

May 9, 2025 04:30 PM GMT

## metal&amp;ROCK | Europe

# Gold: Risk-on, Risk-off

Gold has stabilised between \$3200 and \$3500/oz after a very fast rally. ETFs were the key driver of the move up, but have been seeing outflows as the S&P rebounds, suggesting competition from other asset classes is the key driver at the moment.

## Key Takeaways

- Uncertainty on tariffs and global growth supported gold prices via investment demand, with very strong ETF inflows through Q1 and most of April.
- But high prices are starting to hurt gold demand elsewhere, with jewellery demand falling and central bank purchases slowing.
- For gold to keep moving higher, investment demand (and uncertainty) need to stay high, as gold faces competition from other asset classes.

**Finding a range:** After touching \$3500/oz intra-day in late April (a \$500/oz rise in about 9 business days), gold has settled into a range, which we expect to hold for now.

**Physical demand strong, but mixed trends:** World Gold Council data shows 1Q physical gold demand up 1% YoY, making it the strongest 1Q since 2016. This was driven entirely by investment (ETFs added 227t and bar and coin demand rose 8t). In contrast, central bank demand was down 21% YoY or -66t from a very high base but was still a robust 244t in Q1, with Poland, Azerbaijan and China the largest buyers ([Exhibit 12](#)). Jewellery was weak too, down 19% YoY (-105t), led by China and India.

**ETF inflows key to watch from here.** Without the ETF inflows, gold demand would have been down in Q1, making this the key driver from here, in our view. After very strong inflows YTD, ETFs have seen outflows in 11 of the last 13 days (almost exactly matched by increases in the S&P 500). In [Exhibit 5](#) to [Exhibit 8](#), we look at what factors correlate with ETF holdings, and see a good relationship with inflation expectations and geopolitical risk, as well as an inverse relationship with equities and the Fed funds rate, suggesting competition from other asset classes is the biggest threat to gold currently. ETF inflows would likely return on any S&P pullbacks.

**Where next?** Gold already briefly touched our 3Q target of \$3500/oz, but we think the current elevated range can hold for now as long as ETF inflows return. In particular, we observe strong ETF inflows in China, and the elevated Shanghai gold premium also suggests strong physical demand even at these price levels. In our view, the changing tariff and growth backdrop is likely to keep markets swinging between risk on and risk off, keeping gold volatile. A rebound in investor positioning in COMEX futures could bring additional upside, with net longs the lowest since Feb 2024 while further ETF outflows are likely to put the price under pressure.

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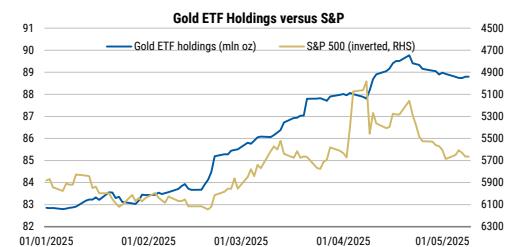
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**Exhibit 1 :** Gold ETFs have seen outflows as the S&P 500 has rebounded, suggesting gold is facing competition from other asset classes



Source: Bloomberg

Also see: [metal&ROCK: The Price Deck – 2Q25: Brace for Volatility](#) (8 Apr 2025)

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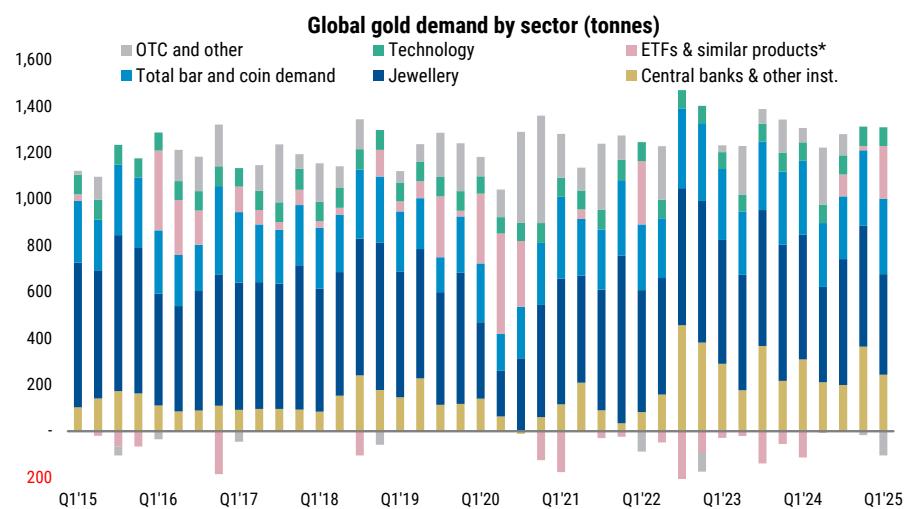
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# How is Gold Demand Evolving?

## Strong Seasonal Demand

Gold demand in Jan-March reached its highest Q1 level since 2016. This was almost entirely driven by investment demand, notably ETF inflows which more than offset weakness in jewellery and slower central bank demand.

**Exhibit 2:** Global gold demand in Q1 reached 1,206t, up 1% YoY, driven by very strong ETF inflows



Source: World Gold Council

**Investment drives demand; competition from other asset classes becomes the biggest threat**

### ETFs were the biggest driver of gold demand in Q1

After 4 years of outflows, gold ETFs added 227 tonnes of gold YTD, rising to the highest level since Q1-2022. This continued through early April after the US "Liberation day".

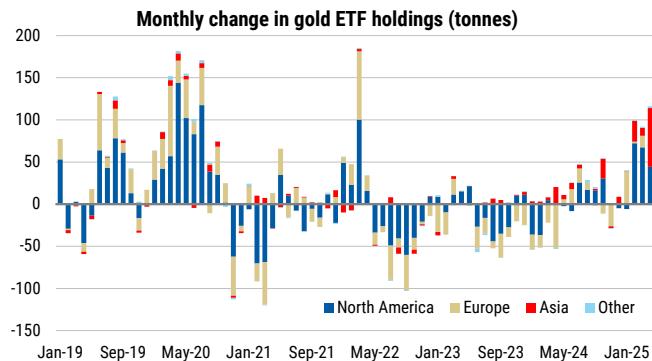
This buying has been supported by rising uncertainty, with North America and Asia seeing the biggest inflows as investors rotated from other asset classes. In fact, inflows from Asia reached a record high in April, largely driven by China. In North America, while ETF inflows slowed versus February and March, this was still the second strongest April on record. Europe saw modest outflows, as the strong rebound in the stock market reduced gold's appeal.

However, ETFs have now seen outflows in 11 out of the last 13 days, coinciding with S&P's longest winning streak in 20 years, suggesting competition from other asset classes is the biggest threat to these flows.

In the charts below, we look at various potential drivers for ETFs and note that holdings are often positively correlated with inflation expectations and geopolitical risk, with inflows reflecting concerns over stagflation and tariff uncertainties. In contrast, ETF demand has been inversely correlated with the S&P 500 and Fed funds rate, which

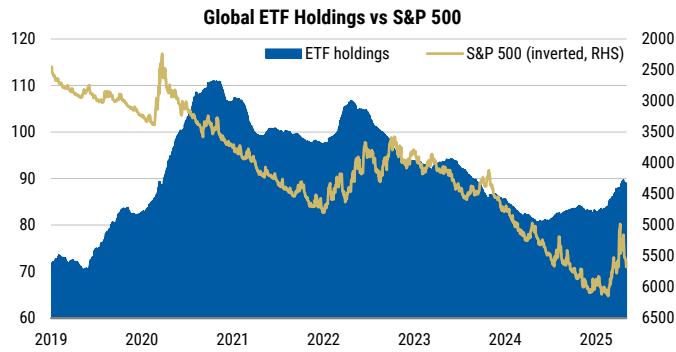
explains the recent outflows as mentioned above.

**Exhibit 3:** The growth in ETF inflows have been the highest since COVID ...



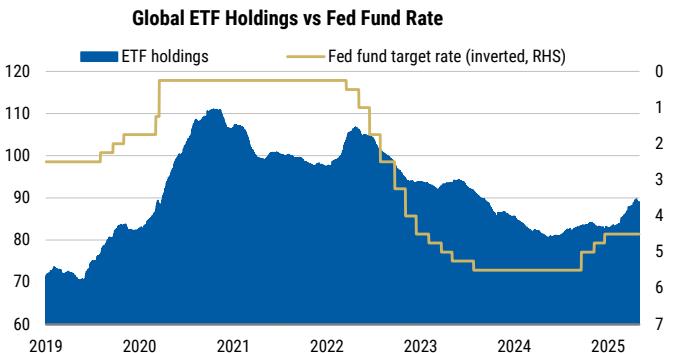
Source: World Gold Council

**Exhibit 5:** ETF holdings have been inversely correlated with the S&P 500, with the recent fall and recovery with stocks being met by inflows and outflows in gold ETFs



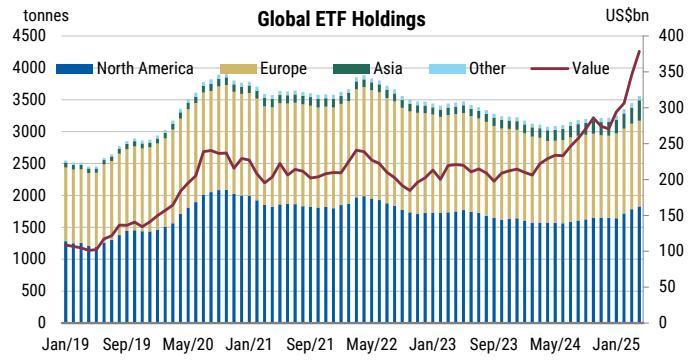
Source : Bloomberg, Morgan Stanley Research

**Exhibit 7:** Gold ETF holdings have been inversely correlated to the Fed funds rate, with the recent fall in rates driving inflows into ETFs



