

Table 8: J.P. Morgan Equity Strategy — Key regional calls

Region	Recommendations	J.P. Morgan Views
EM	Neutral	China tactical positive call since Q1, but structural concerns remain
DM	Neutral	
US	Neutral	Expensive with earnings risk. but our ytd Growth style OW helps
Japan	Overweight	Large rate differential, TSE reforms, consumer reflation, but JPY needs to show stability
Eurozone	Neutral	Eurozone growth differential bottoming, cheap
UK	Overweight	Valuations still look very attractive, low beta with the highest regional dividend yield

Source: J.P. Morgan estimates.

Top Picks

Table 9: J.P. Morgan European Strategy: Top European picks

Name	Ticker	Sector	Rating	Price	Currency	Market Cap (€ Bn)	EPS Growth			Dividend Yield	12m Fwd P/E			Performance	
							23e	24e	25e	24e	Current	10Y Median	% Premium	-3m	-12m
ENI	ENI IM	Energy	OW	14	E	46.6	-35%	-15%	1%	6.5%	6.7	12.5	-46%	-7%	7%
TOTALENERGIES	TTE FP	Energy	OW	63	E	149.9	-33%	-1%	2%	4.9%	7.3	10.6	-31%	-7%	21%
SHELL	SHEL LN	Energy	OW	34	E	211.0	-23%	0%	2%	3.5%	8.7	11.1	-22%	0%	22%
CRH PUBLIC LIMITED	CRH LN	Materials	OW	80	US\$	49.5	-14%	25%	9%	1.7%	14.1	14.9	-5%	-5%	47%
RIO TINTO	RIO LN	Materials	OW	5250	£	105.8	-11%	4%	-1%	6.4%	9.1	10.3	-11%	0%	6%
NORSK HYDRO	NHY NO	Materials	OW	67	NK	11.6	-60%	27%	40%	3.7%	10.4	12.6	-18%	-1%	5%
ANGLO AMERICAN	AAL LN	Materials	OW	2394	£	34.8	-51%	-14%	19%	3.1%	13.7	9.5	44%	13%	7%
SCHNEIDER ELECTRIC	SU FP	Industrials	OW	230	E	132.0	2%	15%	12%	1.5%	25.9	16.5	57%	10%	43%
ASHTREAD GROUP	AHT LN	Industrials	OW	5170	£	26.9	26%	-	-	1.5%	16.3	14.1	16%	-10%	-1%
RYANAIR HOLDINGS	RYA ID	Industrials	OW	17	E	19.6	-	-	-	0.0%	8.6	12.7	-33%	-17%	3%
AIRBUS	AIR FP	Industrials	OW	132	E	104.5	10%	-13%	34%	1.4%	20.3	18.5	10%	-19%	0%
MTU AERO ENGINES HLDG.	MTX GR	Industrials	OW	246	E	13.3	24%	12%	14%	0.8%	18.6	18.1	3%	16%	8%
STELLANTIS	STLAM IM	Discretionary	OW	19	E	56.4	12%	-17%	5%	8.3%	3.7	4.7	-21%	-26%	14%
BMW	BMW GR	Discretionary	OW	91	E	57.8	-35%	-7%	-1%	6.6%	5.6	7.6	-27%	-18%	-
INDITEX	ITX SM	Discretionary	OW	46	E	144.9	27%	-	-	2.6%	23.2	24.0	-3%	7%	35%
ADIDAS	ADS GR	Discretionary	OW	225	E	40.6	-154%	-	121%	0.3%	44.7	24.8	80%	13%	31%
RICHEMONT N	CFR SW	Discretionary	OW	141	SF	85.8	78%	-	-	1.7%	20.1	20.8	-3%	7%	-4%
COMPASS GROUP	CPG LN	Discretionary	OW	2171	£	43.9	50%	14%	10%	1.9%	21.7	20.9	4%	0%	5%
COLRUYT GROUP	COLR BB	Staples	OW	45	E	5.8	-27%	-	-	1.8%	15.1	17.6	-14%	13%	28%
ANHEUSER-BUSCH INBEV	ABI BB	Staples	OW	56	E	113.5	-5%	9%	13%	1.3%	17.2	19.4	-11%	1%	10%
NOVO NORDISK 'B'	NOVOB DC	Health Care	OW	967	DK	578.9	52%	26%	25%	1.0%	36.6	22.8	61%	11%	87%
ASTRAZENECA	AZN LN	Health Care	OW	12100	£	222.8	9%	13%	14%	1.9%	17.8	17.7	1%	10%	20%
SMITH & NEPHEW	SN/ LN	Health Care	OW	1091	£	11.3	1%	12%	18%	2.7%	13.8	18.4	-25%	11%	-7%
UBS GROUP	UBSG SW	Financials	OW	28	SF	98.6	-99%	4327%	65%	2.3%	17.6	10.4	70%	5%	56%
NATWEST GROUP	NWVG LN	Financials	OW	327	£	32.3	38%	-20%	9%	5.2%	7.5	10.0	-26%	20%	39%
ING GROEP	INGA NA	Financials	OW	17	E	55.1	106%	-9%	8%	6.6%	8.4	9.0	-7%	8%	32%
INTESA SANPAOLO	ISP IM	Financials	OW	4	E	65.7	79%	19%	4%	8.2%	7.5	10.0	-25%	9%	51%
LONDON STOCK EXCHANGE GROUP	LSEG LN	Financials	OW	9370	£	59.1	2%	10%	13%	1.2%	24.8	23.0	8%	1%	17%
AMUNDI (WI)	AMUN FP	Financials	OW	67	E	13.6	4%	8%	7%	6.2%	10.0	12.6	-21%	4%	22%
DASSAULT SYSTEMES	DSY FP	IT	N	34	E	45.5	6%	8%	9%	0.8%	25.2	31.7	-21%	-15%	-14%
ASML HOLDING	ASML NA	IT	OW	989	E	395.2	41%	-4%	60%	0.6%	40.1	27.3	47%	9%	56%
ASM INTERNATIONAL	ASM NA	IT	OW	728	E	36.0	-8%	19%	35%	0.4%	44.4	16.7	167%	25%	96%
DEUTSCHE TELEKOM	DTE GR	Telecoms	OW	24	E	118.4	-13%	14%	12%	3.2%	12.3	14.0	-12%	12%	22%
BT GROUP	BT/A LN	Telecoms	OW	141	£	16.6	9%	-	-	5.5%	7.8	8.6	-9%	33%	15%
RELX	REL LN	Industrials	OW	3543	£	78.6	12%	7%	9%	1.7%	27.7	19.5	42%	7%	45%
HELLOFRESH	HFG GR	Staples	N	6	E	1.0	-49%	-69%	166%	0.0%	16.3	18.4	-11%	-8%	-75%
RWE	RWE GR	Utilities	OW	34	E	25.3	30%	-55%	-26%	2.9%	14.2	13.0	9%	8%	-13%
ENEL	ENEL IM	Utilities	OW	7	E	69.0	15%	10%	0%	6.3%	10.1	11.9	-15%	19%	11%
SEURO	SGRO LN	Real Estate	OW	946	£	15.2	6%	6%	8%	2.9%	26.4	25.3	5%	10%	32%

