March 26, 2024 04:01 AM GMT

From the Global Director of Research | North America

Charts That Caught My Eye

MORGAN STANLEY & CO. LLC

Katy L. Huberty, CFA
Global Director of Research
Kathryn.Huberty@morganstanley.com +1 212 761-6249

Morgan Stanley Research
Analyst
erteam@morganstanley.com

A guiding principle at Morgan Stanley Research is to enhance your investment process by delivering unique insights that separate the signal from the noise. An intuitively designed and well-crafted chart can often accomplish this with exceptional clarity.

With that mission in mind, these charts in our recently published research stood out to me.

1. **Powering GenAI:** We believe the market under-appreciates the mismatch between AI's rapid growth in power demand growth and the slow growth in power supply.
2. **Europe Equity Strategy:** Our analysis of corporate mentions of thematic drivers supports our bullish view.
3. **Europe Equity Strategy / Valuation:** European corporates' cash return to shareholders is trending at a multi-year high.
4. **US and Asia Economics:** Trade data suggest that onshoring of US manufacturing limited to date, but sources of US imports have become more diversified.
5. **US Large Cap Banks:** We are bullish on the ongoing capital markets rebound, and we see money center banks as a way to play that dynamic.
6. **US Equity Strategy:** We raise our Energy sector allocation to overweight based on inflecting relative earnings revisions, strong breadth, and compelling valuation.
7. **US Rates Strategy:** Treasury yields followed inflation higher, but have not followed inflation lower - but we expect that to change as the market squares the growth / inflation dilemma.
8. **Copper / Anglo American:** We believe the near-term backdrop favors copper-exposed miners; Anglo's high-quality copper division could help drive a re-rating for the diversified miner.

Please reach out to me with feedback on these or any other key investment debates. Thank you for your partnership.

Katy Huberty
Global Director of Research

Powering GenAI

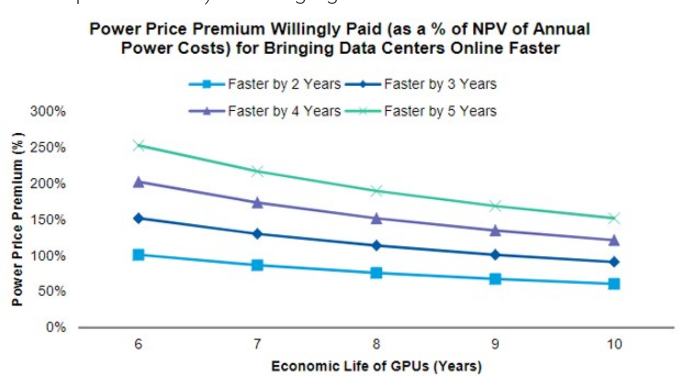
The Tortoise and the Hare: Market Under-appreciates the Mismatch Between AI Power Demand Growth and Supply Growth

Our Sustainability Research Strategists, in collaboration with a broad range of sector analysts globally, undertook a comprehensive analysis of the economics of new data centers (DCs). They conclude that the market is under-appreciating 3 dynamics: (1) The rapid drop in the cost of GenAI compute power — their proprietary cost model shows that DCs' capital cost per teraFLOPS drop by ~50% when moving from NVIDIA's Hopper GPU to its new Blackwell GPU; (2) A significant mismatch between the hyper-rapid growth in GenAI power needs (notwithstanding continued efficiency improvements) and the slow growth in power grid infrastructure; and (3) The resulting very large magnitude of the time value for power solutions providers that can reduce the delay in powering new and expanded data centers. Our teams recommend investing in companies that are well positioned to serve the rapidly growing power needs of the GenAI enablers — they highlight 13 Overweight-rated stocks: AES, Bloom Energy, Constellation Energy, ENGIE, Fortum, Iberdrola, NextEra Energy, Orsted, PSEG, RWE, SembCorp, Tenaga, and Vistra

See Powering GenAI: The Tortoise and the Hare (24 Mar 2024)