Source: Bloomberg, Morgan Stanley Research

**Exhibit 4:** ... Led by a pick up in North American and Asian holdings



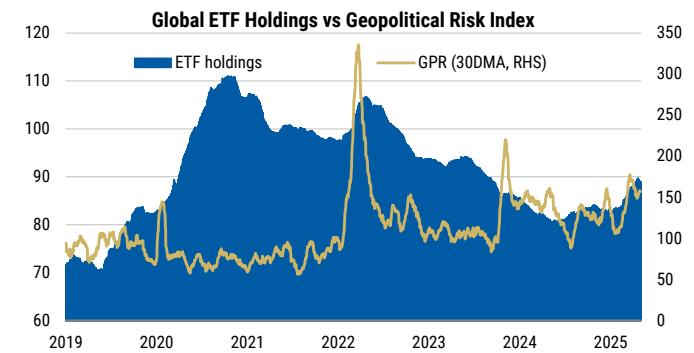
Source: World Gold Council

**Exhibit 6:** ETF holdings often rise with inflation expectations as they are viewed as a hedge, with the recent pick-up in holdings coinciding with stagflation concerns



Source: Bloomberg, Morgan Stanley Research

**Exhibit 8:** Gold ETF inflows have been positively correlated with heightened geopolitical risk, with ETF holdings recently rising amid tariff uncertainty



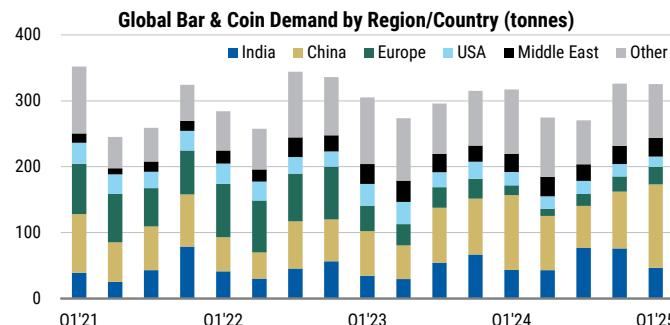
Source: Matteo Iacoviello, Bloomberg, Morgan Stanley Research

### But bar and coin demand was up too:

Bar and coin demand was up 8t YoY in Q1 (+3%) at 325t, primarily driven by China and Europe. In Q1, Chinese demand surged to its second highest level on record, while Turkey

and the US saw outflows. Indian demand grew for the 7th consecutive quarter as the domestic equity market underperformed, although the pace of growth slowed down given higher prices, suggesting more price sensitivity than China.

**Exhibit 9:** Global bar & coin demand in Q1 was up 3% YoY, mainly driven by China (+12% YoY) and Europe (+79% YoY)



Source: World Gold Council

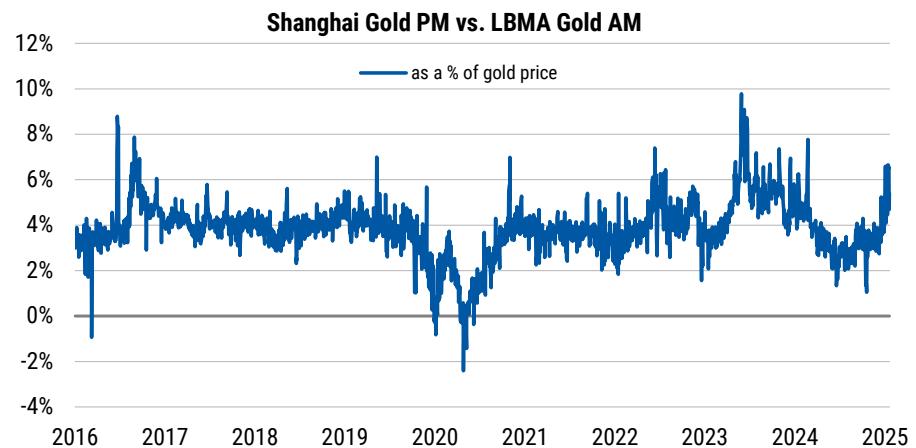
**Exhibit 10:** China took share from India in Q1, suggesting less sensitivity to rising prices



Source: World Gold Council

### Exhibit 11:

The Shanghai gold premium has held up, even as gold has rallied, suggesting ongoing strong demand for physical gold in China



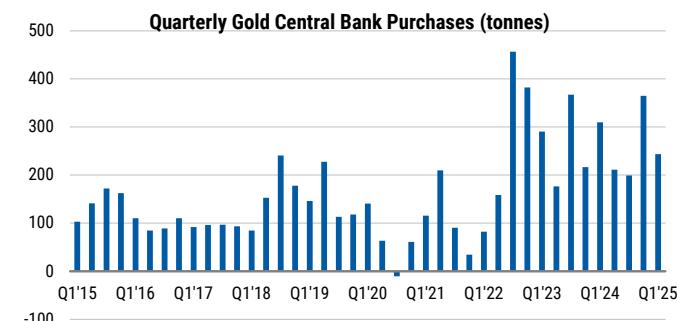
Source: Bloomberg, Morgan Stanley Research

## Central banks slowing

Central bank purchasing in Q1 fell 21% YoY from a high base, but was still 24% above the 5-year quarterly average. Poland was the leading buyer, purchasing 54t during the quarter, lifting its total gold holdings to 497t (21% of its total reserves). China grew at a slower pace, adding only 13t in Q1, nudging gold's share of total reserves to 6.5%. The largest net seller was Uzbekistan, selling 15t in Q1.

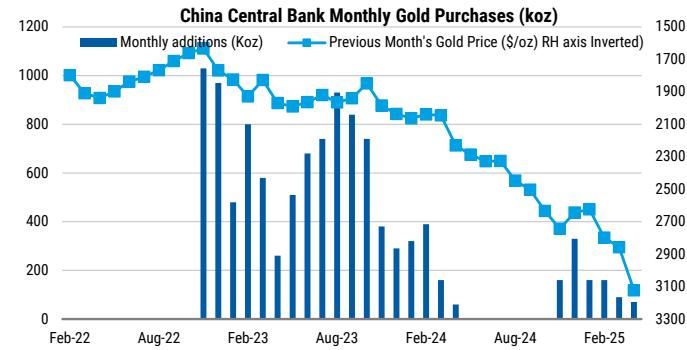
Currently, 36 of the top 100 reserve-holding countries have gold allocations of less than 10%. If these countries were to increase their gold share to 10%, it would imply ~4,000t of incremental demand - equivalent to four more years of buying at recent run-rates. A move to 20% would require 17,700t of additional gold from current levels, sustaining purchasing for over 16 years.

**Exhibit 12:** Quarterly central bank purchases in Q1 were down 21% YoY, but within the quarterly range of the last 3 years



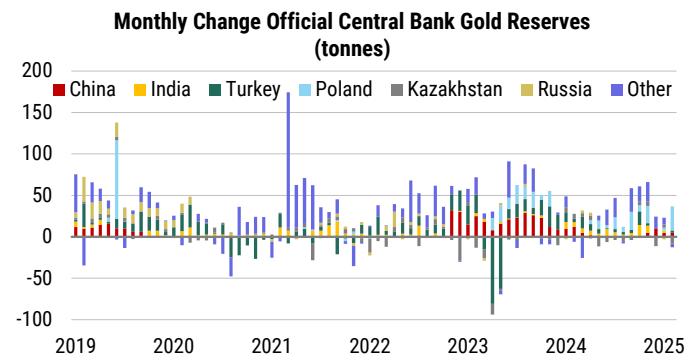
Source: World Gold Council

**Exhibit 14:** China's Central Bank resumed purchases in November but the pace has slowed as gold has rallied



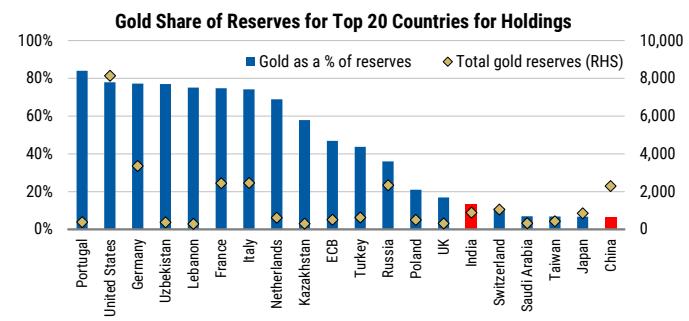
Source: World Gold Council

**Exhibit 13:** Monthly change in central bank gold reserves show the largest additions from Poland



Source: World Gold Council

**Exhibit 15:** While China and India's central bank purchases have surged during the past two years, their gold holdings as a % of reserves are still far below many Western countries



Source: World Gold Council

## Jewellery continues to weaken

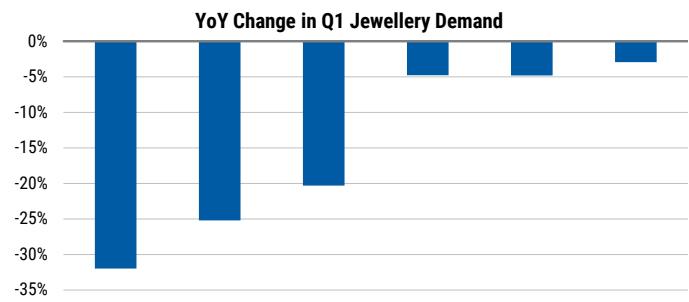
Jewellery tends to be more price sensitive, as consumers go with a budget rather than a quantity of gold to buy. This is showing up in the data, with jewellery demand falling 19% YoY in Q1, as record high prices weighed on affordability. This was driven by China (-32%) and India (-25%). China's Q1 demand fell to a 5-year low, with consumers increasingly preferring lighter weight items.