Source: Datastream, MSCI, IBES, J.P. Morgan, Prices and Valuations as of COB 11th Jul, 2024. Past performance is not indicative of future returns.

Please see the most recent company-specific research published by J.P. Morgan for an analysis of valuation methodology and risks on companies recommended in this report. Research is available at <http://www.jpmorganmarkets.com>

Equity Flows Snapshot

Table 10: DM Equity Fund Flows Summary

	Regional equity fund flows					Regional equity fund flows				
	\$mn					% AUM				
	1w	1m	3m	ytd	12m	1w	1m	3m	ytd	12m
Europe ex UK	-531	-1,998	347	-818	-7,172	-0.2%	-0.6%	0.1%	-0.2%	-2.3%
UK	-834	-2,771	-8,727	-15,499	-28,451	-0.3%	-1.0%	-3.2%	-5.6%	-10.4%
US	5,078	32,112	81,090	146,369	272,523	0.0%	0.3%	0.8%	1.5%	3.1%
Japan	-2,105	-4,384	-4,342	7,864	13,959	-0.3%	-0.5%	-0.5%	1.0%	1.9%

Source: EPFR, as of 10th Jul, 2024

Figure 33: DM Equity Fund flows – last month



Source: EPFR, Japan includes BoJ purchases.

Figure 35: Cumulative fund flows into regional funds as a percentage of AUM



Source: EPFR, as of 10th Jul, 2024. Japan includes Non-ETF purchases only.

Figure 34: DM Equity Fund flows – last 12 months



Source: EPFR, Japan includes BoJ purchases.

Figure 36: Cumulative fund flows into regional equity ETFs as a percentage of AUM



Source: Bloomberg Finance L.P. *Based on the 25 biggest ETF's with a mandate to invest in that particular region. Japan includes BoJ purchases.