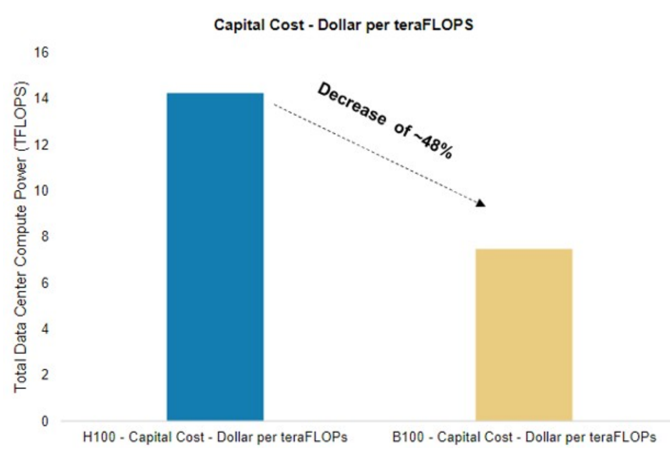
Share prices: AES (AES.N, $16), Bloom Energy (BE.N, $10), Constellation Energy (CEG.O, $178), ENGIE (ENGIE.PA, EUR16), Fortum (FORTUM.HE, EUR12), Iberdrola (IBE.MC, EUR11), NextEra Energy (NEE.N, $62), Orsted (ORSTED.CO, DKK377), PSEG (PEG.N, $65), RWE (RWEG.DE, EUR31), SembCorp (SCIL.SI, S$5), Tenaga (TENA.KL, MYR12), Vistra (VST.N, $69)

Exhibit 1: Power price premium willingly paid (as a % of NPV of annual power costs) for bringing data centers online faster



Source: Morgan Stanley Research. Note: Based on assumptions of B100 chips used, 8 GPUs per Server, 70% Server Utilization Rate, Power Cost (Incl T&D) at $100/MWh

Exhibit 2: In our Data Center economics model using Hopper GPUs, the data center capital cost/teraFLOPs is ~$14, while for our Blackwell Data Center model, that ratio is ~$7



Source: Company data, Morgan Stanley Research.Note: Based on assumptions of B100/H100 used, 8 GPUs per Server, 70% Server Utilization Rate, Power Cost (Incl T&D) at $100/MWh. TeraFLOPs is calculated based on SXM, FP8 Tensor Core.

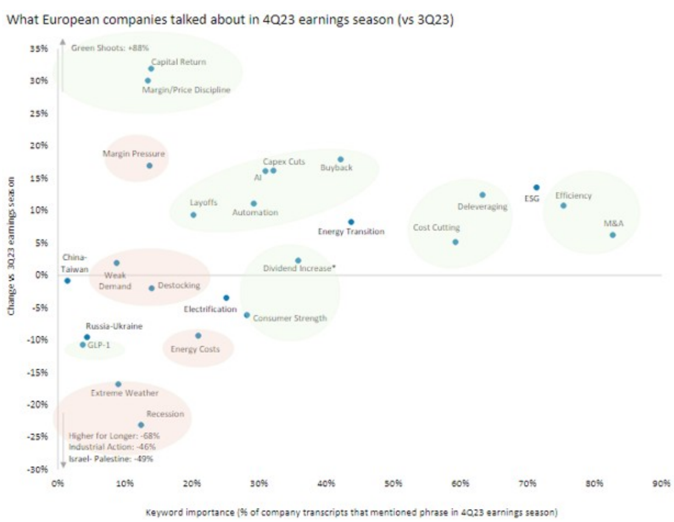
Europe Equity Strategy

Analysis of Thematic Drivers Supports Our Structurally Bullish View

Our Europe Equity Strategy team used AlphaSense's LLM technology to parse 300,000+ earnings and conference transcripts over 20 years to identify which themes are rising or shifting in the conversation in Europe's C-suites. Their work shows that thematic waves of AI diffusion, capital returns, margin discipline, "green shoots", and M&A are on the rise in the region. AI is the clear leader, with 32% of European companies discussing it this quarter, moving up in a straight line and almost catching up with the US trend. Meanwhile, they saw a decline in management mentions of "economic uncertainty", "energy costs", and "inflation". They believe the results support their bullish view that the rally in the region's equities is transforming from a catch-up trade to a more material fundamental shift

See Thematic Drivers on the Rise (19 Mar 2024)

Exhibit 3: How thematics are trending in European earnings season - QoQ change (y-axis) vs proportion of mentions (x-axis) - skew to positive mentions on the rise



Note:* % Difference between L12M and Sept-23 L12M; universe is stocks with >$500m market cap; searches are inclusive of synonyms. Source: AlphaSense, Morgan Stanley Research

