

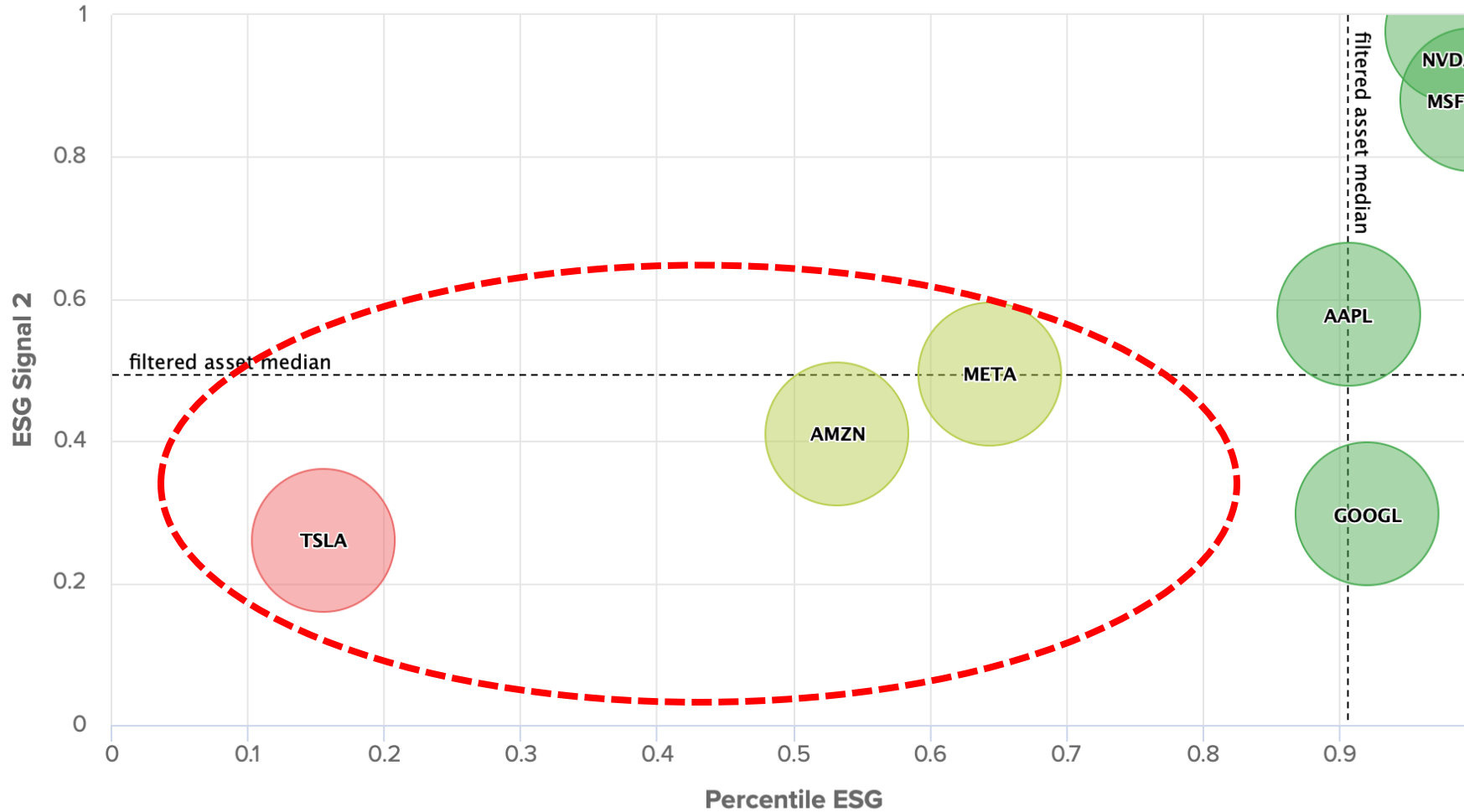
Mag 7 Stocks:

ESG Forecasts, Signals & Technical Charts

ESG Forecast & Signals for Magnificent 7

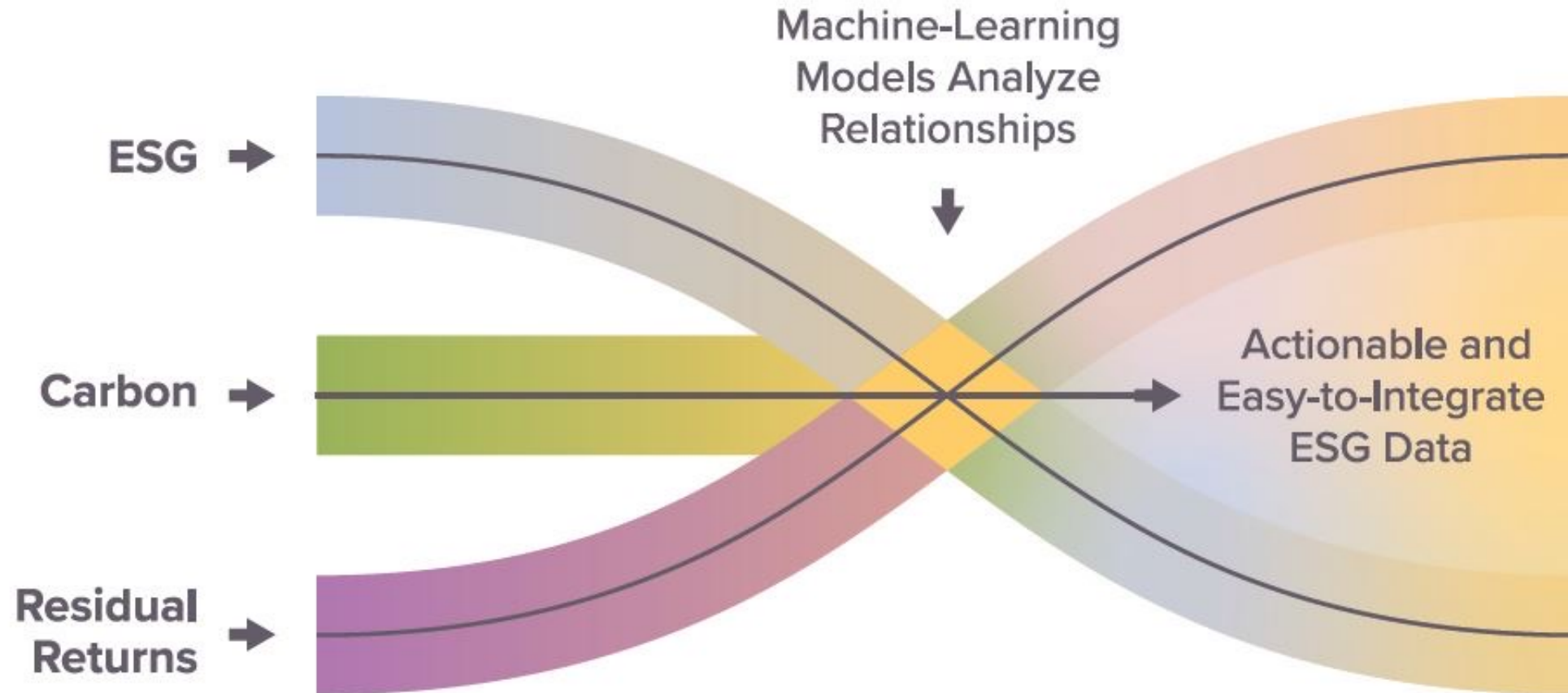
- **ESG & Signal Landscape of the Magnificent 7 Stocks**
- **Summary of ESG and ESG Signals for Mag 7 Stocks**
- **Where are the ESG ratings for the Mag 7 forecast to go?**