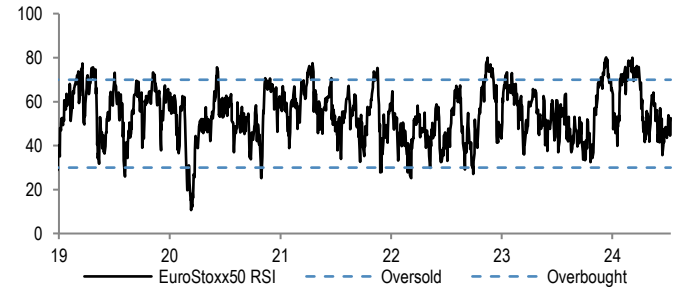
Technical Indicators

Figure 37: S&P500 RSI



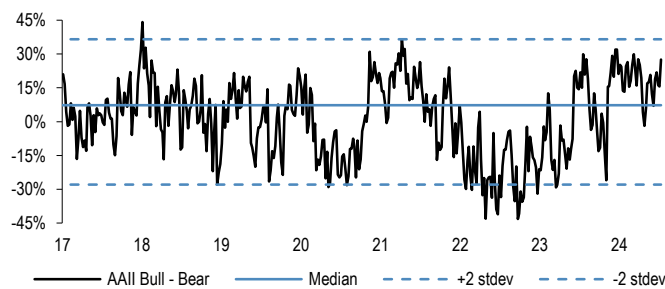
Source: Bloomberg Finance L.P.

Figure 38: EuroStoxx50 RSI



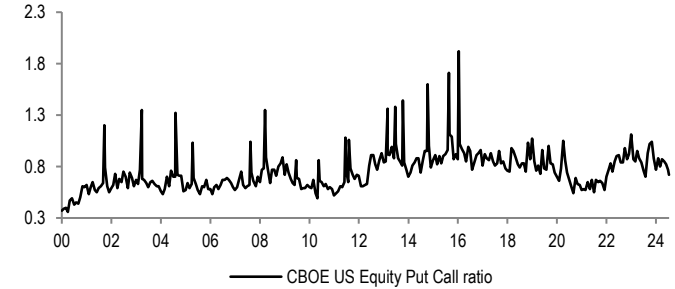
Source: Bloomberg Finance L.P.

Figure 39: AAll Bull-Bear



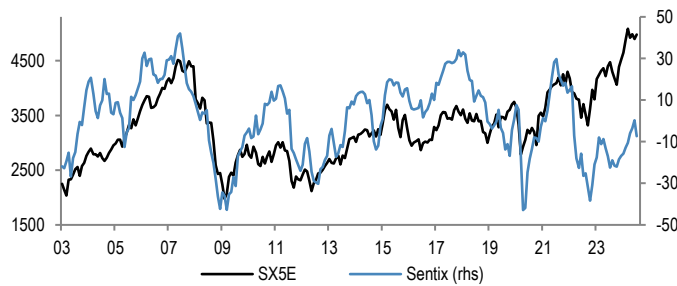
Source: Bloomberg Finance L.P.

Figure 40: Put-call ratio



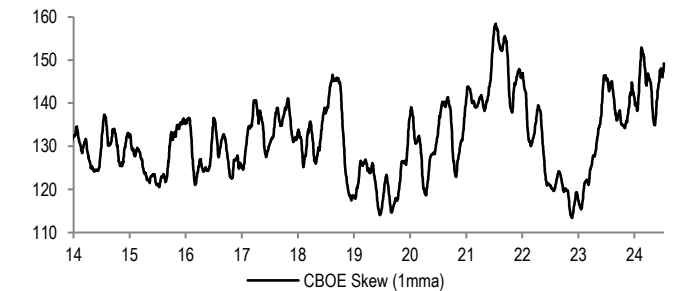
Source: Bloomberg Finance L.P.

Figure 41: Sentix Sentiment Index vs SX5E



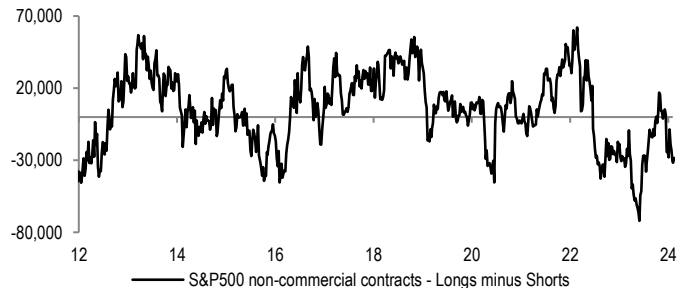
Source: Bloomberg Finance L.P.

Figure 42: Equity Skew



Source: Bloomberg Finance L.P.

Figure 43: Speculative positions in S&P500 futures contracts



Source: Bloomberg Finance L.P.

