

## Progyny

### Another Blow to the Story; Lowering Our Model & PT for Significant Client Termination

PGNY faced another blow to the model today, as they announced that a large client plans to terminate its services agreement with the company. The client represented roughly 13% of 2023 revenue (\$130M), and 670k lives, and the termination will become a detriment to the model beginning in January 2025. Removing this client from our model reduces our 2025 revenue estimate by \$120M and our EBITDA by \$21M, resulting in a 2025 growth profile of MSD revenue and EBITDA growth for 2025, well below the LT targeted range of 20% revenue growth and 25% EBITDA growth. It's worth noting that while we doubt they will be able to find a client as large as 670K lives again, our model had only been embedding 1M incremental lives prior to today's announcement vs. the LT targeted 1.2M per year. While PGNY did not disclose the client, due to the magnitude of lives lost, we believe it is potentially Amazon, which comprised ~15% of PGNY's revenue in 2019 (the last time it was broken out in public filings). It is also worth noting that we believe this is likely a competitive loss versus the client exiting fertility benefits, an important distinction when discussing the health of the fertility market (both negative in the NT for PGNY). This bad news follows a series of difficult quarterly results for PGNY and likely compounds the strained investor perception of some of the unexplained utilization issues. As a result of our lowered model, we are reducing our Dec 2025 price target to \$22 from \$31, based on a 7x EV/EBITDA multiple, a 50% discount to PGNY's forward growth profile to account for the lack of visibility on utilization issues. Where do we go from here? The next significant datapoint we are awaiting for our thesis will be the results of the current selling season which we expect PGNY to report on the 3Q print in the coming weeks.

- **We are lowering our 2025 revenue estimate by ~\$120M to account for the lost client.** Removing 670K lives from our model results in ~330M incremental new lives added in 2025. This is the net of our original estimate for 1M lives added in the 2024 selling season less the significant client loss. Keeping utilization assumptions the same, this equates to 5.6% revenue growth in 2025 to \$1,231M vs. our 2024 revenue estimate of \$1,165M which remains unchanged given the timing.
- **We are lowering our 2025 EBITDA estimate by ~\$21M.** Applying a high teens margin (in line with current profile) to the \$120M of lost revenue results in a \$21M EBITDA reduction in our model to \$212M in 2025. This reduction is <12% as mgmt noted that the EBITDA contribution from this client was smaller than the revenue contribution. Our revised estimates imply 5.7% EBITDA growth in 2025 over our 2024 estimate of \$200M.

## Overweight

PGNY, PGNY US  
Price (18 Sep 24):\$24.44

▼ **Price Target (Dec-25):\$22.00**  
Prior (Dec-25):\$31.00

### Healthcare Technology & Distribution

**Anne E. Samuel** <sup>AC</sup>  
(1-212) 622-4163  
anne.e.samuel@jpmorgan.com

**Kyle Aikman**  
(1-212) 622-0522  
kyle.aikman@jpmchase.com

**Destiny Jackson**  
(1-212) 622-4360  
destiny.jackson@jpmorgan.com  
J.P. Morgan Securities LLC

### Key Changes (FYE Dec)

	Prev	Cur
Revenue - 25E (\$ mn)	1,352	1,231
Adj. EBITDA - 25E (\$ mn)	233	212

### Quarterly Forecasts (FYE Dec)

Adj. EBITDA (\$ mn)	2023A	2024E	2025E
Q1	46	50A	
Q2	47	54A	
Q3	50	49	
Q4	43	46	
FY	187	200	212

### Style Exposure

Quant Factors	Current %Rank	Hist %Rank (1=Top)			
		6M	1Y	3Y	5Y
Value	26	35	46	65	
Growth	6	7	2	38	
Momentum	88	73	16	11	
Quality	3	9	9	4	63
Low Vol	27	30	42	49	

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

### See page 5 for analyst certification and important 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.

### Price Performance



	YTD	1m	3m	12m
Abs	-33.2%	18.0%	-7.1%	-27.4%
Rel	-42.0%	15.0%	-16.1%	-47.7%

### Company Data

Shares O/S (mn)	95
52-week range (\$)	42.08-19.60
Market cap (\$ mn)	2,327.20
Exchange rate	1.00
Free float(%)	84.9%
3M - Avg daily vol (mn)	1.38
3M - Avg daily val (\$ mn)	33.8
Volatility (90 Day)	51
Index	RUSSELL 2000
BBG BUY HOLD SELL	7 4 0