ESG Signal vs ESG Rank for Mag 7

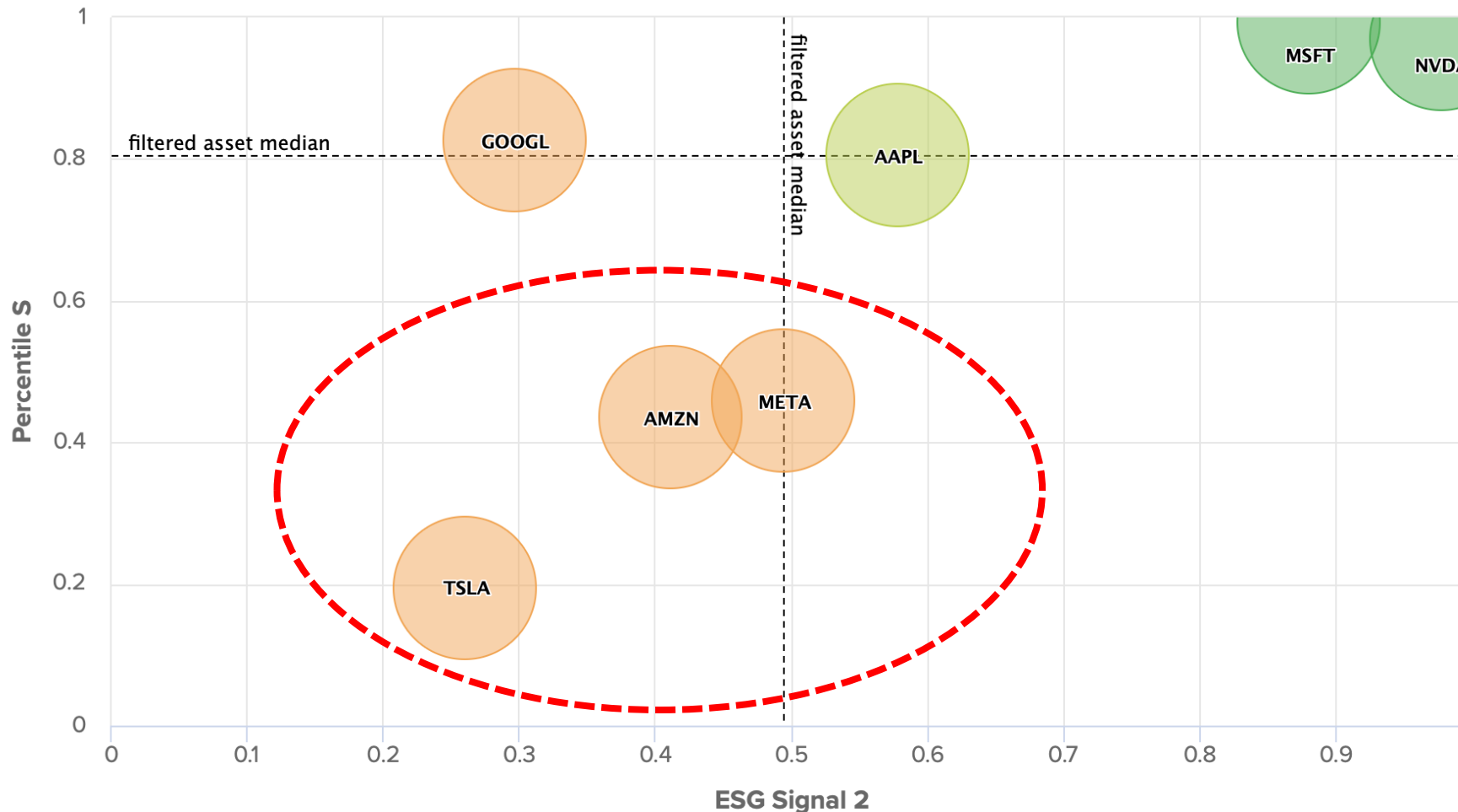


- **ESG Signal 2 (y-axis) is a measure of 12-month forward return rank.**
- **ESG Rank (x-axis) shows rank of company in US Large Cap universe**
- **Tesla, Google, Amazon, and Meta are expected to underperform. Nvidia & Microsoft are projected to lead the pack.**

How We Generate ESG Signals



Short Risk: Stakeholder Rank vs Signal 2

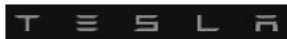


- Our short model is driven by the interaction of Stakeholder Rank (Percentile S, y-axis) vs ESG Signal 2 (x-axis)
- Based on that relationship TSLA, AMZN, and META are near-term shorts