Exhibit 4: Our thematic findings support that the recent breakout of EU equities to new all-time highs has moved beyond catch-up trade to fundamental shift

Source: MSCI, Datastream, Morgan Stanley Research

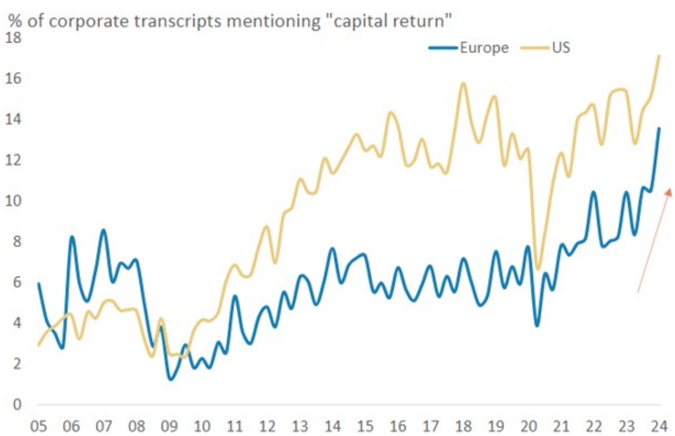
Europe Equity Strategy / Valuation

European Corporates' Cash Return to Shareholders Is Trending at a Multi-Year High

European corporates' discussions of "cash return" has translated into strong actual shareholder remuneration, according to work by our Global Valuation, Accounting, and Tax (GVAT) Strategists. The team publishes quarterly analyses of corporates' sources of cash, and perhaps more importantly, how they have deployed that cash. They found that, commensurate with management mentions of "capital return", Europe's corporates' actual total shareholder return (dividends + buybacks) edged higher in 4Q to approach a multi-year high. The region's corporates returned ~40% of the cash they generated to shareholders, in line with the trend over the past few quarters.

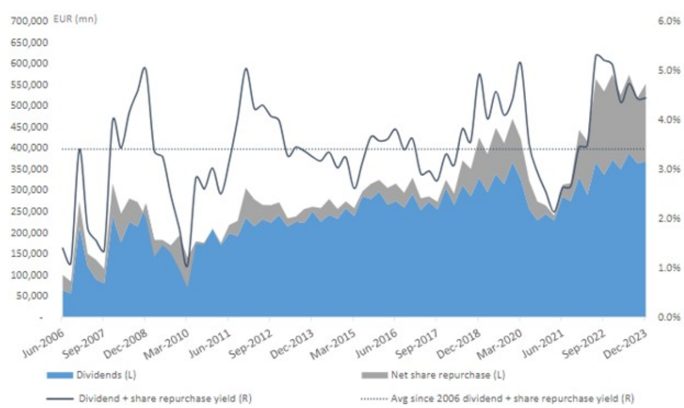
See European Shareholder Return Trending at Multi-Year High (20 Mar 2024)

Exhibit 5: Capital return mentions in Europe are breaking out to 20Y highs and catching up with the rise in the US



Source: Note: Quarterly number of transcripts reduces over long-term history e.g. 2009 sample size at half of current levels; all metrics are a proportion of relevant sample size at the time; searches are inclusive of synonyms; universe is stocks with >$500m market cap. Source: AlphaSense, Morgan Stanley Research; For more details, see: European Equity Strategy: Thematic Drivers on the Rise (19 Mar 2024)

Exhibit 6: MSCI Europe Total Shareholder Return



Source: FactSet, Morgan Stanley Research

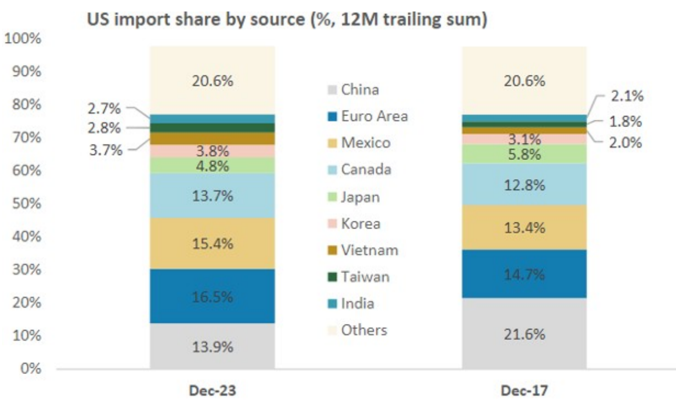
US and Asia Economics

Onshoring of US Manufacturing Limited to Date, but Sources of US Imports Have Become More Diversified