**Exhibit 16:** Jewellery demand was the weakest since Q3 2020



Source: World Gold Council

**Exhibit 17:** Jewellery demand from China and India was the worst hit in Q1



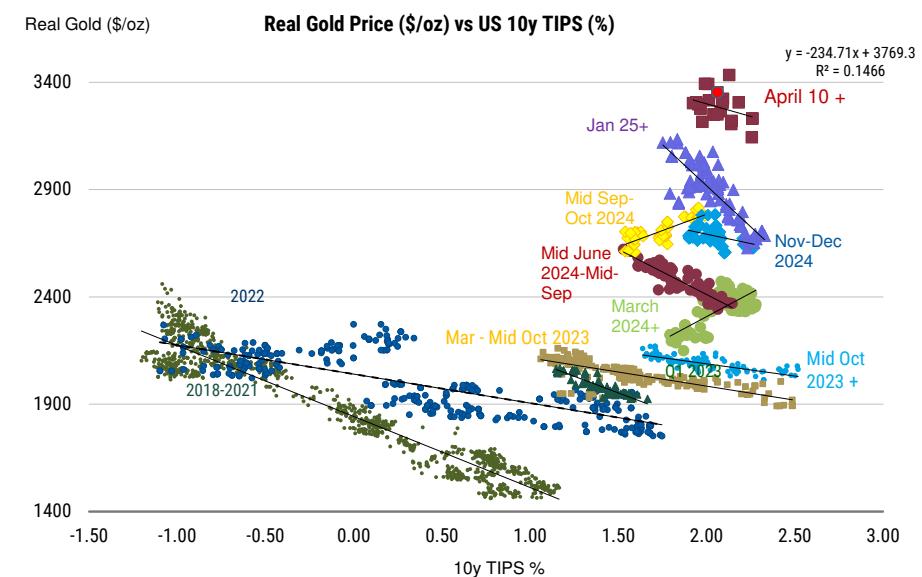
Source: World Gold Council

## Macro Drivers

In our view, macro drivers have become less relevant as an explainer for the gold price in recent years, as physical demand trends have become more important. This is illustrated in [Exhibit 18](#), which shows a deteriorating and ever changing relationship between gold and real yields. At the May FOMC meeting, the US Fed left rates unchanged, in line with expectations. Our economists expect the Fed will remain in 'wait-and-see mode', forecasting no rate cuts in 2025, with back-loaded cuts in 2026 that bring the policy rate to 2.50-2.75%. Our rates strategists expect a steeper yield curve, while our FX strategists see room for the USD to decline on negative policy premium and yield differentials.

A 'stagflation' scenario, where growth falls and inflation remains sticky, could provide a more supportive backdrop for gold, while continued weakness in the USD would also be supportive, all else equal.

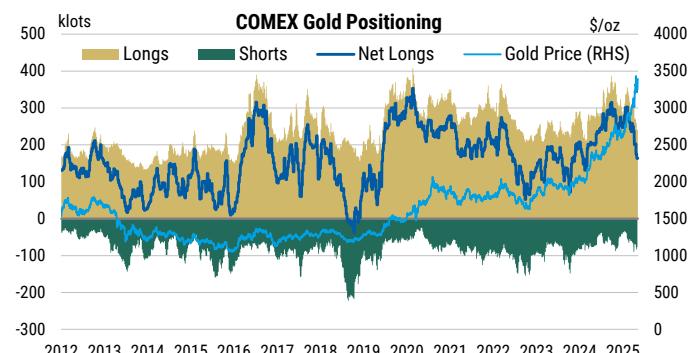
**Exhibit 18:** Gold's correlation with real yields has been very low in recent weeks as uncertainty and physical demand have been the key drivers



Source: Bloomberg

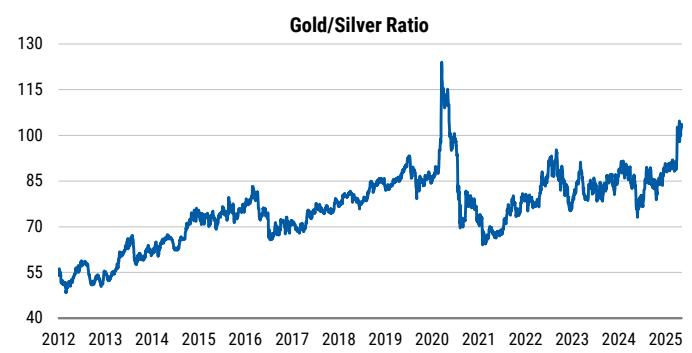
While gold ETFs have been seeing inflows, gold futures on the COMEX exchange have seen large outflows, with net positioning falling 140k lots (equivalent to around 400 tonnes, although most contracts won't be physically delivered). This may have been driven by outflows after bullion was excluded from US reciprocal tariffs - there had been a rush to send gold to the US in anticipation of this. As such, investor positioning is not overstretched and could provide some upside to gold if it returns. The gold/silver ratio remains above 100 for now but is below the covid peak.

**Exhibit 19:** COMEX net-long positioning has fallen over the past few weeks, despite gold continuing to move higher



Source: Bloomberg

**Exhibit 20:** The gold/silver ratio is stretched, but still below the peak seen in COVID



Source: Bloomberg

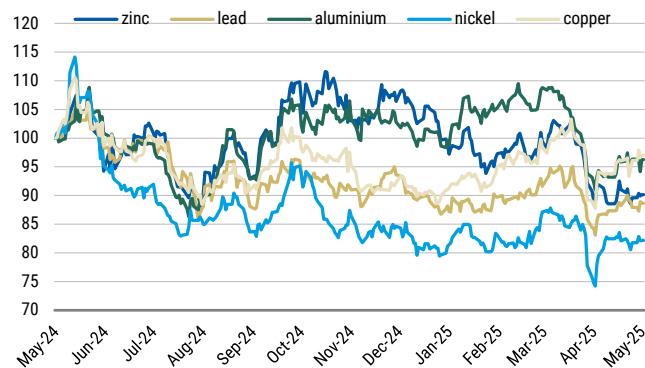
# Week in Review

**Base Metals:** Base metals moved higher last week except for aluminium. This was driven by increasing expectations of potential US-China trade talks, which could result in de-escalation. Copper was the best performer last week, with Chinese inventories continuing to move lower as the Yangshan premium picked up, reflective of strong demand onshore. Copper rose 1% last week, while aluminium was down 1%, with the copper/aluminium ratio now close to 4x.

**Precious Metals:** The precious metal complex rebounded last week, with gold rising almost 3% WoW. Safe haven demand for gold picked up, led by an uptick in geopolitical uncertainty, while the broader complex moved higher as the DXY edged lower. Palladium and platinum were up 3% and 2.5% WoW respectively, while silver was also up 2% on the week.

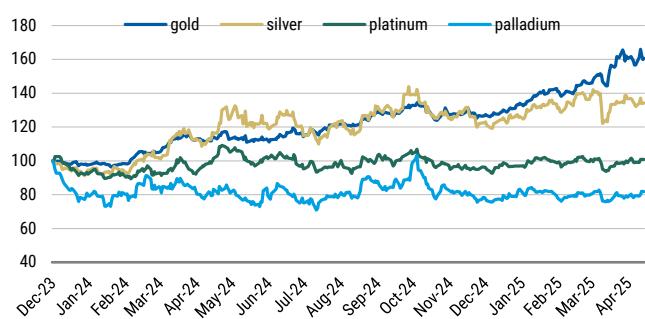
**Bulks:** Iron ore softened to \$98/t, driven by slowing steel production from China. CISA member mills' output fell by 1.2pc from 11-20 April to 2.202mn t/d over 21-30 April, because margins narrowed. Australia hard coking coal remained flat at \$191/t last week, while the Newcastle thermal coal price was at \$99/t. The Northwest European (ARA) thermal coal price rose to \$97/t.

**Exhibit 21:** Base metals price indices (12-month rolling)



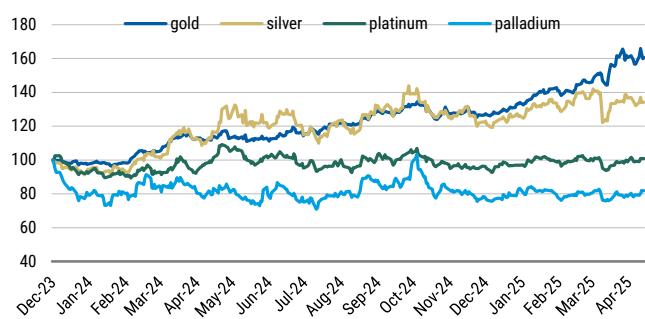
Source: Bloomberg, Morgan Stanley Research