Summary of Signals for Mag 7



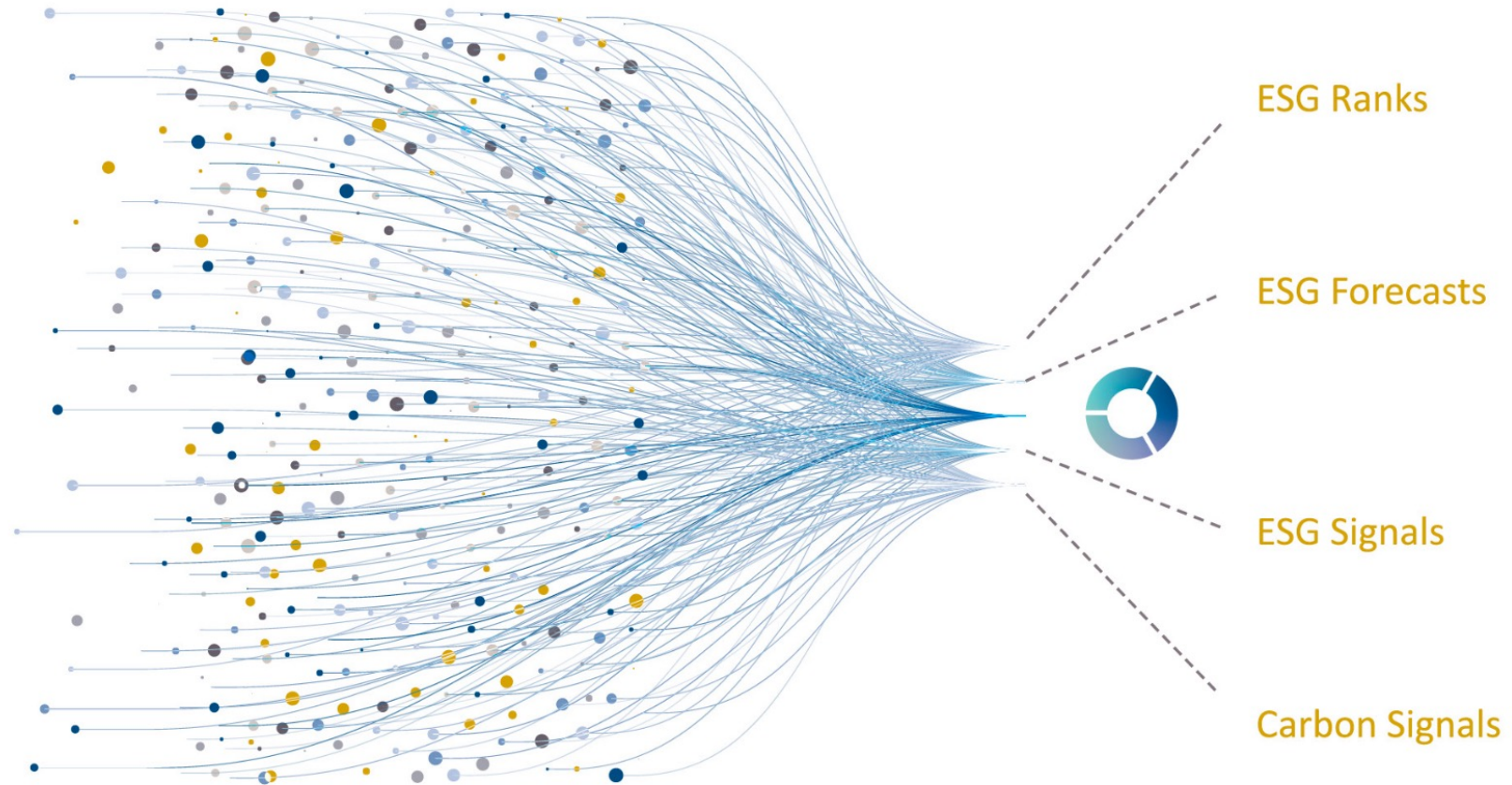
Factor	Rank	Buy/Sell	Factor	Rank	Buy/Sell	Factor	Rank	Buy/Sell	Factor	Rank	Buy/Sell
Signal #1	88.4%	✓	Signal #1	98.4%	✓	Signal #1	54.4%	⊖	Signal #1	63.6%	⊖
Signal #2	57.8%	⊖	Signal #2	97.7%	✓	Signal #2	41.1%	⊖	Signal #2	49.4%	⊖
Signal #3	64.9%	⊖	Signal #3	93.7%	✓	Signal #3	64.6%	✓	Signal #3	53.5%	⊖



Factor	Rank	Buy/Sell	Factor	Rank	Buy/Sell	Factor	Rank	Buy/Sell
Signal #1	19.4%	✗	Signal #1	99.7%	✓	Signal #1	90.7%	✓
Signal #2	26.1%	✗	Signal #2	88.1%	✓	Signal #2	29.7%	✗
Signal #3	6.1%	✗	Signal #3	93.6%	✓	Signal #3	87.5%	✓

 Long
  Short
  Neutral

Moving ESG From Metric to Factor



Where are ESG Scores Headed for Mag 7?



Factor	Rank	Forecast
E	98.7%	↑
S	80.2%	↑
G	82.1%	↓
ESG	90.9%	↑

Factor	Rank	Forecast
E	99.5%	↓
S	97.6%	↑
G	95.9%	↑
ESG	98.9%	↓

Factor	Rank	Forecast
E	64.3%	↑
S	44.3%	↑
G	47.7%	↑
ESG	54.4%	↑

Factor	Rank	Forecast
E	85.7%	↓
S	45.7%	↑
G	39.4%	↓
ESG	65.8%	↓



Factor	Rank	Forecast
E	50.5%	↓
S	19.0%	↓
G	3.2%	↑
ESG	17.1%	↓

Factor	Rank	Forecast
E	99.7%	↓
S	99.7%	↑
G	98.6%	↓
ESG	99.8%	↑

Factor	Rank	Forecast
E	97.4%	↓
S	82.9%	↑
G	90.5%	↓
ESG	92.2%	↓

Implications of ESG Forecasts

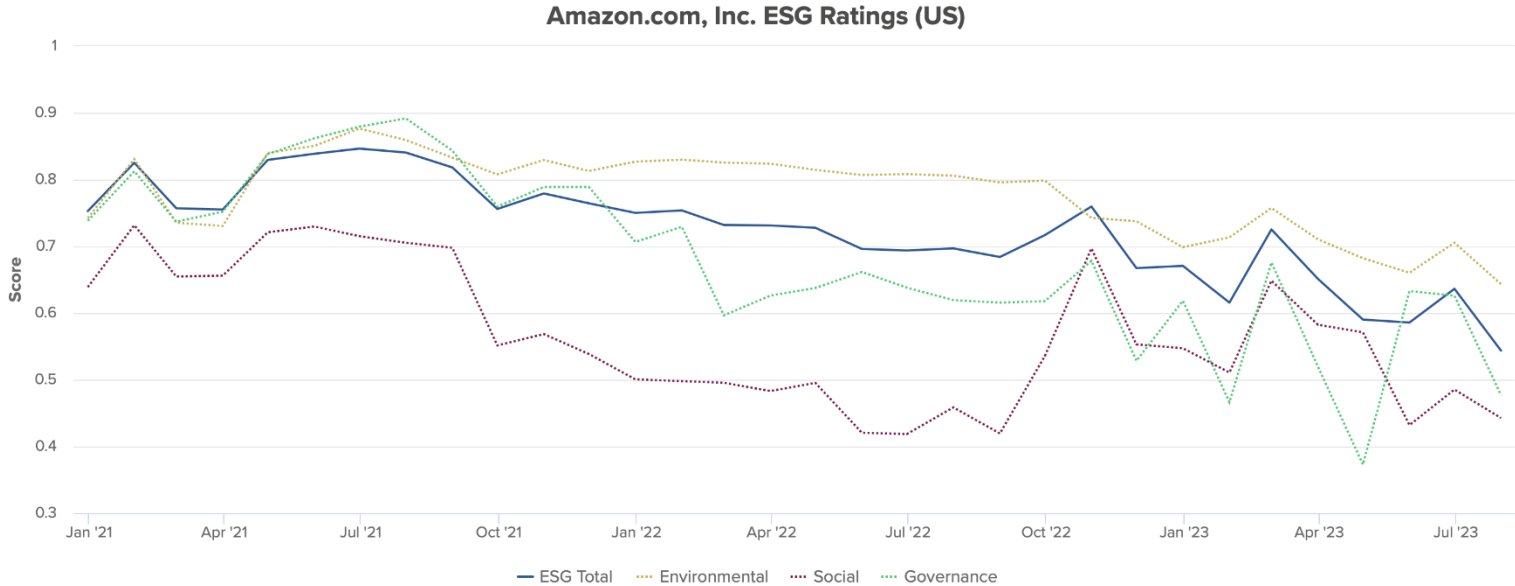
What this means for Investors:

- 1) Most at risk of deteriorating ESG profile/rankings over the next 12 months: META (E and G forecast to deteriorate), TSLA (E and S forecast to deteriorate), and GOOGL (E and G forecast to deteriorate)**
- 2) Best exposed to potential ESG profile/rankings upside over the next 12 months: AMZN (E, S, and G forecast to improve) and AAPL (E and S forecast to improve)**
- 3) MSFT forecast to see modest ESG rankings upside despite forecast deterioration in E and G**

Amazon (AMZN) Detailed ESG Forecast



Factor	Rank	Forecast
E	64.3%	↑
S	44.3%	↑
G	47.7%	↑
ESG	54.4%	↑



Detailed ESG Category Forecasts

E	Rank	Forecast
E	64.3%	↑
Sub-Factor	Rank	Forecast
E1	53.0%	↑
E2	68.2%	↓
E3	50.1%	↑

S	Rank	Forecast
S	44.3%	↑
Sub-Factor	Rank	Forecast
EMP1	58.1%	↑
EMP2	54.3%	↑
EMP3	56.5%	↑
CIT1	37.8%	↑
CIT2	26.7%	↑
CIT3	26.5%	↑

G	Rank	Forecast
G	47.7%	↑
Sub-Factor	Rank	Forecast
G1	24.2%	↑
G2	28.4%	↑
G3	74.9%	↓



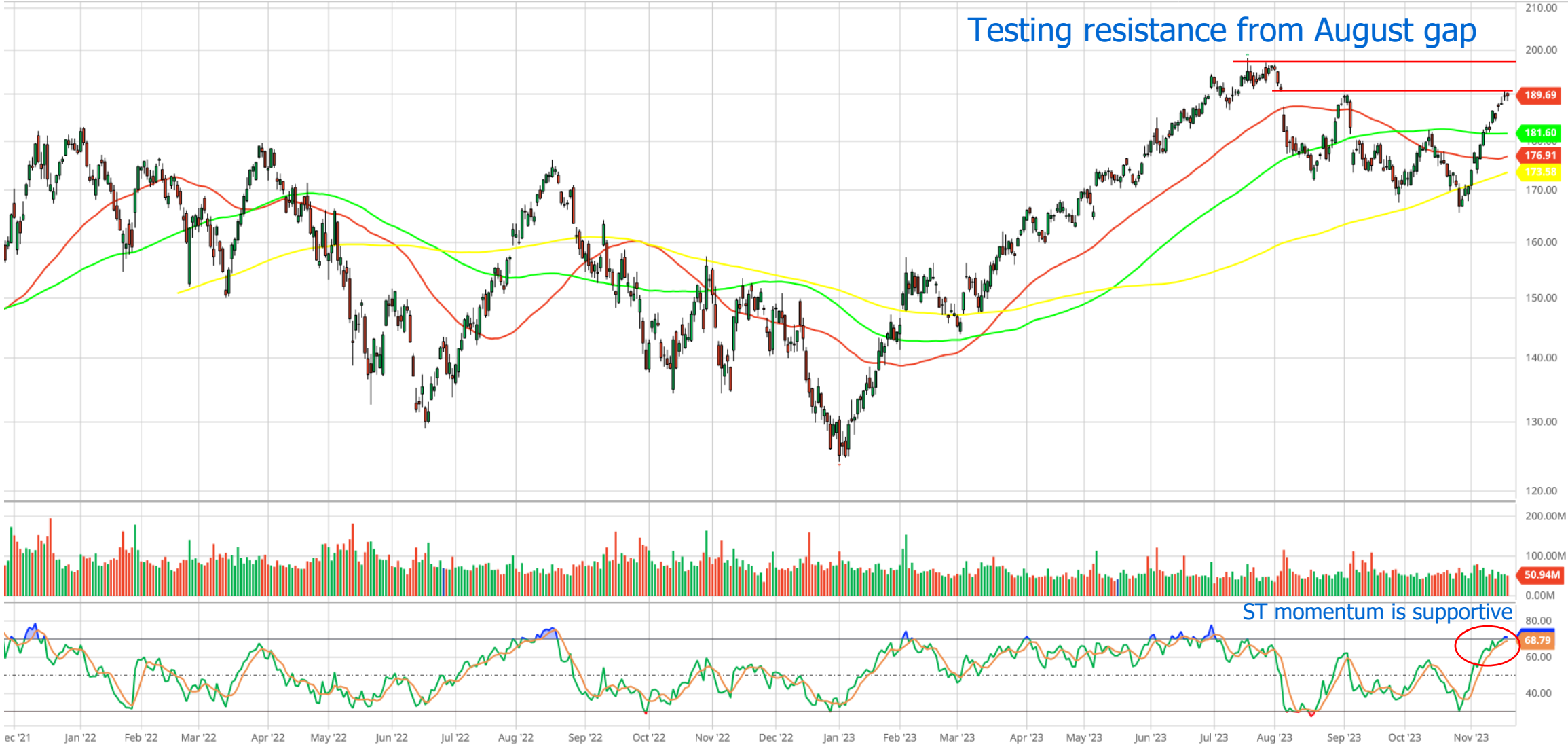
In depth ESG KPIs and where they are going