Figure 44: VIX



Source: Bloomberg Finance L.P.

Performance

Table 11: Sector Index Performances — MSCI Europe

(%change)		Local currency		
Industry Group		4week	12m	YTD
Europe		0.7	14.4	8.6
Energy		1.1	11.7	1.4
Materials		0.8	12.5	2.9
	Chemicals	0.6	9.1	1.1
	Construction Materials	1.7	44.9	21.3
	Metals & Mining	1.6	7.1	(0.0)
Industrials		(0.3)	21.6	10.6
	Capital Goods	(0.4)	25.2	12.3
	Transport	3.2	(8.2)	(4.9)
	Business Svs	(1.0)	22.3	10.1
Consumer Discretionary		(1.3)	(1.8)	3.5
	Automobile	(0.7)	0.1	1.2
	Consumer Durables	(2.4)	(7.6)	2.6
	Media	(1.5)	24.9	8.9
	Retailing	(0.9)	16.7	14.5
	Hotels, Restaurants & Leisure	0.2	(1.8)	1.1
Consumer Staples		(1.7)	(4.9)	(1.6)
	Food & Drug Retailing	2.5	(3.2)	(1.6)
	Food Beverage & Tobacco	(1.2)	(8.3)	(2.7)
	Household Products	(3.7)	2.3	0.8
Healthcare		0.6	19.7	15.0
Financials		2.7	23.5	12.0
	Banks	3.5	26.2	16.6
	Diversified Financials	1.2	22.3	5.8
	Insurance	2.7	20.3	9.9
Real Estate		1.2	18.4	0.3
Information Technology		1.8	36.8	25.4
	Software and Services	3.2	33.7	17.3
	Technology Hardware	1.0	10.7	7.8
	Semicon & Semicon Equip	1.3	44.0	33.7
Telecommunications Services		2.0	13.1	6.9
Utilities		3.2	2.7	(1.8)

Source: MSCI, Datastream, as at COB 11th Jul, 2024.

Table 12: Country and Region Index Performances

(%change)		Local Currency			US\$		
Country	Index	4week	12m	YTD	4week	12m	YTD
Austria	ATX	2.3	18.5	7.3	3.3	17.3	5.7
Belgium	BEL 20	4.1	14.0	8.7	5.2	12.8	7.0
Denmark	KFX	(0.9)	44.7	24.3	0.1	43.0	22.3
Finland	HEX 20	(1.7)	0.7	(1.4)	(0.7)	(0.4)	(2.9)
France	CAC 40	(1.0)	5.6	1.1	(0.1)	4.6	(0.4)
Germany	DAX	1.5	17.4	10.6	2.5	16.2	9.0
Greece	ASE General	0.5	9.8	11.8	1.5	8.7	10.1
Ireland	ISEQ	2.3	12.1	11.6	3.4	10.9	9.9
Italy	FTSE MIB	2.1	22.3	13.1	3.1	21.1	11.4
Japan	Topix	7.2	31.0	23.8	6.1	16.2	10.0
Netherlands	AEX	1.2	23.8	19.0	2.3	22.6	17.2
Norway	OBX	0.5	13.1	6.3	(0.1)	9.8	0.9
Portugal	BVL GEN	2.5	0.8	(4.3)	3.5	(0.3)	(5.8)
Spain	IBEX 35	0.9	19.7	10.6	2.0	18.5	8.9
Sweden	OMX	(0.5)	14.5	7.4	(0.6)	16.8	3.4
Switzerland	SMI	1.3	11.8	10.0	1.4	10.3	3.6
United States	S&P 500	2.8	25.8	17.1	2.8	25.8	17.1
United States	NASDAQ	3.5	32.9	21.8	3.5	32.9	21.8
United Kingdom	FTSE 100	0.7	12.9	6.3	2.0	13.2	7.8
EMU	MSCI EMU	0.8	13.6	8.4	1.8	12.4	6.7
Europe	MSCI Europe	0.7	14.4	8.6	1.6	13.7	6.8
Global	MSCI AC World	2.7	23.2	15.1	2.9	22.1	13.8

Source: MSCI, Datastream, as at COB 11th Jul, 2024.