**Exhibit 22:** Precious metals indices (12-month rolling)



Source: Bloomberg, Morgan Stanley Research

**Exhibit 23:** Bulk commodity price indices (12-month rolling)



Source: Platts, Bloomberg, Morgan Stanley Research

## Morgan Stanley Price Forecasts

**Exhibit 24:** Summary of Morgan Stanley's commodity price forecasts (set on 9th Apr 2025)

commodity group	unit	4Q 24a	1Q 25a	2Q 25e	3Q 25e	4Q 25e	1Q 26e	2Q 26e	3Q 26e	2024	2025e	2026e	2027e	2028e	2029e	2030e	LT real	LT nom.
<b>Base Metals</b>																		
LME Aluminium	US\$/lb	1.17	1.19	1.20	1.16	1.22	1.25	1.25	1.25	1.08	1.19	1.25	1.27	1.27	1.32	1.27	1.11	1.24
	US\$/t	2,573	2,624	2,650	2,550	2,700	2,750	2,750	2,750	2,377	2,631	2,750	2,800	2,900	2,800	2,440	2,440	2,734
LME Copper	US\$/lb	4.16	4.23	4.22	4.08	4.22	4.26	4.31	4.31	4.09	4.19	4.30	4.42	4.45	4.54	4.76	4.31	4.83
	US\$/t	9,180	9,336	9,300	9,000	9,300	9,400	9,500	9,500	9,013	9,234	9,475	9,750	9,800	10,000	10,500	9,500	10,646
COMEX Copper	US\$/lb	4.26	4.58	5.06	5.10	5.27	5.33	5.39	5.39	4.23	5.00	5.37	5.31	5.11	5.22	5.24	4.40	4.93
	US\$/t	9,390	10,099	11,160	11,250	11,625	11,750	11,875	11,875	9,324	11,034	11,844	11,700	11,270	11,500	11,550	9,690	10,859
LME Nickel	US\$/lb	7.25	7.06	7.03	7.03	7.26	7.48	7.48	7.71	7.54	7.10	7.65	8.16	8.62	9.39	9.39	8.35	9.35
	US\$/t	15,988	15,571	15,500	15,500	16,000	16,500	16,500	17,000	16,628	15,643	16,875	18,000	19,000	20,700	20,700	18,400	20,619
LME Zinc	US\$/lb	1.38	1.29	1.36	1.38	1.43	1.36	1.27	1.27	1.24	1.36	1.29	1.32	1.32	1.32	1.36	1.20	1.35
	US\$/t	3,049	2,837	3,000	3,050	3,150	3,000	2,800	2,800	2,725	3,009	2,850	2,900	2,900	2,900	3,000	2,651	2,970
LME Lead	US\$/lb	0.91	0.89	0.91	0.91	0.91	0.93	0.93	0.93	0.92	0.90	0.93	1.00	1.07	1.11	1.13	1.02	1.14
	US\$/t	2,004	1,969	2,000	2,000	2,000	2,050	2,050	2,050	2,019	1,992	2,050	2,205	2,350	2,450	2,500	2,250	2,521
<b>Precious Metals</b>																		
Gold	US\$/oz	2,660	2,856	3,300	3,500	3,500	3,300	3,250	3,000	2,360	3,289	3,088	2,575	2,200	2,200	2,200	1,900	2,129
Silver	US\$/oz	31.3	31.9	35.9	37.6	38.5	36.7	38.2	35.3	28.0	36.0	36.3	33.5	30.9	31.4	31.4	25.3	28.4
Platinum	US\$/oz	972	974	1,050	1,075	1,100	1,150	1,200	1,250	940	1,050	1,225	1,421	1,499	1,521	1,550	1,400	1,596
Palladium	US\$/oz	1,017	969	960	950	950	900	900	900	980	957	900	875	875	1,100	1,200	1,100	1,233
<b>Bulks</b>																		
Iron Ore (fines 62% Fe, cfr N.China)	US\$/t	104	104	95	95	100	105	90	90	110	98	95	93	96	100	100	90	101
Hard Coking Coal (spot, fob Aus)	US\$/t	205	184	170	180	180	200	205	210	241	179	211	213	214	215	215	195	219
Thermal coal (spot, fob Newc)	US\$/t	139	110	100	107	105	110	110	115	136	106	113	125	130	135	135	125	140
<b>Other</b>																		
Manganese ore (44%)	US\$/mtu	4.1	4.7	5.1	4.3	4.5	5.0	5.0	5.0	5.4	4.6	5.0	5.5	5.5	5.5	4.8	5.4	
Alumina (spot, fob Aus)	US\$/t	702	517	350	350	375	400	400	400	494	398	400	400	400	430	407	456	
Lithium carbonate (spot China, ex-VAT)	US\$/t	9,350	9,200	9,000	9,000	9,500	9,500	10,000	10,500	11,225	9,175	10,250	12,375	14,000	14,000	14,000	13,700	15,352
Cobalt	US\$/lb	11.6	12.9	19.0	19.0	19.0	15.0	13.0	11.0	12.8	17.5	12.5	13.0	15.0	15.0	14.0	15.7	
Uranium - spot	US\$/lb	76.8	66.2	67.0	69.0	72.0	75.0	80.0	80.0	84.9	68.5	78.8	75.0	70.0	65.1	66.4	60.0	67.2
<b>Exchange Rates</b>																		
1 AUD = USD		0.65	0.63	0.64	0.65	0.65	0.67	0.68	0.70	0.64	0.64	0.69	0.72	0.71	0.71	0.71	0.74	0.72
1 USD = BRL		5.84	5.85	5.79	5.92	6.05	6.19	6.27	6.28	5.52	5.90	6.26	6.34	6.40	6.46	6.52	4.94	5.56
1 USD = CAD		1.40	1.43	1.42	1.42	1.42	1.40	1.37	1.35	1.40	1.42	1.36	1.32	1.28	1.28	1.28	1.26	1.28
1 USD = ZAR		18.09	18.09	18.55	18.66	18.97	19.28	19.59	19.90	18.75	18.57	19.75	20.90	21.91	22.92	23.93	18.75	24.67
1 EUR = USD		1.07	1.05	1.06	1.06	1.07	1.08	1.08	1.09	1.06	1.06	1.08	1.11	1.13	1.15	1.18	1.17	1.19
1 USD = CNY		7.19	7.27	7.35	7.39	7.40	7.24	7.24	7.24	7.38	7.35	7.24	7.24	7.29	7.24	7.15	7.10	6.52

Source: LME, Bloomberg, Platts, Morgan Stanley Research estimates (e). Note: Exchange rate forecasts are the assumptions that are compiled and used by Global Resources Equity Team; all prices are nominal, unless otherwise indicated.

# Commodity Thermometer

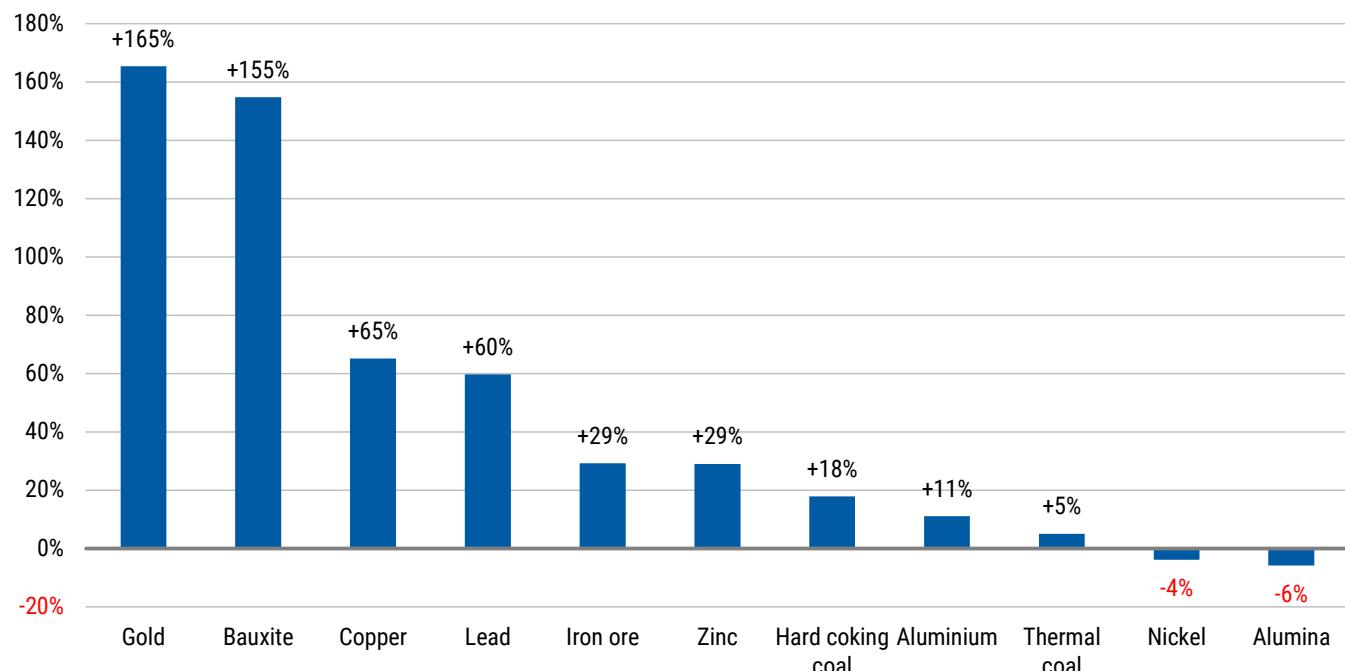
**Exhibit 25:** Metals & Mining Commodity Thermometer

Rating	Commodity	Bearish	Neutral	Bullish	Thesis
5	Gold				We see further upside in gold. Real yields are expected to decline further and ETF buying is just picking up, while physical demand remains robust. Growth/stagflation concerns, tariff and geopolitical uncertainty add to safe haven demand too.
5	Silver				Despite a strong fundamental backdrop, we see less scope for silver to outperform gold from here as the economic / industrial outlook turns more uncertain.
4	Platinum				Platinum has moved into a structural deficit, but it's unclear how long it will take to work down sizable above ground stocks.
4	Zinc				We see an improved risk-reward as tight mine supply and low TCs tighten the refined market balance. However, demand could soften in a global recession.
4	Hard coking coal				We see prices starting to find cost support, but more supply adjustments may be needed to really tighten the market.
4	Uranium				We see room for a modest rebound in uranium spot prices as supply growth disappoints and demand picks up from a low base.
4	Cobalt				We expect cobalt to remain well supported in 2025, with export controls tightening supply and weighing on inventories.
4	Thermal coal				Thermal coal is cutting into its cost curve, which will limit further downside. Q2 is shoulder season, but a hot northern hemisphere summer could bring upside.
4	Aluminium				In a tightening market with China's capacity cap, we see aluminium trading around \$2600/t, but recession risks could push it below \$2000/t if demand declines.
3	Lead				Although near-term demand looks stable, we expect the market to gradually loosen as scrap and concentrate supply recover through 2025.
3	Lithium carbonate				We are neutral on lithium - demand growth remains resilient for this year, but we see upside capped as the cost curve moves lower and supply growth comes through.
3	Nickel				We forecast nickel staying range-bound for 2025, but with downside risks if the economic backdrop deteriorates and positioning now net long.
3	Palladium				We continue to see palladium price volatility, amplified by elevated short positioning. We expect a small deficit in 2025, but fundamentals have weakened considerably.
3	Alumina				We see the market in a surplus for this year, with the surplus more than doubling in 2026 as new capacity comes online.
3	Copper				We reverse our bullish outlook on LME copper as the physical bid from the US fades and demand risks accelerate. If US tariffs are introduced, we expect the COMEX LME spread to settle at the tariff level, with LME correcting more than COMEX. However, some stockpiling may take place at lower prices.
3	Iron ore				We see the balance loosening as supply continues to recover and given China steel production cuts.
2	Manganese Ore				The market faces ample supply and demand is soft, paving the way for price falls.