The trade policy debate typically becomes prominent during a US election cycle, and data from our Asia Economics team can help offer context for this debate. Our team argues that if trade policy was intended to bring manufacturing back onshore into the US, headline metrics suggest limited traction so far. They note that the US trade deficit has widened even further since 2017 and the US's share of global imports has remained around 13%, suggesting that there has been very limited onshoring to date. However, they see some initial signs of greater diversification: the US is now importing much less from China than in 2017 and has diversified its import sources. China's import share in the US has dropped from 21.6% in December 2017 to 13.9% in December 2023. Over the same time period, the Euro Area has gained the most market share in US imports, after Mexico, and alongside Vietnam, India, and Canada.

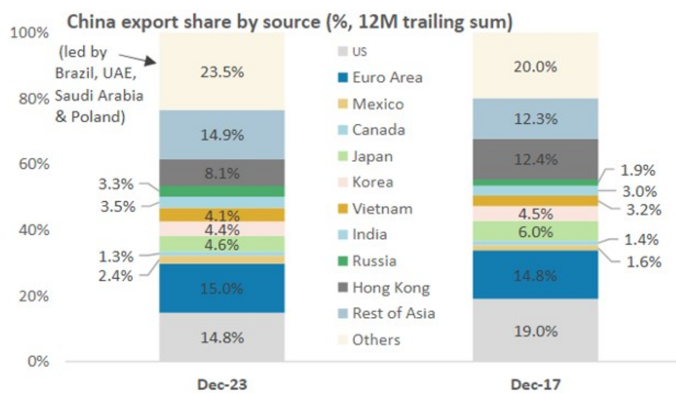
See The Viewpoint: Trade Tensions, Supply Chain Diversification, and China (19 Mar 2024)

Exhibit 7: The US has imported less from China and more from the likes of the Euro Area, Mexico, Canada, and Vietnam



Source: aver, Morgan Stanley Research

Exhibit 8: China has exported less to the US, but more to the Euro Area, Vietnam, Mexico, and the rest of Asia



Source: Haver, Morgan Stanley Research

US Large-Cap Banks

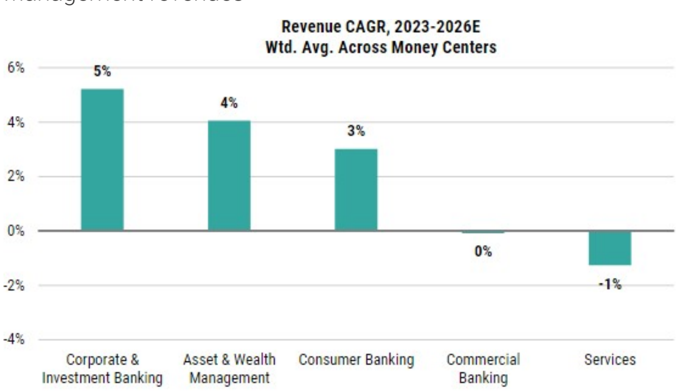
We Are Bullish on the Ongoing Capital Markets Rebound, and We See Money Center Banks as a Way to Play It

Our US Financials sector analysts are bullish on a rebound in capital markets activity, with M&A, Equity Capital Markets, and Debt Capital Markets as a percent of US nominal GDP all running near 3-decade lows. Our team believes that the money center banks — Bank of America, Citi, Goldman Sachs, and JPMorgan, all of which they rate Overweight — are a way to play this view. They expect these banks to see the fastest revenue growth rate in their Corporate & Investment Banking segments, followed by Asset & Wealth Management, and capital markets drive a weighted average 57% of these bank's total revenues, on their estimates. Turning to valuation, Corporate & Investment Banking represents the single largest component of our analysts' sum of the parts (SOTP) valuation of each of the four capital markets banks they cover.