Amazon's overall ESG ratings are expected to rise over the next 12 months

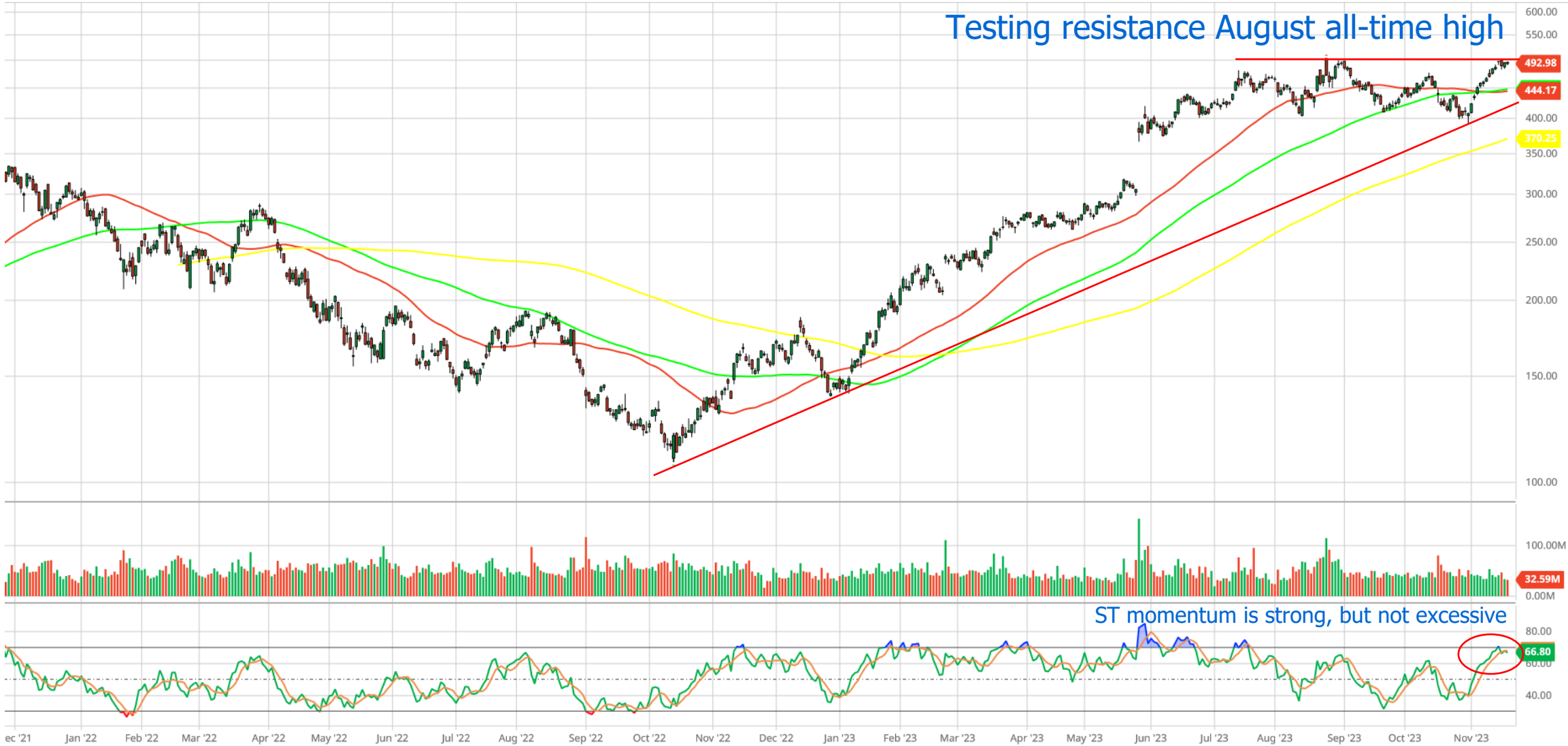
Mag 7 – Technical Charts

November 2023

AAPL – HOLD(ST)/HOLD(LT)



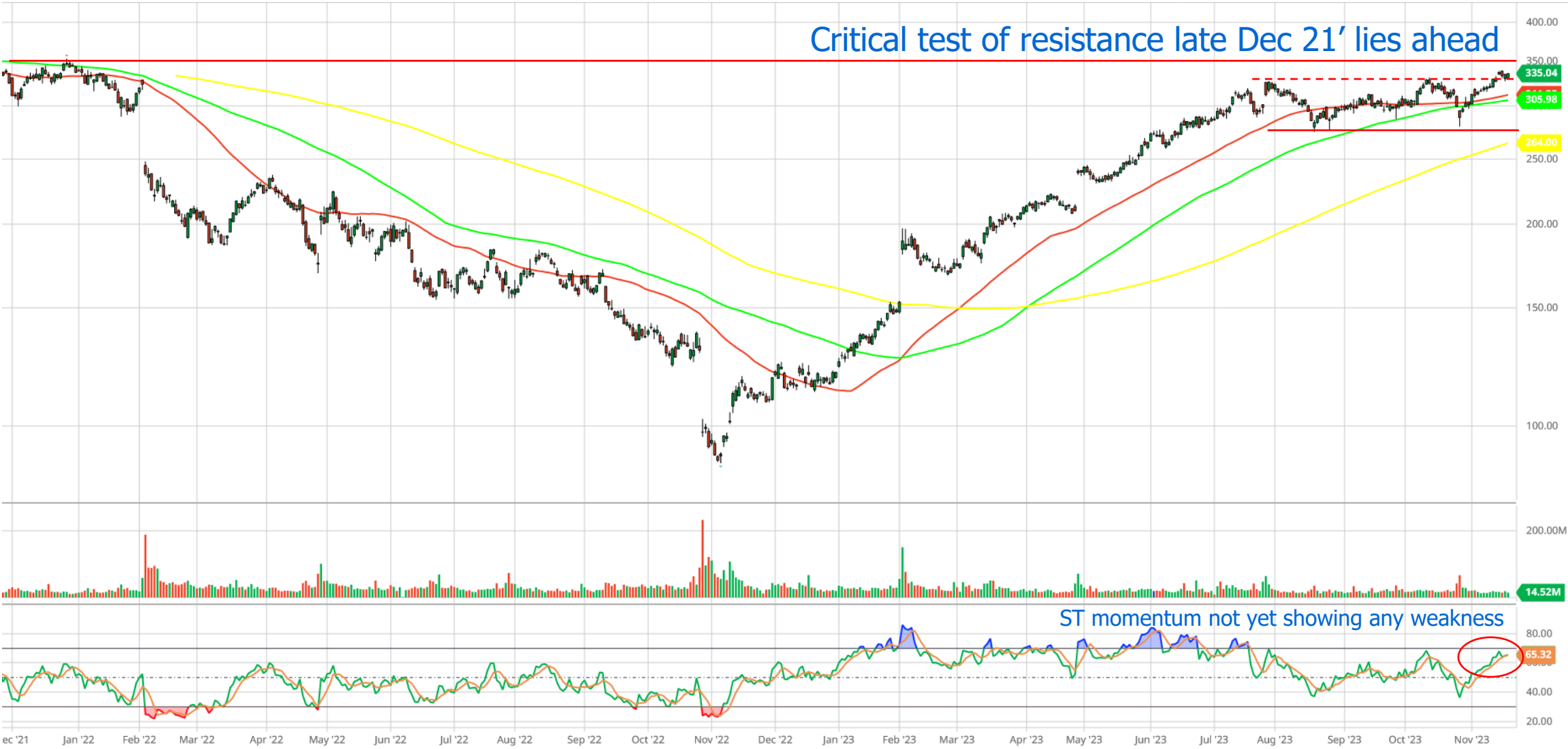
NVDA – HOLD(ST)/BUY(LT)