Earnings

Table 13: IBES Consensus EPS Sector Forecasts — MSCI Europe

	EPS Growth (%yoy)			
	2023	2024E	2025E	2026E
Europe	(3.8)	4.2	10.2	9.2
Energy	(31.6)	(3.8)	2.2	3.0
Materials	(39.0)	7.4	14.7	8.3
Chemicals	(39.0)	23.0	19.0	12.9
Construction Materials	12.2	14.3	9.5	8.7
Metals & Mining	(46.8)	(4.5)	11.1	3.8
Industrials	(0.5)	9.1	13.0	12.1
Capital Goods	20.4	12.2	14.7	12.0
Transport	(55.8)	(11.4)	(0.8)	15.5
Business Svs	3.2	7.7	11.5	10.4
Discretionary	4.9	1.4	11.1	10.5
Automobile	1.9	(6.6)	6.5	7.0
Consumer Durables	(6.0)	1.6	14.9	13.1
Media	1.8	6.1	9.3	7.9
Retailing	40.2	23.9	14.9	12.5
Hotels, Restaurants & Leisure	63.0	40.1	22.4	19.0
Staples	2.3	2.1	8.7	7.6
Food & Drug Retailing	3.7	2.3	10.1	9.4
Food Beverage & Tobacco	1.9	0.5	8.8	7.7
Household Products	2.9	6.5	7.9	6.9
Healthcare	1.1	6.4	14.5	11.1
Financials	15.8	8.0	7.7	8.9
Banks	28.8	3.6	4.4	6.7
Diversified Financials	(19.9)	18.2	22.1	20.1
Insurance	11.4	14.5	8.1	7.3
Real Estate	5.6	2.6	4.1	4.3
IT	14.4	(10.2)	33.8	16.2
Software and Services	18.5	(5.8)	24.0	16.8
Technology Hardware	(19.1)	8.9	7.5	11.2
Semicon & Semicon Equip	27.9	(18.5)	51.1	17.2
Telecoms	(8.6)	9.5	11.0	11.0
Utilities	1.8	(0.0)	0.4	4.1

Source: IBES, MSCI, Datastream. As at COB 11th Jul, 2024.

Table 14: IBES Consensus EPS Country Forecasts

		EPS growth (%change)			
Country	Index	2023	2024E	2025E	2026E
Austria	ATX	(23.6)	6.3	4.1	5.5
Belgium	BEL 20	16.4	(6.6)	15.4	11.9
Denmark	Denmark KFX	(14.7)	32.0	17.7	17.2
Finland	MSCI Finland	(25.2)	0.6	13.7	8.9
France	CAC 40	(2.3)	0.6	9.5	8.1
Germany	DAX	0.2	0.6	12.6	11.0
Greece	MSCI Greece	15.1	(8.9)	5.0	10.3
Ireland	MSCI Ireland	33.8	0.4	3.0	6.4
Italy	MSCI Italy	8.9	0.1	3.5	5.2
Netherlands	AEX	(1.9)	2.1	12.7	9.0
Norway	MSCI Norway	(41.2)	5.5	4.9	1.5
Portugal	MSCI Portugal	16.9	16.9	0.5	8.2
Spain	IBEX 35	8.2	4.9	4.1	6.1
Sweden	OMX	31.9	1.5	8.6	7.1
Switzerland	SMI	(4.5)	11.6	12.6	10.4
United Kingdom	FTSE 100	(10.5)	0.9	8.6	7.8
EMU	MSCI EMU	3.0	3.5	10.6	9.3
Europe ex UK	MSCI Europe ex UK	(0.0)	5.3	10.8	9.6
Europe	MSCI Europe	(3.8)	4.2	10.2	9.2
United States	S&P 500	2.5	10.5	14.7	12.3
Japan	Topix	18.0	8.2	10.2	8.4
Emerging Market	MSCI EM	(6.5)	21.6	15.9	11.0
Global	MSCI AC World	0.2	9.9	13.5	11.1

Source: IBES, MSCI, Datastream. As at COB 11th Jul, 2024** Japan refers to the period from March in the year stated to March in the following year – EPS post-goodwill