See Capital Markets Rebound to Drive Up Money Center SOTP Valuations (20 Mar 2024)

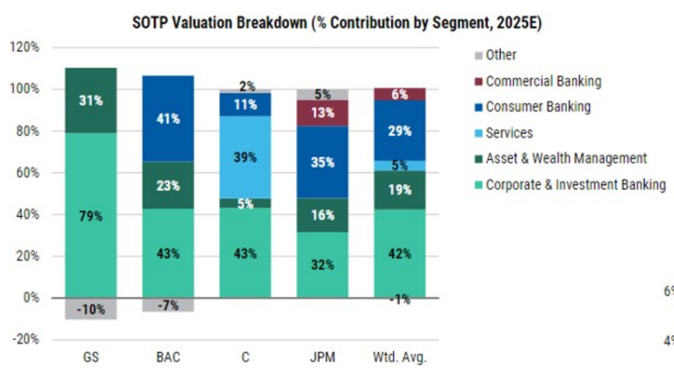
Share prices: Bank of America, (BAC, $37), Citigroup (C, $61), Goldman Sachs (GS, $407), JPMorgan (JPM, $197)

Exhibit 9: We expect the fastest growth rate in Corporate & Investment Banking revenues, followed by Asset & Wealth Management revenues



Source: Company data, Morgan Stanley Research estimates

Exhibit 10: Capital markets rebound drives wtd. avg. 61% of money center valuations (green) through Corporate & Investment Banking, where revenues are driven by capital markets activity, and Asset & Wealth Management, where revenues are driven by capital markets valuation levels



6%

4%

Source: Company data, FactSet, Morgan Stanley Research estimates

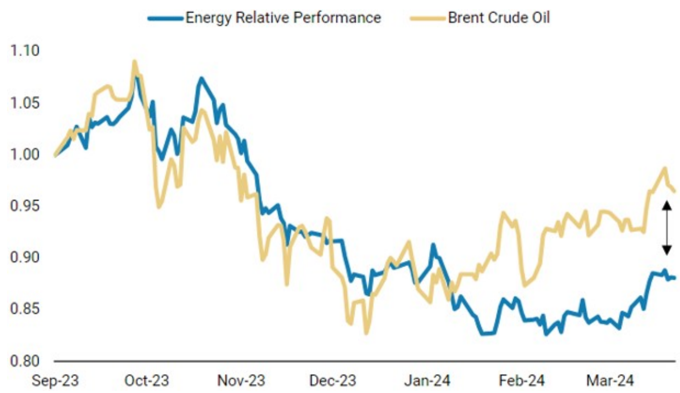
US Equity Strategy

Raise Energy Sector Allocation to Overweight: Inflecting Relative Earnings Revisions, Strong Breadth, Compelling Valuation

Our US Equity Strategists have raised their recommended allocation to the Energy sector to overweight. The sector's relative performance versus the S&P 500 has lagged the price of crude YTD. Add in inflecting relative earnings revisions, strong breadth, and compelling valuation (8th percentile of historical EV/EBITDA levels), and our team thinks there could be a catch-up in Energy equities. Further, they continue to believe we are in a late-cycle market environment, which has historically been supportive of Energy outperformance. Finally, proprietary Morgan Stanley data suggest hedge fund net exposure to the sector is low vs. history

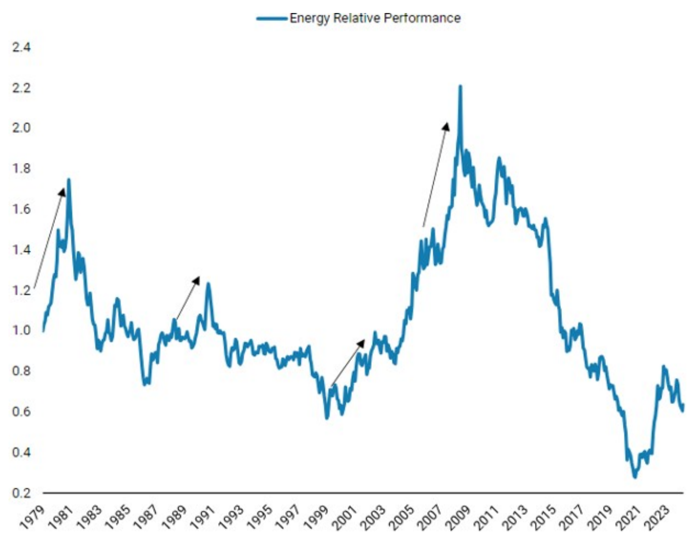
See Weekly Warm-up: Great Expectations Suggest More Rotations (25 Mar 2024)

Exhibit 11: Energy Sector's Relative Performance Versus the S&P 500 Has Lagged the Price of Crude