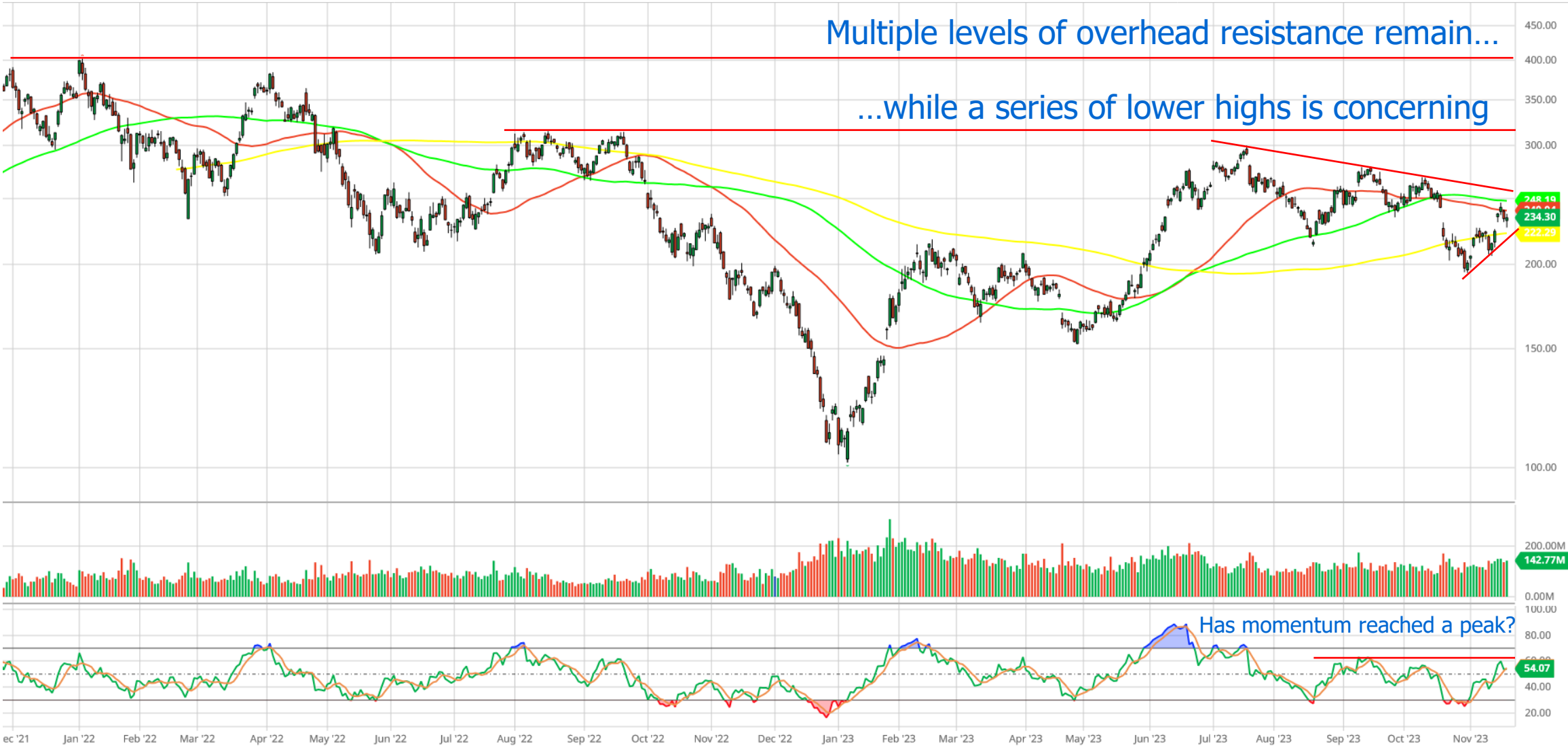
AMZN – HOLD(ST)/HOLD(LT)



META – HOLD(ST)/HOLD(LT)