Source: Morgan Stanley Research. Note: Order of preference based on 3Q25 forecasts vs last two weeks' average prices ending 8th April.

# Recent Reports

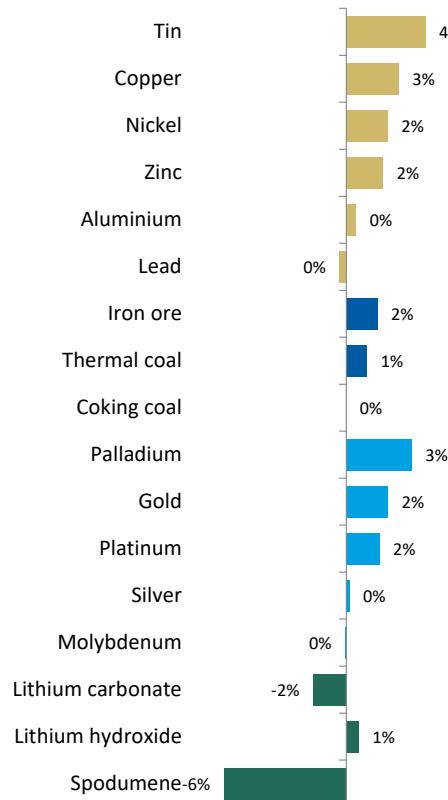
Commodity Matters: Copper Tight For Now But Risks Building?	01-May-25
metal&ROCK: Iron ore: Seasonality vs Stimulus	25-Apr-25
metal&ROCK: Tariff Pauses, Safe Havens and Cost Support	11-Apr-25
metal&ROCK: The Price Deck – 2Q25: Brace for Volatility	08-Apr-25
Commodity Matters: US Tariff Impact on Metals	03-Apr-25
metal&ROCK: Zinc: Mine Supply Disappoints	28-Mar-25
Commodity Matters: What Happens If US Copper Tariffs Are Announced?	26-Mar-25
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metal&ROCK: Lithium: A Tougher Backdrop	03-Mar-25
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metal&ROCK: What's Driving Aluminium?	21-Feb-25
Commodity Matters: Assessing Russia/Ukraine coal and iron ore export potential	20-Feb-25
metal&ROCK: Gold: Unstoppable?	14-Feb-25
Commodity Matters: US Puts 25% Tariffs on Aluminium Imports	11-Feb-25
metal&ROCK: Uranium Pullback Overdone?	07-Feb-25
Commodity Matters: Are China's 15% tariffs on US coal meaningful for the coal markets?	04-Feb-25

**Exhibit 26:** Spot commodity prices vs. the marginal cost of production

Source: Wood Mackenzie, Bloomberg, Morgan Stanley Research. Note: Marginal cost (year 2024); dataset Q1 2025; C1 cash costs.

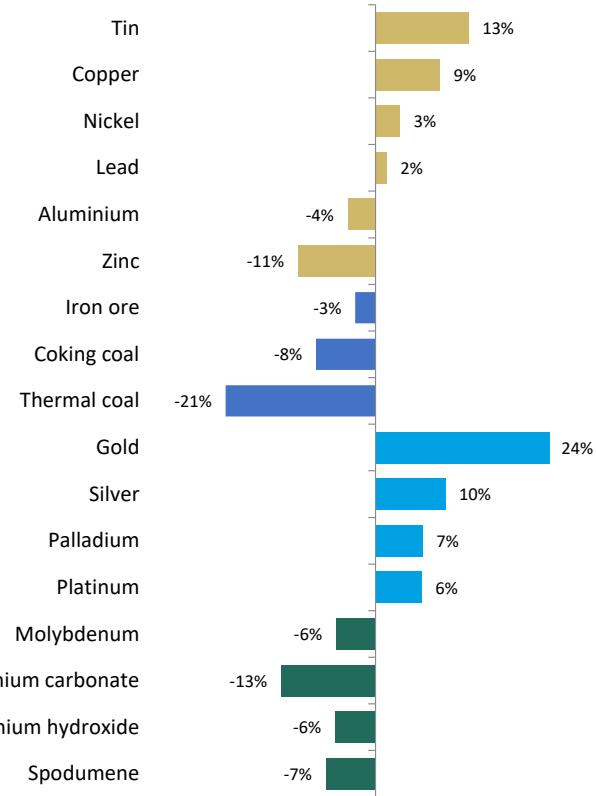
# Commodity Price Snapshot

**Exhibit 27:** Key metals: one-week absolute performance



Source: Bloomberg, Morgan Stanley Research

**Exhibit 28:** Key metals: YTD absolute performance



Source: Bloomberg, Morgan Stanley Research

**Exhibit 29:**

Base Metals: Price Snapshot

Base Metals	8-May-25	1-May-25	WoW Change (%)
Copper	9,477	9,240	2.6%
Aluminium	2,407	2,395	0.5%
Nickel	15,363	15,058	2.0%
Zinc	2,586	2,541	1.8%
Lead	1,935	1,942	-0.3%
Tin	31,900	30,710	3.9%

Source: Bloomberg, Morgan Stanley Research; WoW = Week on week

**Exhibit 30:** Precious Metals: Price Snapshot

Precious	8-May-25	1-May-25	WoW Change (%)	YtD (%)
Gold	3,306	3,239	2.1%	24.4%
Silver	32	32	0.2%	9.8%
Platinum	984	969	1.6%	6.5%
Palladium	975	945	3.2%	6.6%

Source: Bloomberg, Morgan Stanley Research; WoW = Week on week

**Exhibit 31:** Bulks: price snapshot

Bulks	8-May-25	1-May-25	WoW Change (%)
Iron ore	97	95	1.5%
Thermal coal	99	98	1.0%
Coking coal	187	187	0.0%

Source: Bloomberg, Morgan Stanley Research; WoW = Week on week

**Exhibit 32:** Other Metals: price snapshot

Other metals	8-May-25	1-May-25	WoW Change (%)
Molybdenum	20	20	-0.1%
Lithium carbonate	7,737	7,979	-2%
Lithium hydroxide	7,856	7,884	1%
China Spodumene 6% min CIF	760	812	-6%

Source: Bloomberg, Morgan Stanley Research; WoW = Week on week

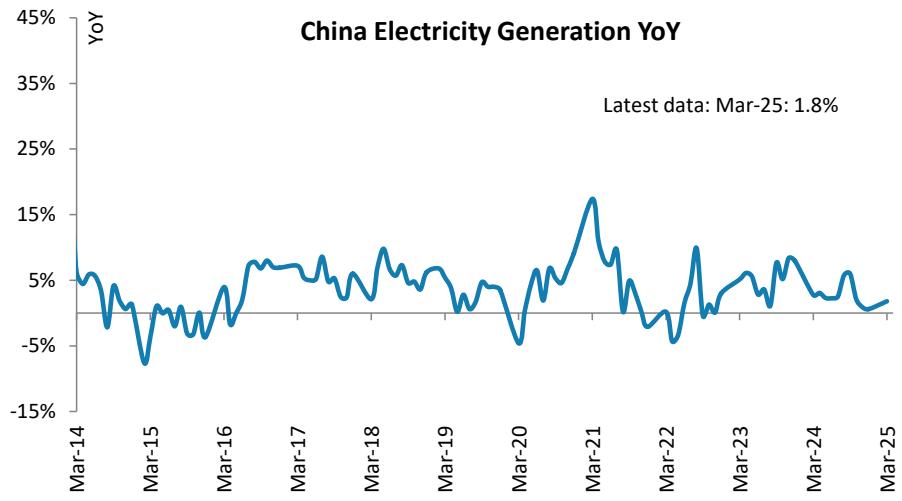
**Exhibit 33:** Exchange rate snapshot of major metal producing countries

Currency	8-May-25	30-Apr-25	WoW Change (%)
1 AUD = USD (Australian \$)	0.6	0.6	0%
1 EUR = USD (Euro)	1.1	1.1	-1%
1 USD = BRL (Brazilian Real)	5.7	5.7	1%
1 USD = CAD (Canadian \$)	1.4	1.4	0%
1 USD = CLP (Chilean Peso)	935.5	948.4	0%
1 USD = CNY (Chinese Renminbi)	7.2	7.3	-0.60%
1 USD = KZT (Kazakh Tenge)	515.9	514.5	0%
1 USD = MXN (Mexican Peso)	19.5	19.6	0%
1 USD = NOK (Norwegian Krone)	10.4	10.4	0%
1 USD = PEN (Peruvian New Sol)	3.6	3.7	0%
1 USD = SEK (Swedish Krona)	9.7	9.7	0%
1 USD = ZAR (S. African Rand)	18.2	18.6	-2%
1 USD = ZMW (Zambian Kwacha)	26.7	28.1	-4%

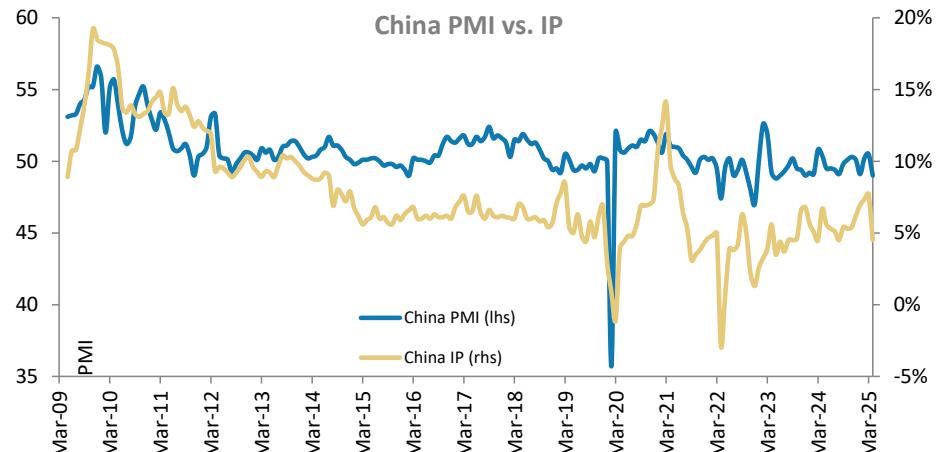
Source: Bloomberg, Morgan Stanley Research; WoW = Week on week