Valuations

Table 15: IBES Consensus European Sector Valuations

	P/E			Dividend Yield			EV/EBITDA			Price to Book		
	2024e	2025e	2026e	2024e	2025e	2026e	2024e	2025e	2026e	2024e	2025e	2026e
Europe	14.3	12.9	11.9	3.4%	3.6%	3.8%	8.2	7.7	7.1	1.9	1.8	1.7
Energy	7.7	7.5	7.3	5.5%	5.4%	5.7%	3.4	3.4	3.3	1.2	1.1	1.0
Materials	15.9	13.9	12.8	3.2%	3.5%	3.7%	7.7	6.8	6.5	1.7	1.6	1.5
Chemicals	23.7	19.9	17.6	2.7%	2.9%	3.0%	11.8	10.6	9.7	2.3	2.2	2.1
Construction Materials	12.9	11.8	10.8	3.5%	3.8%	4.1%	6.9	6.3	5.8	1.4	1.3	1.2
Metals & Mining	11.1	10.0	9.6	3.8%	4.3%	4.6%	5.2	4.4	4.4	1.3	1.2	1.1
Industrials	19.7	17.5	15.6	2.4%	2.6%	2.8%	10.4	9.4	8.6	3.3	3.1	2.8
Capital Goods	19.7	17.2	15.3	2.3%	2.5%	2.8%	11.1	9.6	8.8	3.4	3.2	2.9
Transport	15.7	15.8	13.7	3.2%	3.3%	3.4%	6.6	6.8	6.3	1.8	1.7	1.6
Business Svs	23.2	20.8	18.9	2.3%	2.5%	2.7%	13.1	12.3	11.2	6.5	6.0	5.4
Discretionary	12.9	11.6	10.5	2.9%	3.2%	3.5%	5.1	5.0	4.6	1.8	1.7	1.5
Automobile	5.8	5.5	5.1	5.6%	5.9%	6.4%	1.8	1.7	1.7	0.7	0.6	0.6
Consumer Durables	22.9	19.9	17.6	1.9%	2.2%	2.4%	13.8	12.5	11.2	3.8	3.5	3.1
Media & Entertainment	17.2	15.7	14.5	2.4%	2.6%	2.8%	12.2	9.8	9.2	2.0	2.1	1.9
Retailing	16.0	14.0	12.4	2.4%	2.6%	2.8%	7.1	10.1	7.6	3.5	3.0	2.7
Hotels, Restaurants & Leisure	23.1	18.9	15.9	2.1%	2.6%	3.0%	12.2	10.4	9.4	4.4	4.0	3.6
Staples	16.8	15.5	14.4	3.2%	3.4%	3.6%	10.7	10.0	9.2	2.8	2.6	2.5
Food & Drug Retailing	11.3	10.3	9.4	4.4%	4.7%	5.0%	5.7	5.6	5.2	1.6	1.5	1.4
Food Beverage & Tobacco	16.4	15.1	14.1	3.5%	3.8%	4.0%	10.5	9.8	9.0	2.5	2.4	2.2
Household Products	20.1	18.6	17.4	2.4%	2.6%	2.8%	13.9	12.9	11.9	4.2	3.9	3.6
Healthcare	18.9	16.5	14.9	2.3%	2.5%	2.8%	12.9	11.7	10.2	3.7	3.4	3.0
Financials	9.1	8.5	7.8	5.5%	5.7%	6.1%	-	-	-	1.1	1.0	1.0
Banks	7.2	6.9	6.5	7.1%	7.1%	7.5%	-	-	-	0.8	0.8	0.7
Diversified Financials	14.8	12.1	10.1	2.4%	2.7%	3.0%	-	-	-	1.4	1.5	1.5
Insurance	10.7	9.9	9.2	5.6%	6.0%	6.4%	-	-	-	1.7	1.6	1.5
Real Estate	14.6	14.0	13.4	4.2%	4.4%	4.6%	-	-	-	0.9	0.8	0.8
IT	34.2	25.5	22.0	1.1%	1.2%	1.4%	20.2	15.7	13.7	5.5	4.9	4.3
Software and Services	32.7	26.4	22.6	1.3%	1.4%	1.5%	19.1	16.1	13.9	4.5	4.1	3.7
Technology Hardware	16.8	15.6	14.0	2.3%	2.5%	2.8%	9.4	8.9	7.6	2.0	1.9	1.8
Semicon & Semicon Equip	42.3	28.0	23.9	0.7%	0.9%	1.0%	26.4	17.8	15.6	9.6	8.1	6.8
Communication Services	14.8	13.3	12.0	4.3%	4.3%	4.6%	6.6	6.2	5.7	1.5	1.4	1.4
Utilities	12.2	12.2	11.7	5.1%	5.1%	5.4%	8.0	8.1	8.0	1.5	1.5	1.4

Source: IBES, MSCI, Datastream. As at COB 11th Jul, 2024.