### Key Metrics (FYE Dec)

\$ in millions	FY23A	FY24E	FY25E	FY26E
<b>Financial Estimates</b>				
Revenue	1,089	1,165	1,231	1,468
Adj. EBITDA	187	200	212	261
Adj. EBIT	62	67	78	139
Adj. net income	141	154	149	176
Adj. EPS	1.40	1.57	1.49	1.71
BBG EPS	0.60	1.47	1.66	1.97
Cashflow from operations	189	155	177	194
FCFF	185	152	173	189
<b>Margins and Growth</b>				
Revenue Growth Y/Y (%)	38.3%	7.0%	5.6%	19.3%
EBITDA margin	17.2%	17.2%	17.2%	17.7%
EBITDA Growth Y/Y (%)	48.8%	7.0%	5.7%	23.1%
EBIT margin	5.7%	5.7%	6.3%	9.5%
Net margin	12.9%	13.2%	12.1%	12.0%
Adj. EPS growth	57.2%	12.1%	(5.3%)	15.3%
<b>Ratios</b>				
Adj. tax rate	12.2%	30.5%	22.0%	22.0%
Interest cover	NM	NM	-	-
Net debt/Equity	NM	NM	NM	NM
Net debt/EBITDA	NM	NM	NM	NM
ROCE	11.7%	7.1%	7.3%	10.4%
ROE	30.3%	23.7%	17.8%	16.8%
<b>Valuation</b>				
FCFF yield	7.5%	6.3%	7.1%	7.5%
Dividend yield	-	-	-	-
EV/Revenue	2.1	1.8	1.6	1.2
EV/EBITDA	12.1	10.6	9.2	6.7
Adj. P/E	17.4	15.6	16.4	14.3

### Summary Investment Thesis and Valuation

#### Investment Thesis

Progyny is a data-driven fertility benefits provider with a differentiated model in a large and growing fertility market. With expectations for 460 clients by 2024 year end, the company is minimally penetrated relative to the 8,000 self-insured employers it views as addressable, leaving significant runway ahead. PGNY has a rapid growth profile, and we model a ~13% revenue CAGR over the next three years, with scale driving EBITDA margin expansion to high teens over that time.

#### Valuation

We are lowering our December 2025 PT to \$22 (Dec PT of \$31 prior) based on a 7x multiple on our updated CY2026 EBITDA estimate. This equates to a 0.50x EV/EBITDA/Growth multiple, a discount to the Healthcare IT average given uncertainty in the near term.

### Performance Drivers



Factors	6M Corr	1Y Corr
<b>Market:</b> MSCI US	0.15	0.24
<b>Sect:</b> Health Care	0.22	0.27
<b>Ind:</b> H Care Equip & Serv	0.18	0.27
<b>Macro:</b>		
Non-Energy Commodity	-0.16	-0.19
Crude Oil	-0.29	-0.15
Economic Surprise	0.14	0.12
<b>Quant Styles:</b>		
Quality	-0.36	-0.30
Momentum	-0.48	-0.26
Size	-0.25	-0.25

Source: J.P. Morgan Quantitative and Derivatives Strategy for Performance Drivers; company data, Bloomberg Finance L.P. and J.P. Morgan estimates for all other tables. Note: Price history may not be complete or exact.

## Investment Thesis, Valuation and Risks

### Progyny (Overweight; Price Target: \$22.00)

#### Investment Thesis

Progyny is a data-driven fertility benefits provider with a differentiated model in a large and growing fertility market. With expectations for 460 clients by 2024 year-end, the company is minimally penetrated relative to the 8,000 self-insured employers it views as addressable, leaving significant runway ahead. PGNY has a rapid growth profile, and we model a ~13% revenue CAGR over the next three years, with scale driving EBITDA margin expansion to high teens over that time.

#### Valuation

We are lowering our December 2025 PT to \$22 (Dec PT of \$31 prior) based on a 7x multiple on our updated CY2026 EBITDA estimate. This equates to a 0.50x EV/EBITDA/Growth multiple, a discount to the Healthcare IT average given uncertainty in the near term.

#### Risks to Rating and Price Target

**Economic environment and employment.** Progyny sells its product to self-insured employers as a component of overall medical benefits. In the event of a weaker economic environment, or higher unemployment, Progyny could see reduced penetration of the market and potentially reduced utilization of the product.

**Competitive environment.** Progyny has many competitors in the fertility benefits space, including large national insurance carriers. Increased competition as the demand for fertility benefits grows could make it difficult to capture share.

**Customer concentration.** Progyny has ~460 clients, and its top two largest clients have contributed a combined 26% of revenue in 2023. While we expect the diversity of its revenue base to increase as the company grows, the loss of one of these large clients could meaningfully reduce current and projected revenues and profitability.

**Ability to integrate with insurance carriers.** Progyny is able to integrate its benefits solution with all of the large national health insurance carriers with which it competes. If this ability to integrate were to change, or if there are changes to the regulatory environment for the private health insurance industry, it could negatively impact the business.

**New client wins may not materialize as expected.** Should PGNY not grow its client base as we are modeling, revenue and EBITDA margin expansion may differ from our projections.