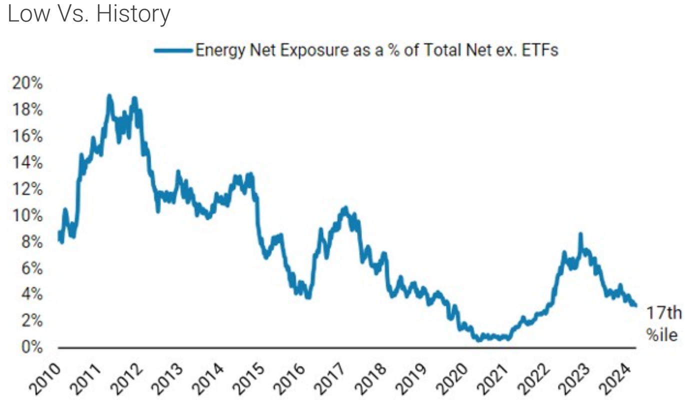
Source: Bloomberg, Morgan Stanley Research

Exhibit 12: Energy Is Historically A Late Cycle Outperformer



Source: Bloomberg, Morgan Stanley Research

Exhibit 13: Hedge Fund Net Exposure to the Energy Sector Is Low Vs. History



Source: Morgan Stanley Prime Brokerage.

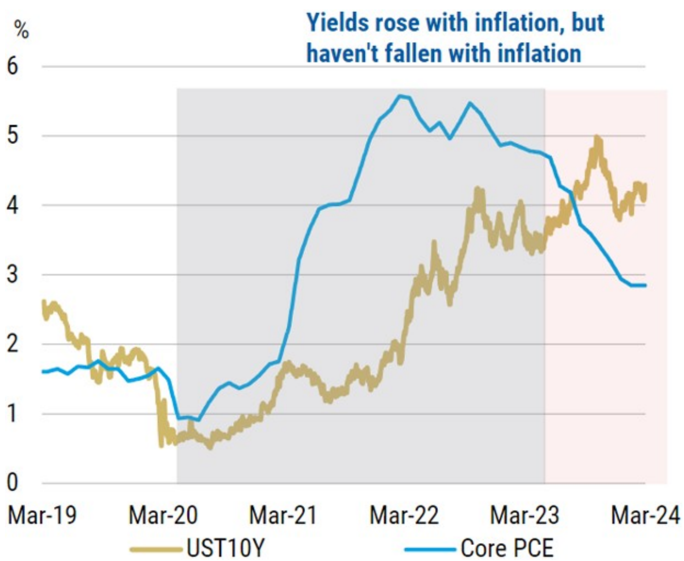
US Rates Strategy

Treasury Yields Followed Inflation Higher, but Have Not Followed Inflation Lower; We Expect That to Change

Our US Interest Rate Strategists note that despite the decline in core PCE inflation that gained traction in 2023, 10-year yields have stayed stubbornly above 4%. Why? They point to the common narrative that the Fed could not be expected to cut amid strong economic growth and tight labor markets. But our Rates team views this as misguided, as our US Economists believe a strong rise in labor supply, in part due to high immigration, helps explain last year's strength in output and employment, and also adds a lagged disinflationary effect. Our Rates team sees room for Treasury yields to move lower as markets come to this view. Their analysis suggests that if Treasury rates had followed its previous relationship with inflation surprises, 10-year yields would be around 3.60% today.

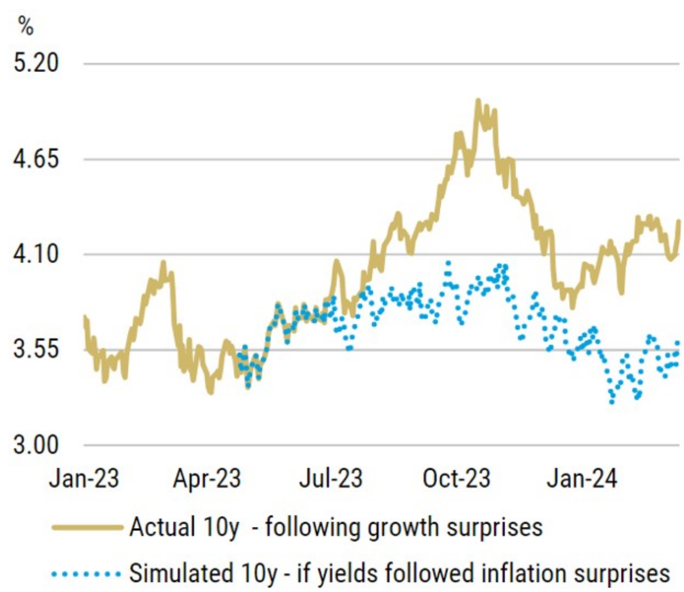
See Supply-Side Curveball (15 Mar 2024)