Table 16: IBES Consensus P/E and 12-Month Forward Dividend Yields — Country Forecasts

Country	Index	P/E				Dividend Yield
		12mth Fwd	2024E	2025E	2026E	12mth Fwd
Austria	ATX	8.2	8.3	8.0	7.6	5.8%
Denmark	Denmark KFX	26.2	29.0	24.6	21.0	1.5%
Finland	MSCI Finland	14.5	15.7	13.8	12.7	4.4%
France	CAC 40	12.4	13.1	12.0	11.1	3.5%
Germany	DAX	11.8	12.8	11.3	10.2	3.4%
Greece	MSCI Greece	29.5	30.3	28.9	26.2	1.9%
Ireland	MSCI Ireland	11.0	11.2	10.9	10.3	3.7%
Italy	MSCI Italy	9.1	9.3	9.0	8.5	5.6%
Netherlands	AEX	15.9	17.0	15.1	13.8	2.4%
Norway	MSCI Norway	10.2	10.5	10.0	9.9	6.4%
Portugal	MSCI Portugal	14.9	15.0	14.9	13.8	3.9%
Spain	IBEX 35	10.6	10.9	10.4	9.8	4.8%
Sweden	OMX	14.6	15.3	14.1	13.3	3.8%
Switzerland	SMI	16.9	18.1	16.1	14.6	3.2%
United Kingdom	FTSE 100	11.3	11.8	10.9	10.1	4.0%
EMU	MSCI EMU	12.9	13.7	12.4	11.4	3.5%
Europe ex UK	MSCI Europe ex UK	14.5	15.5	14.0	12.7	3.3%
Europe	MSCI Europe	13.7	14.6	13.2	12.1	3.5%
United States	S&P 500	21.4	23.4	20.4	18.2	1.4%
Japan	Topix	15.4	16.0	14.5	13.4	2.3%
Emerging Market	MSCI EM	12.1	13.2	11.9	10.2	2.9%
Global	MSCI AC World	17.8	19.2	17.3	15.2	2.0%

Source: IBES, MSCI, Datastream. As at COB 11th Jul, 2024; ** Japan refers to the period from March in the year stated to March in the following year – P/E post goodwill.

Economic, Interest Rate and Exchange Rate Outlook

Table 17: Economic Outlook in Summary

	Real GDP % oya			Real GDP % over previous period, saar						Consumer prices % oya			
	2023E	2024E	2025E	4Q23	1Q24	2Q24E	3Q24E	4Q24E	1Q25E	1Q24	3Q24E	1Q25E	3Q25E
United States	2.5	2.3	1.7	3.4	1.4	2.0	1.0	1.0	2.0	3.2	3.1	2.7	2.4
Eurozone	0.6	0.8	1.1	-0.2	1.3	1.5	1.5	1.0	1.0	2.6	2.3	2.3	1.9
United Kingdom	0.1	1.0	0.8	-1.2	2.9	2.0	1.0	1.0	0.8	3.5	2.2	2.5	2.9
Japan	1.8	-0.1	0.7	0.4	-1.8	1.5	1.0	0.8	0.6	2.5	2.8	3.5	2.5
Emerging markets	4.2	4.2	3.6	4.1	6.1	3.0	3.5	3.5	3.4	3.7	3.5	3.5	3.2
Global	2.8	2.6	2.3	2.7	3.2	2.3	2.2	2.1	2.3	3.3	3.1	3.0	2.7

Source: J.P. Morgan economic research J.P. Morgan estimates, as of COB 5th Jul, 2024

Table 18: Official Rates Outlook

	Official interest rate	Current	Last change (bp)	Forecast for				
				Forecast next change (bp)	Sep 24	Dec 24	Mar 25	Jun 25
United States	Federal funds rate	5.50	26 Jul 23 (+25bp)	Sep 24 (-25bp)	5.25	5.00	4.75	4.50
Eurozone	Depo rate	3.75	6 Jun 24 (-25bp)	Sep 24 (-25bp)	3.50	3.25	3.00	2.50
United Kingdom	Bank Rate	5.25	03 Aug 23 (+25bp)	Aug 24 (-25bp)	5.00	4.75	4.50	4.25
Japan	Pol rate IOER	0.10	19 Mar 24 (+20bp)	3Q24 (+15bp)	0.25	0.50	0.50	0.75

Source: J.P. Morgan estimates, Datastream, as of COB 5th Jul, 2024

Table 19: 10-Year Government Bond Yield Forecasts

10 Yr Govt BY	Forecast for end of				
	12-Jul-24	Sep 24	Dec 24	Mar 25	Jun 25
US	4.21	4.50	4.40	4.20	4.00
Euro Area	2.49	2.40	2.20	2.10	2.00
United Kingdom	4.07	4.10	3.95	3.85	3.75
Japan	1.06	1.20	1.45	1.45	1.60

Source: J.P. Morgan estimates, Datastream, forecasts as of COB 28th Jun, 2024

Table 20: Exchange Rate Forecasts vs. US Dollar

Exchange rates vs US\$	Forecast for end of				
	11-Jul-24	Oct 24	Jan 25	Apr 25	Jul 25
EUR	1.09	1.05	1.09	1.12	1.12
GBP	1.29	1.25	1.31	1.35	1.35
CHF	0.90	0.94	0.92	0.89	0.89
JPY	159	157	156	155	154
DXY	104.4	107.1	103.7	101.3	101.1