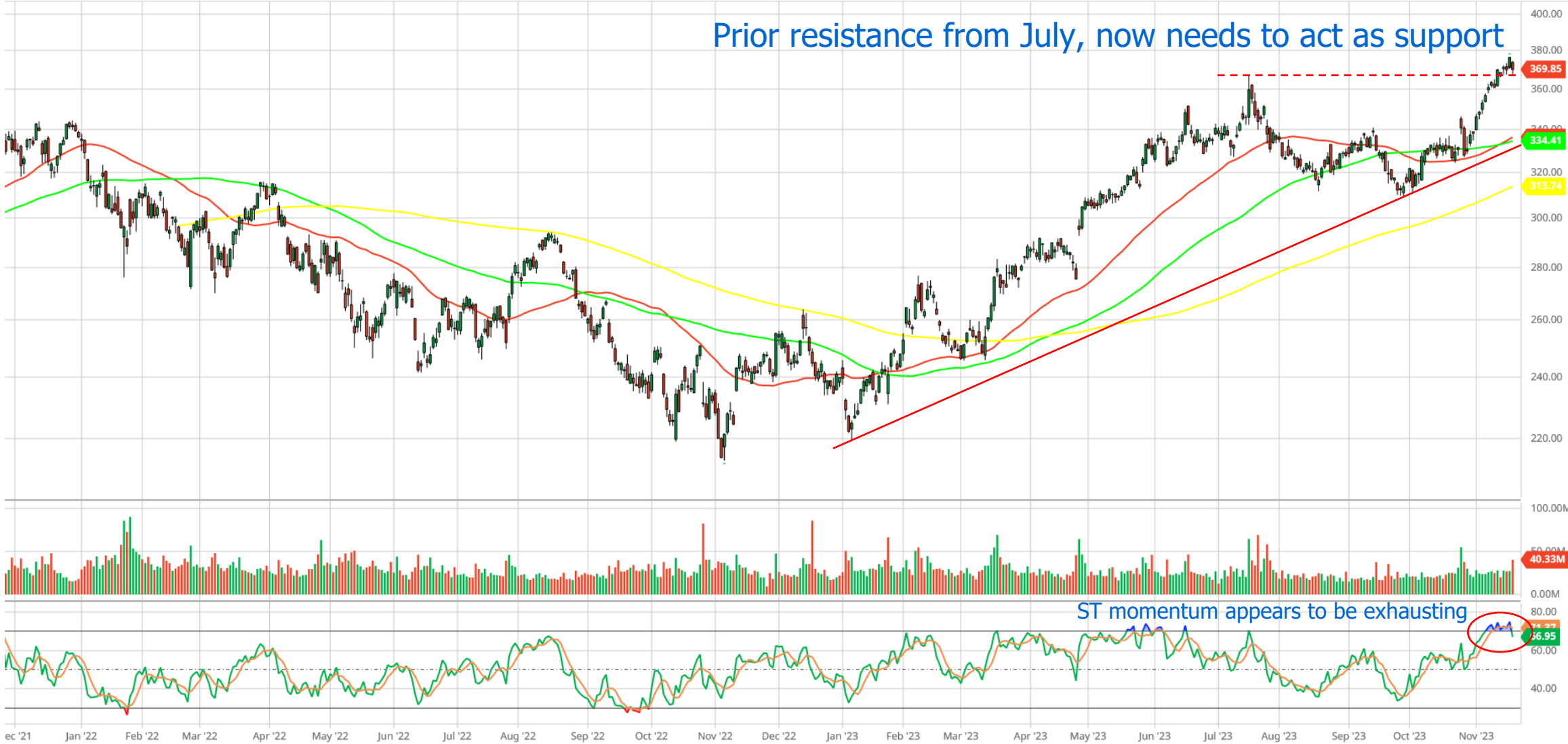


TSLA – SELL(ST)/SELL(LT)

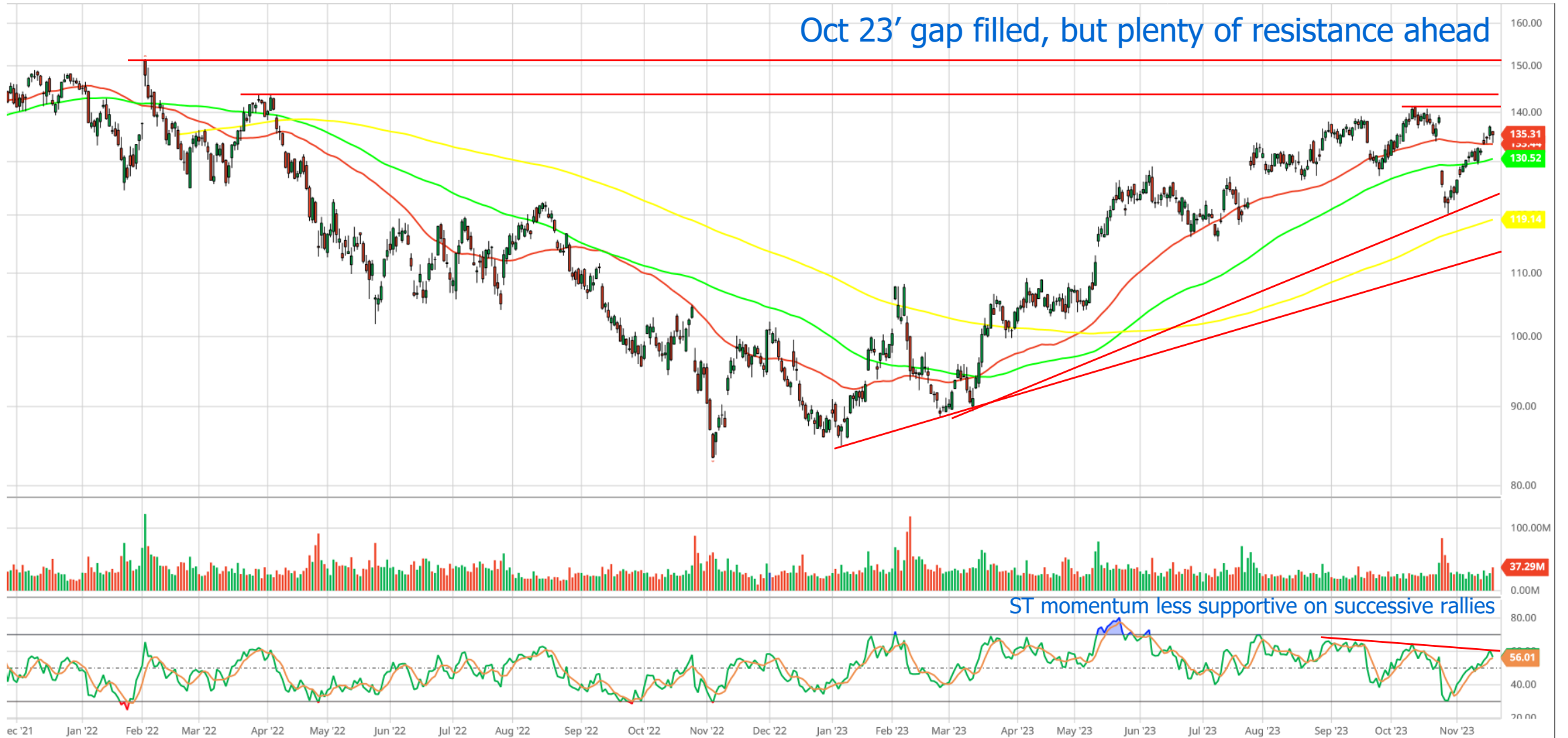


MSFT – HOLD(ST)/HOLD(LT)

Prior resistance from July, now needs to act as support



GOOGL – HOLD(ST)/HOLD(LT)