# China's Macro Indicators

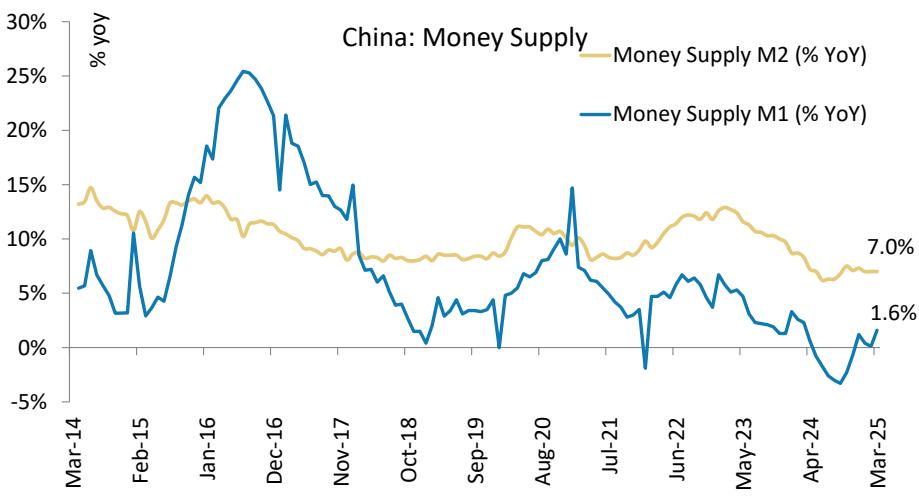
**Exhibit34:** China's electricity generation



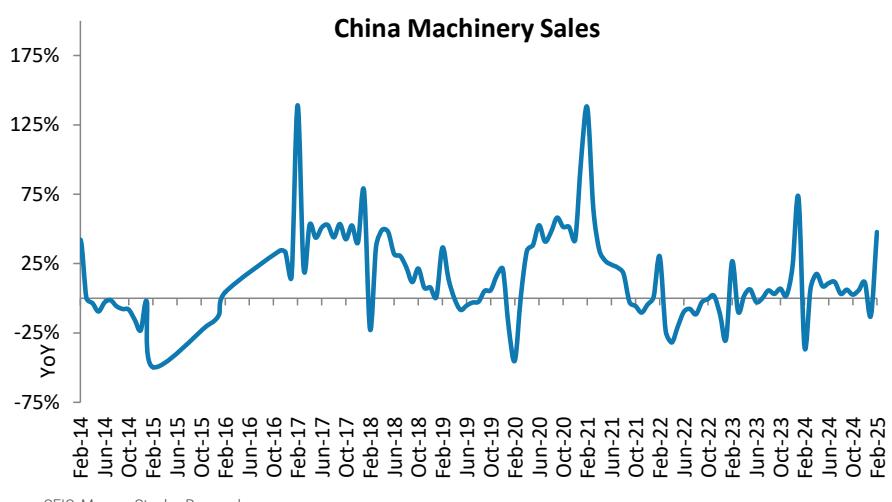
**Exhibit35:** China's Purchasing Managers Index and Industrial Production (IP)

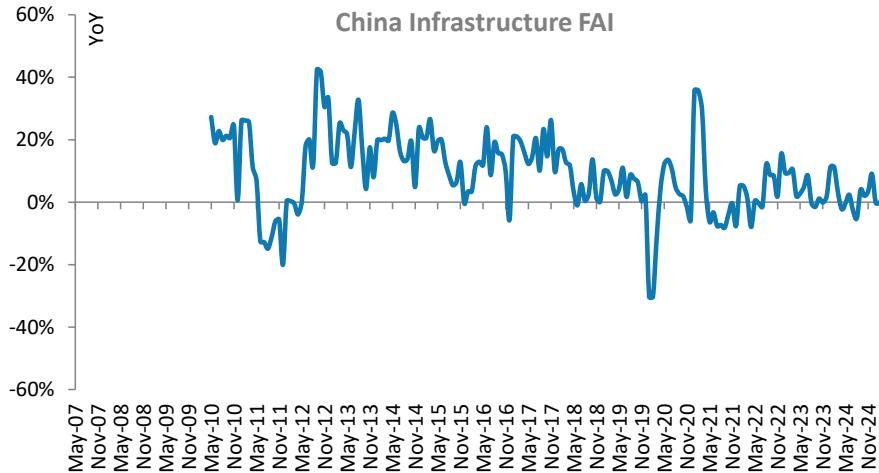
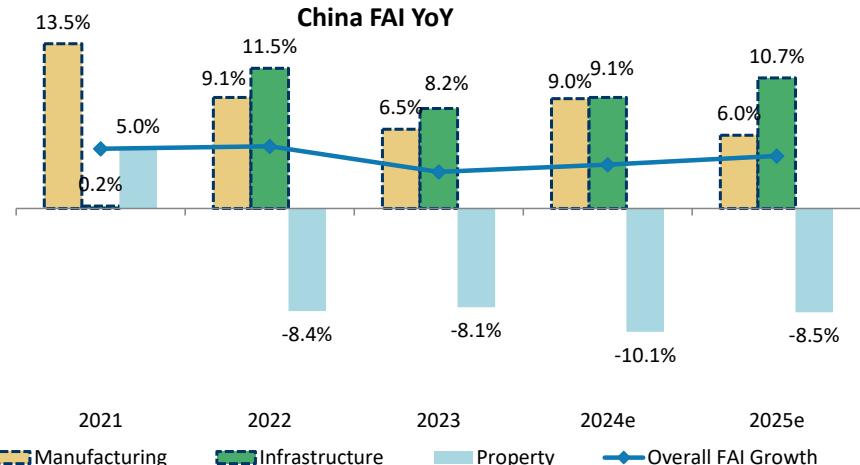
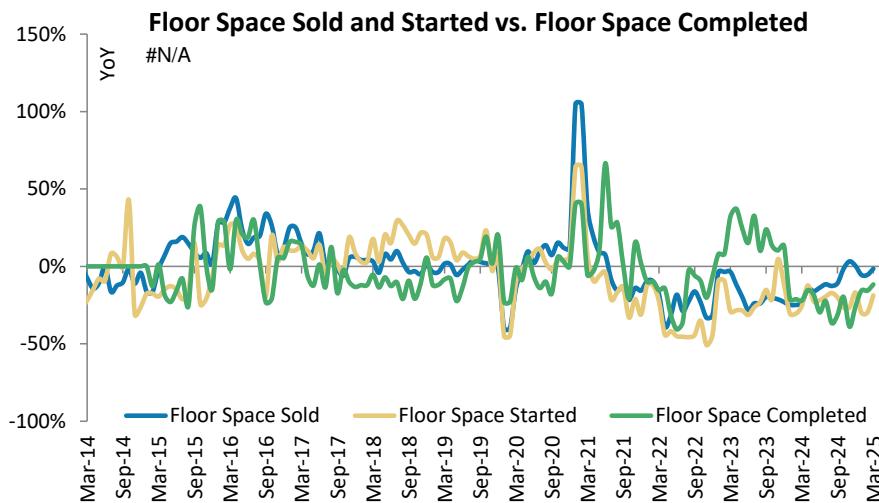
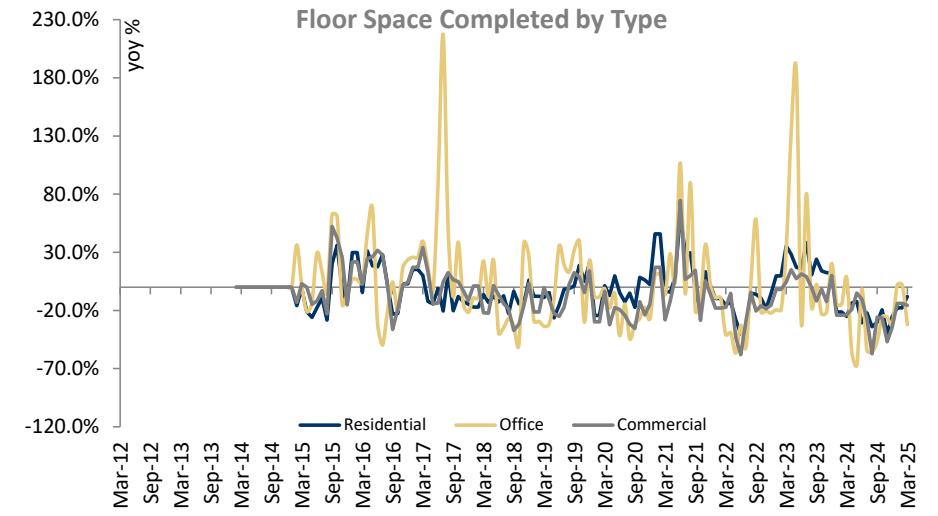