Source: J.P. Morgan estimates, Datastream, forecasts as of COB 28th Jun, 2024

Sector, Regional and Asset Class Allocations

Table 21: J.P. Morgan Equity Strategy — European Sector Allocation

		MSCI Europe Weights	Allocation	Deviation	Recommendation
Energy		5.6%	8.0%	2.4%	OW
Materials		7.0%	6.0%	-1.0%	N
	Chemicals				UW
	Construction Materials				N
	Metals & Mining				N
Industrials		15.8%	14.0%	-1.8%	N
	Capital Goods ex Aerospace & Defence				UW
	Aerospace & Defence				OW
	Transport				N
	Business Services				N
Consumer Discretionary		9.1%	7.0%	-2.1%	UW
	Automobile				UW
	Consumer Durables				N
	Consumer Svcs				UW
	Specialty Retail				UW
	Internet Retail				UW
Consumer Staples		11.7%	13.0%	1.3%	OW
	Food & Drug Retailing				UW
	Beverages				OW
	Food & Tobacco				OW
	Household Products				OW
Healthcare		16.0%	18.0%	2.0%	OW
Financials		18.1%	14.0%	-4.1%	UW
	Banks				UW
	Insurance				N
Real Estate		0.9%	2.0%	1.1%	OW
Information Technology		7.1%	7.0%	-0.1%	N
	Software and Services				N
	Technology Hardware				N
	Semicon & Semicon Equip				UW
Communication Services		4.5%	5.0%	0.5%	OW
	Telecommunication Services				OW
	Media				N
Utilities		4.4%	6.0%	1.6%	OW
		100.0%	100.0%	0.0%	Balanced

Source: MSCI, Datastream, J.P. Morgan.

Table 22: J.P. Morgan Equity Strategy — Global Regional Allocation

	MSCI Weight	Allocation	Deviation	Recommendation
EM	10.0%	10.0%	0.0%	Neutral
DM	90.0%	90.0%	0.0%	Neutral
US	70.9%	68.0%	-2.9%	Neutral
Japan	6.2%	8.0%	1.8%	Overweight
Eurozone	8.6%	8.0%	-0.6%	Neutral
UK	3.8%	6.0%	2.2%	Overweight
Others*	10.5%	10.0%	-0.5%	Neutral
	100.0%	100.0%	0.0%	Balanced

Source: MSCI, J.P. Morgan *Other includes Denmark, Switzerland, Australia, Canada, Hong Kong SAR, Sweden, Singapore, New Zealand, Israel and Norway

Table 23: J.P. Morgan Equity Strategy — European Regional Allocation

	MSCI Weight	Allocation	Deviation	Recommendation
Eurozone	51.0%	48.0%	-3.0%	Neutral
United Kingdom	22.6%	25.0%	2.4%	Overweight
Others**	26.5%	27.0%	0.5%	Overweight
	100.0%	100.0%		Balanced

Source: MSCI, J.P. Morgan **Other includes Denmark, Switzerland, Sweden and Norway

Table 24: J.P. Morgan Equity Strategy — Asset Class Allocation

	Benchmark weighting	Allocation	Deviation	Recommendation
Equities	60%	55%	-5%	Underweight
Bonds	30%	35%	5%	Overweight
Cash	10%	10%	0%	Neutral
	100%	100%	0%	Balanced

Source: MSCI, J.P. Morgan



Click [here](#) for our weekly podcast

Anamil Kochar (anamil.kochar@jpmchase.com) of J.P. Morgan India Private Limited is a co-author of this report.

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

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.

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>.

J.P. Morgan Equity Research Ratings Distribution, as of July 06, 2024

	Overweight (buy)	Neutral (hold)	Underweight (sell)
J.P. Morgan Global Equity Research Coverage*	49%	38%	13%
IB clients**	49%	46%	34%
JPMS Equity Research Coverage*	48%	41%	11%
IB clients**	69%	66%	50%

*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.com](mailto: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.jpmpi.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, jpmpi.research.feedback@jpmorgan.com; +912261573000.

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.

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 (JMSS) [MCI (P) 030/08/2023 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 JMSS 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, Bangrak, 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") ©2024. 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](https://www.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>. ©2024 Sustainalytics. All Rights Reserved.

"Other Disclosures" last revised July 06, 2024.

Copyright 2024 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 14 Jul 2024 11:02 PM BST

Disseminated 15 Jul 2024 03:00 AM BST