Exhibit 14: 10-year yields versus core PCE in the last five years



Source: Bloomberg, Morgan Stanley Research

Exhibit 15: 10y yields – actual versus simulated based on following inflation surprises



Source: Bloomberg, Morgan Stanley Research

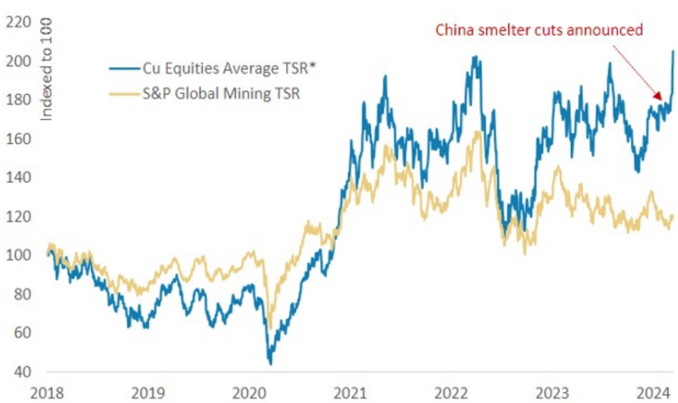
Copper / Anglo American

The Copper Party

Our Europe Metals & Mining team notes that the disparity in total shareholder returns (TSR) between pure-play copper miners and the broader S&P Global Mining index has reached a post-2017 high. While they argue that the near-term backdrop favors copper-exposed miners, they see value in shares of high-quality, cash-generative, diversified mining companies. They believe Anglo American (AAL.L, 1,931p, Overweight), a diversified minor, could also could see a valuation re-rating driven by its high-quality copper business should the company make progress on its portfolio review.

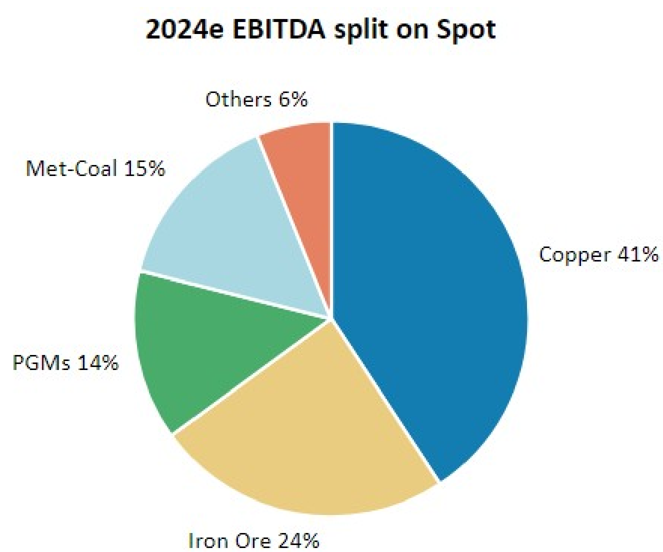
See The Copper Party (21 Mar 2024) and Anglo American Plc: The Copper Within (20 Mar 2024)

Exhibit 16: The 2018-to-date outperformance of copper equities vs general mining reached an extreme



Source: Bloomberg, Morgan Stanley Research

Exhibit 17: Anglo American's copper business would constitute ~41% of consolidated 2024e EBITDA based on spot Cu prices



Source: Morgan Stanley Research estimates (e)

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(as of February 29, 2024)

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	Coverage Universe		Investment Banking Clients (IBC)			Other Material Investment Services Clients (MISC)	
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category	Count	% of Total Other MISC
Overweight/Buy	1425	38%	296	43%	21%	626	40%
Equal-weight/Hold	1704	45%	321	46%	19%	718	45%
Not-Rated/Hold	3	0%	0	0%	0%	1	0%
Underweight/Sell	634	17%	76	11%	12%	239	15%
Total	3,766		693			1584	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

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