**Pharmacy benefit plan has separate regulatory and distribution risks.** Progyny manages medications related to the fertility pharmacy solution to offer an integrated treatment and medication experience. Risks to this business include weaker than expected underlying prescription drug utilization growth, competitive pricing pressure, and an adverse legal/regulatory ruling around rebates.

## Progyny: Summary of Financials

Income Statement - Annual						Income Statement - Quarterly					
	FY22A	FY23A	FY24E	FY25E	FY26E	1Q24A	2Q24A	3Q24E	4Q24E		
<b>Revenue</b>	<b>787</b>	<b>1,089</b>	<b>1,165</b>	<b>1,231</b>	<b>1,468</b>	<b>278A</b>	<b>304A</b>	<b>290</b>	<b>292</b>		
COGS	(620)	(850)	(909)	(953)	(1,119)	(216)A	(236)A	(227)	(231)		
<b>Gross profit</b>	<b>167</b>	<b>239</b>	<b>256</b>	<b>277</b>	<b>349</b>	<b>62A</b>	<b>68A</b>	<b>64</b>	<b>62</b>		
SG&A	(144)	(177)	(189)	(199)	(210)	(44)A	(48)A	(48)	(49)		
<b>Adj. EBITDA</b>	<b>126</b>	<b>187</b>	<b>200</b>	<b>212</b>	<b>261</b>	<b>50A</b>	<b>54A</b>	<b>49</b>	<b>46</b>		
D&A	(2)	(2)	(3)	(3)	(4)	(1)A	(1)A	(1)	(1)		
<b>Adj. EBIT</b>	<b>23</b>	<b>62</b>	<b>67</b>	<b>78</b>	<b>139</b>	<b>19A</b>	<b>21A</b>	<b>15</b>	<b>12</b>		
Net Interest	1	5	4	0	0	3A	1A	0	0		
<b>Adj. PBT</b>	<b>24</b>	<b>71</b>	<b>85</b>	<b>78</b>	<b>139</b>	<b>23A</b>	<b>25A</b>	<b>17</b>	<b>20</b>		
Tax	6	(9)	(26)	(17)	(31)	(6)A	(9)A	(6)	(6)		
Minority Interest	-	-	-	-	-	-	-	-	-		
<b>Adj. Net Income</b>	<b>89</b>	<b>141</b>	<b>154</b>	<b>149</b>	<b>176</b>	<b>39A</b>	<b>43A</b>	<b>34</b>	<b>38</b>		
Reported EPS	0.30	0.62	0.60	0.61	1.06	0.17A	0.17A	0.12	0.15		
<b>Adj. EPS</b>	<b>0.89</b>	<b>1.40</b>	<b>1.57</b>	<b>1.49</b>	<b>1.71</b>	<b>0.39A</b>	<b>0.43A</b>	<b>0.35</b>	<b>0.39</b>		
DPS	-	-	-	-	-	-	-	-	-		
Payout ratio	-	-	-	-	-	-	-	-	-		
Shares outstanding	100	101	98	100	103	101A	98A	96	97		
Balance Sheet & Cash Flow Statement						Ratio Analysis					
	FY22A	FY23A	FY24E	FY25E	FY26E	FY22A	FY23A	FY24E	FY25E	FY26E	
Cash and cash equivalents	120	97	249	422	612	21.3%	21.9%	22.0%	22.5%	23.8%	
Accounts receivable	240	242	280	308	382	16.0%	17.2%	17.2%	17.2%	17.7%	
Inventories	-	-	-	-	-	3.0%	5.7%	5.7%	6.3%	9.5%	
Other current assets	74	301	301	301	301	11.3%	12.9%	13.2%	12.1%	12.0%	
<b>Current assets</b>	<b>434</b>	<b>640</b>	<b>830</b>	<b>1,031</b>	<b>1,295</b>						
PP&E	8	10	11	11	12	ROE	28.3%	30.3%	23.7%	17.8%	16.8%
LT investments	-	-	-	-	-	ROA	19.8%	21.7%	18.1%	14.3%	13.8%
Other non current assets	101	106	106	106	106	ROCE	5.6%	11.7%	7.1%	7.3%	10.4%
<b>Total assets</b>	<b>543</b>	<b>757</b>	<b>947</b>	<b>1,149</b>	<b>1,413</b>	SG&A/Sales	18.3%	16.2%	16.2%	16.2%	14.3%
Short term borrowings	0	0	0	0	0	Net debt/equity	NM	NM	NM	NM	NM
Payables	109	125	128	135	162	P/E (x)	27.4	17.4	15.6	16.4	14.3
Other short term liabilities	50	61	58	62	73	P/BV (x)	6.5	4.4	3.2	2.6	2.2
<b>Current liabilities</b>	<b>160</b>	<b>186</b>	<b>186</b>	<b>197</b>	<b>235</b>	EV/EBITDA (x)	17.8	12.1	10.6	9.2	6.7
Long-term debt	0	0	0	0	0	Dividend Yield	-	-	-	-	-
Other long term liabilities	6	17	17	17	17	Sales/Assets (x)	1.7	1.7	1.4	1.2	1.1
<b>Total liabilities</b>	<b>166</b>	<b>203</b>	<b>204</b>	<b>214</b>	<b>252</b>	Interest cover (x)	NM	NM	NM	-	-
Shareholders' equity	377	553	743	934	1,161	Operating leverage	(48.7%)	434.1%	102.9%	300.7%	406.6%
Minority interests	-	-	-	-	-	Revenue y/y Growth	57.2%	38.3%	7.0%	5.6%	19.3%
<b>Total liabilities &amp; equity</b>	<b>543</b>	<b>757</b>	<b>947</b>	<b>1,149</b>	<b>1,413</b>	EBITDA y/y Growth	86.6%	48.8%	7.0%	5.7%	23.1%
<b>BVPS</b>	<b>3.77</b>	<b>5.50</b>	<b>7.58</b>	<b>9.30</b>	<b>11.27</b>	Tax rate	24.2%	12.2%	30.5%	22.0%	22.0%
y/y Growth	50.1%	45.8%	37.9%	22.7%	21.2%	Adj. Net Income y/y Growth	(10.5%)	58.3%	9.2%	(2.9%)	18.1%
Net debt/(cash)	(120)	(97)	(249)	(422)	(612)	EPS y/y Growth	(10.3%)	57.2%	12.1%	(5.3%)	15.3%
						DPS y/y Growth	-	-	-	-	-
<b>Cash flow from operating activities</b>	<b>80</b>	<b>189</b>	<b>155</b>	<b>177</b>	<b>194</b>						
o/w Depreciation & amortization	2	2	3	3	4						
o/w Changes in working capital	(59)	(17)	(37)	(18)	(36)						
<b>Cash flow from investing activities</b>	<b>(44)</b>	<b>(201)</b>	<b>(3)</b>	<b>(4)</b>	<b>(4)</b>						
o/w Capital expenditure	(3)	(4)	(3)	(4)	(4)						
as % of sales	0.4%	0.3%	0.3%	0.3%	0.3%						
<b>Cash flow from financing activities</b>	<b>(8)</b>	<b>(11)</b>	<b>0</b>	<b>0</b>	<b>0</b>						
o/w Dividends paid	-	-	-	-	-						
o/w Net debt issued/(repaid)	0	0	0	0	0						
<b>Net change in cash</b>	<b>29</b>	<b>(23)</b>	<b>152</b>	<b>173</b>	<b>189</b>						
<b>Adj. Free cash flow to firm</b>	<b>77</b>	<b>185</b>	<b>152</b>	<b>173</b>	<b>189</b>						
y/y Growth	222.7%	140.0%	(18.0%)	14.1%	9.3%						