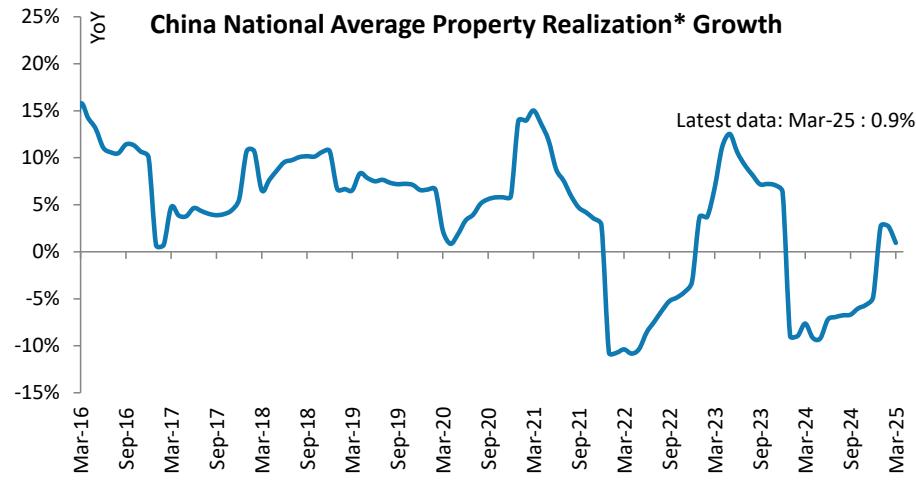
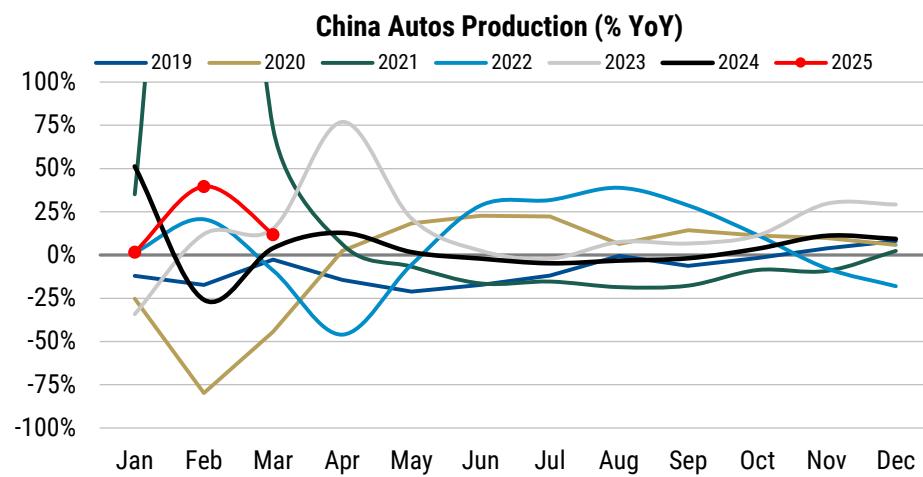
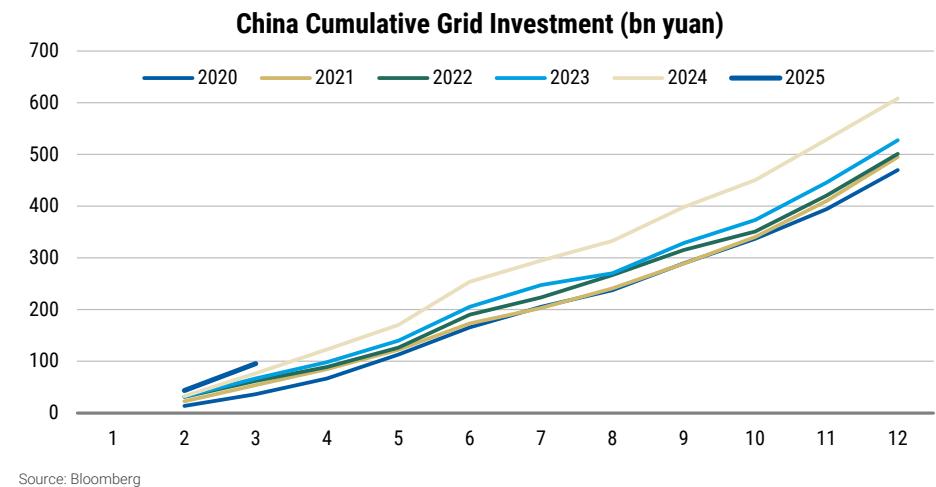
**Exhibit36:** China's M2 money supply

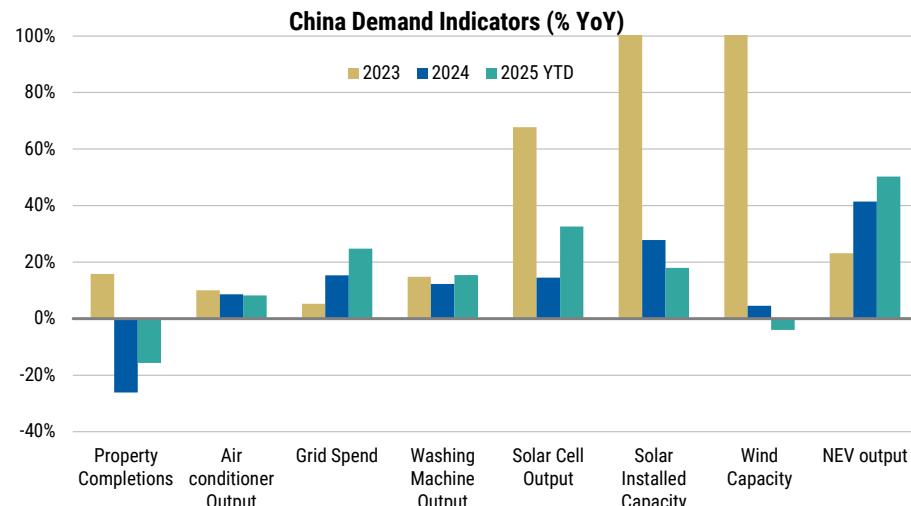


**Exhibit37:** China's machinery sales

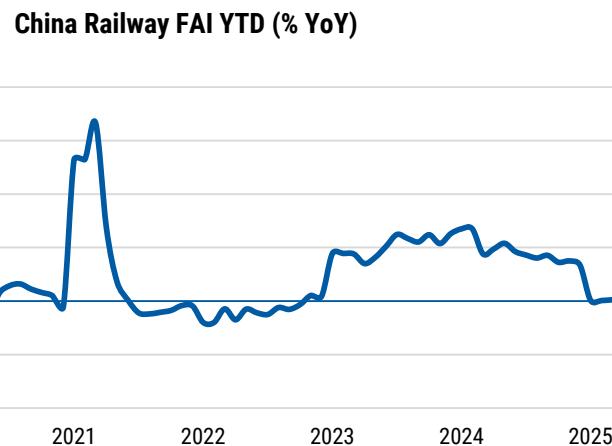


**Exhibit 38:** China's Infrastructure Fixed Asset Investments (FAI)**Exhibit 39:** MSe China FAI outlook**Exhibit 40:** China's floor space started and sold vs floor space completed**Exhibit 41:** Floor space completed by type of establishment

**Exhibit 42:** China's national average property sales**Exhibit 43:** MS China Economic Index vs. China IP**Exhibit 44:** China Autos Production**Exhibit 45:** China Cumulative Grid Investment

**Exhibit 46:** China Demand Indicators

Source: Bloomberg, CEIC

**Exhibit 48:** China Railway FAI YTD

Source: CEIC

**Exhibit 47:** China Excavator Sales

Source: CEIC

**Exhibit 49:** China Shipbuilding Output**China's Output of Steel Ships for Civil Use ('0000 DWT)**

**China's Output of Steel Ships for Civil Use ('0000 DWT)**

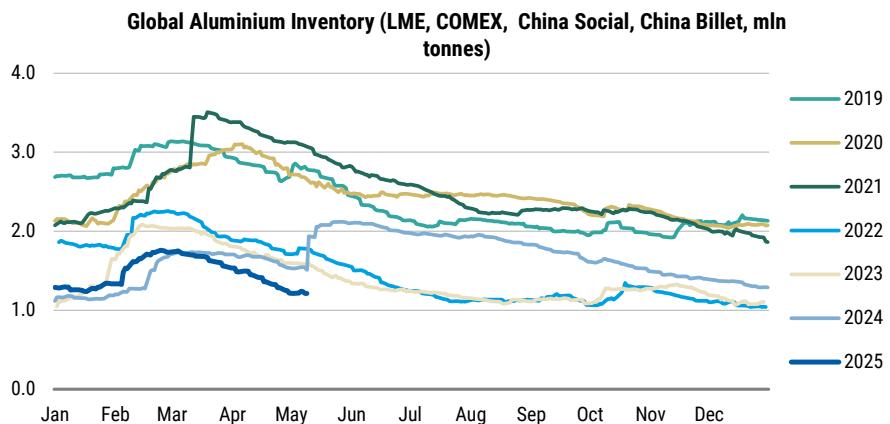
Month	2018	2019	2020	2021	2022	2023	2024	2025
Mar	~240	~260	~160	~280	~290	~300	~330	~430
Apr	~240	~260	~310	~300	~240	~250	~280	~280
May	~240	~260	~210	~220	~230	~240	~270	~280
Jun	~280	~280	~280	~300	~300	~350	~400	~350
Jul	~240	~260	~190	~150	~220	~230	~260	~260
Aug	~280	~280	~210	~220	~230	~240	~270	~270
Sep	~240	~260	~280	~200	~210	~220	~250	~250
Oct	~280	~280	~210	~200	~210	~220	~250	~250
Nov	~240	~260	~300	~350	~220	~230	~260	~260
Dec	~240	~260	~280	~250	~230	~240	~270	~270

Source: NBS

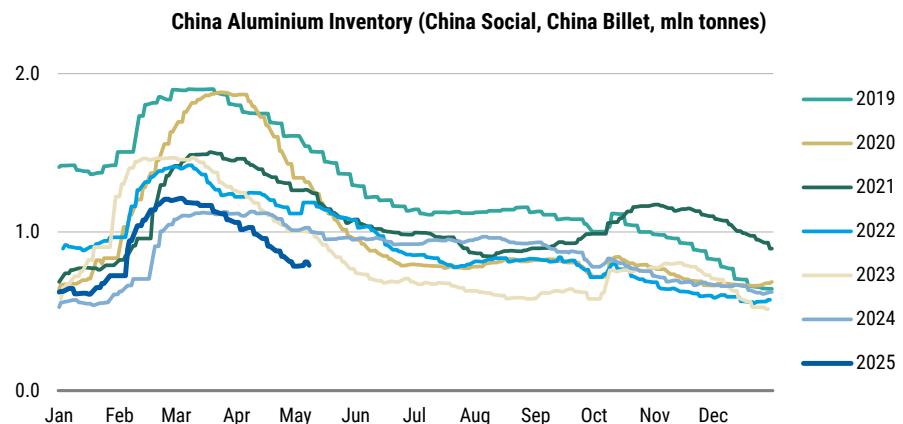
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# Aluminium