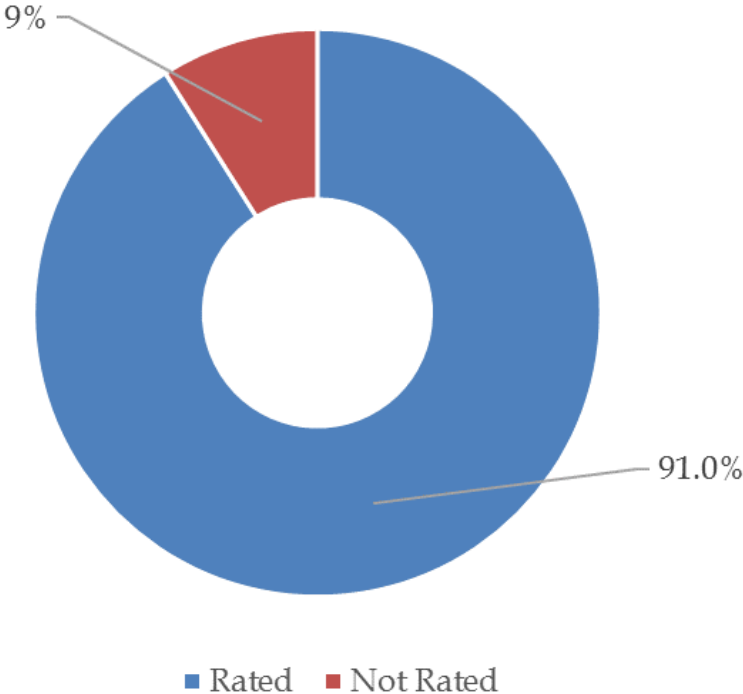


Appendix

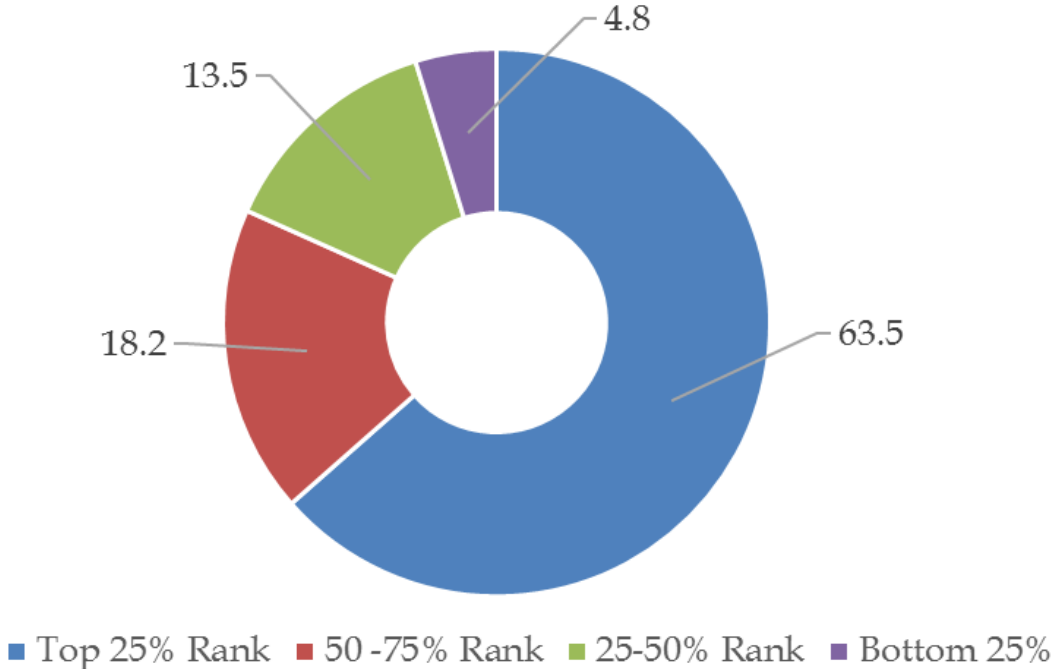


Comprehensive Signals

US All Signal Ratings



Signal Rating as % Mkt Cap of Universe



ESG Forecast Equations for US Universe

variable_name	equation
e1	$10.38999038 + e1*0.80088106 - e_{12mo_delta}*0.17542814 + g3*0.20016873 - g2*0.15732305 - e1_{3mo_delta}*0.16880838$
e2	$-17.22078011 + esg*1.31078182 - s_{12mo_delta}*0.45311994 + e2*0.38604626 - emp*0.32722574 + emp_{3mo_delta}*0.38285316$
e3	$0.02215855 + esg*1.2505338 + e3*0.37039583 - emp*0.25275936 - cit2*0.1744152 - e2*0.17946745$
emp1	$13.59173733 + emp*0.14900385 - emp_{12mo_delta}*0.21882083 + emp1*0.44750743 + cit1*0.19408085 - e2_{12mo_delta}*0.10329882$
emp2	$-1.03396474 + esg*0.38949767 - e3_{12mo_delta}*0.16924503 + cit1*0.22091328 + emp2*0.46502712 - emp_{12mo_delta}*0.25043643$
emp3	$-5.98660236 + emp3*0.61940985 + cit1*0.22377951 - emp_{12mo_delta}*0.19071731 + g*0.30109456 - e2_{12mo_delta}*0.13988838$
cit1	$3.99726095 + esg*0.48848666 + cit1*0.51414459 + g2_{12mo_delta}*0.22315456 - cit1_{12mo_delta}*0.1411803 - cit_{1mo_delta}*0.35964056$
cit2	$-12.55309599 + cit*0.56872581 + g*0.30281578 + cit2*0.38665428 - s_{12mo_delta}*0.32733709 + g1_{12mo_delta}*0.11968592$
cit3	$-7.04738914 + cit3*0.75324869 + g1*0.24116116 + e1*0.1709568 + g2_{12mo_delta}*0.18755488 - cit_{1mo_delta}*0.44715337$
g1	$16.55916974 + g1*0.58302925 + e2*0.07383238 - s_{12mo_delta}*0.20049476 - e2_{3mo_delta}*0.13457541 + s*0.09970251$
g2	$8.09816406 + g2*0.92213135 - g2_{3mo_delta}*0.50118093 - emp_{12mo_delta}*0.21396549 + emp3_{3mo_delta}*0.27167449 + g1_{3mo_delta}*0.22581319$
g3	$11.39809962 + g3*0.6594666 - emp_{12mo_delta}*0.22332885 - g3_{3mo_delta}*0.40148856 + g1_{3mo_delta}*0.28644947 + s*0.17314484$
emp	$-1.56892223 + s*1.07284424 - s_{12mo_delta}*0.28392212 - cit2*0.22281363 + g*0.22856172 - e2_{12mo_delta}*0.11664831$
cit	$-3.16254268 + cit*0.739368 + g*0.24178219 - cit_{1mo_delta}*0.41060917 + g2_{12mo_delta}*0.13905315 + e1*0.11963843$
e	$-4.39551211 + e*0.4891051 + g*0.34934933 - emp_{12mo_delta}*0.12452821 + e1*0.27549268 - e2_{12mo_delta}*0.11956334$
s	$-0.96445821 + esg*1.05351457 + cit1*0.27091266 - e*0.54718443 + e1*0.26253707 - cit1_{3mo_delta}*0.20515195$
g	$9.28062377 + g*0.75031122 - emp_{12mo_delta}*0.13765584 - g2_{3mo_delta}*0.22658315 + cit*0.13635417 - e3_{12mo_delta}*0.07210259$
esg	$2.13521431 + esg*1.11597091 - emp_{12mo_delta}*0.17595362 - e3*0.11206515 + g2_{12mo_delta}*0.11795246 - e2_{12mo_delta}*0.10120421$

- Equations for the US Universe ESG Forecasts listed above
- Updated quarterly

Thank you!