Source: Company reports and J.P. Morgan estimates.

Note: \$ in millions (except per-share data).Fiscal year ends Dec. o/w - out of which

**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:** J.P. Morgan Securities LLC makes a market in the securities of Progyny.
- **Market Maker/ Liquidity Provider:** J.P. Morgan is a market maker and/or liquidity provider in the financial instruments of/related to Progyny.
- **Client:** J.P. Morgan currently has, or had within the past 12 months, the following entity(ies) as clients: Progyny.
- **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: Progyny.
- **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 Progyny.
- **Debt Position:** J.P. Morgan may hold a position in the debt securities of Progyny, 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](mailto:research.disclosure.inquiries@jpmorgan.com) with your request.



Source: Bloomberg Finance L.P. and J.P. Morgan; price data adjusted for stock splits and dividends. Initiated coverage Nov 19, 2019. 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: Samuel, Anne E:** Consensus Cloud Solutions (CCSI), Definitive Healthcare (DH), Doximity (DOCS), Evolent Health (EVH), Health Catalyst (HCAT), HealthEquity (HQY), IQVIA Holdings Inc (IQV), Omnicell (OMCL), Phreesia (PHR), Premier, Inc. (PINC), Progyny (PGNY), R1 RCM (RCM), Veeva Systems (VEEV), Veradigm (MDRX), Waystar (WAY)

#### 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](mailto: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.

#### 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](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](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](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.jpimipl.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](mailto:spurthi.gadamsetty@jpmchase.com); +912261573225. Grievance Officer: Ramprasadh K, [jpimipl.research.feedback@jpmorgan.com](mailto:jpimipl.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 (JPMSS) [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 JPMSS 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 August 24, 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 18 Sep 2024 09:57 PM EDT

Disseminated 18 Sep 2024 09:59 PM EDT