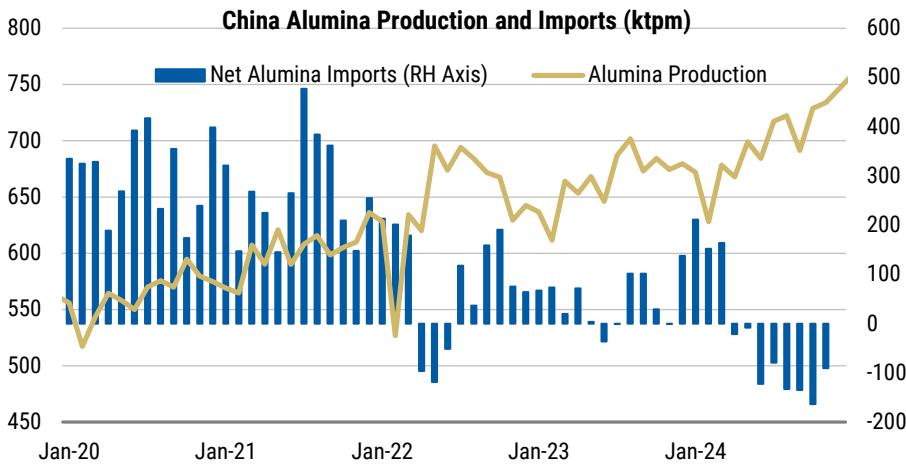
**Exhibit 50:** Global Aluminium Inventories



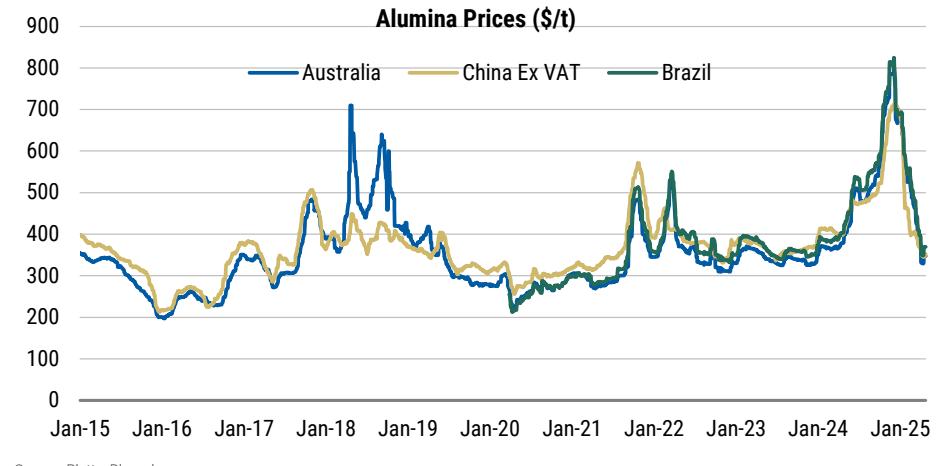
**Exhibit 51:** China Aluminium Inventories

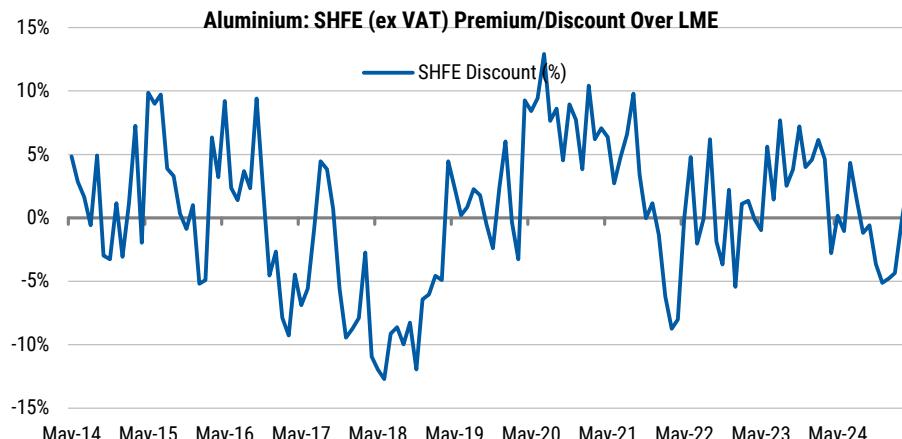
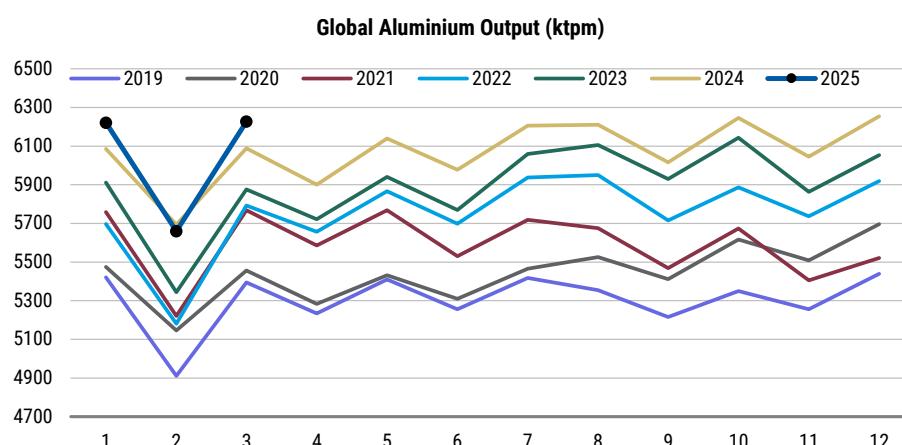
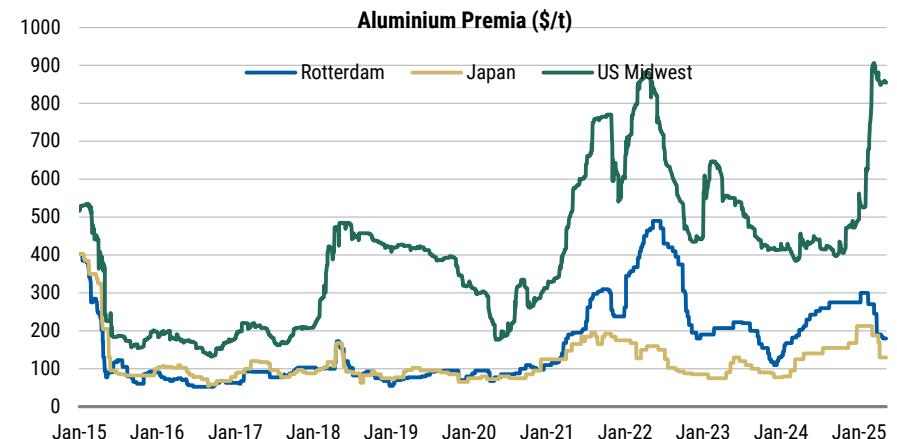
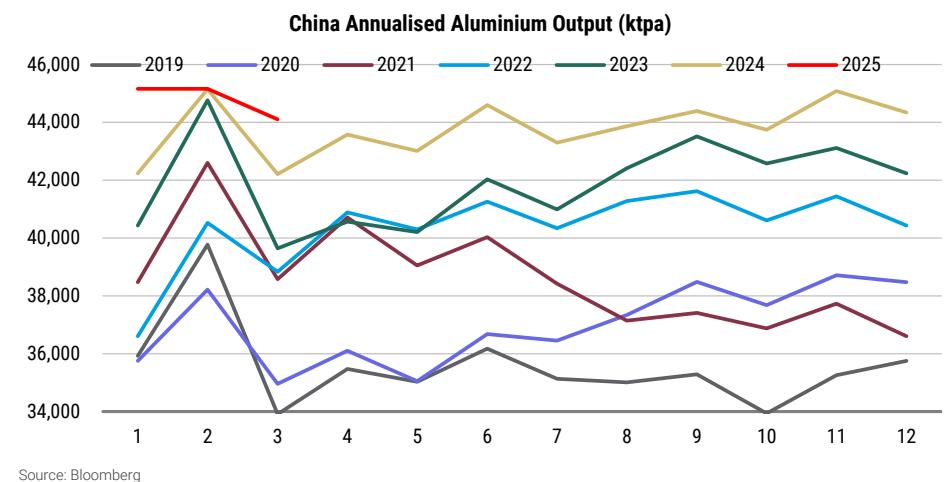


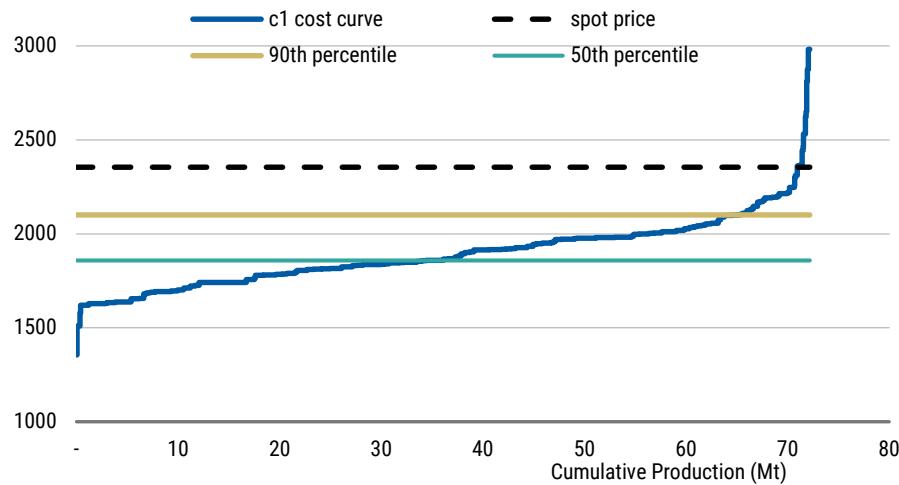
**Exhibit 52:** China Alumina Production vs Imports



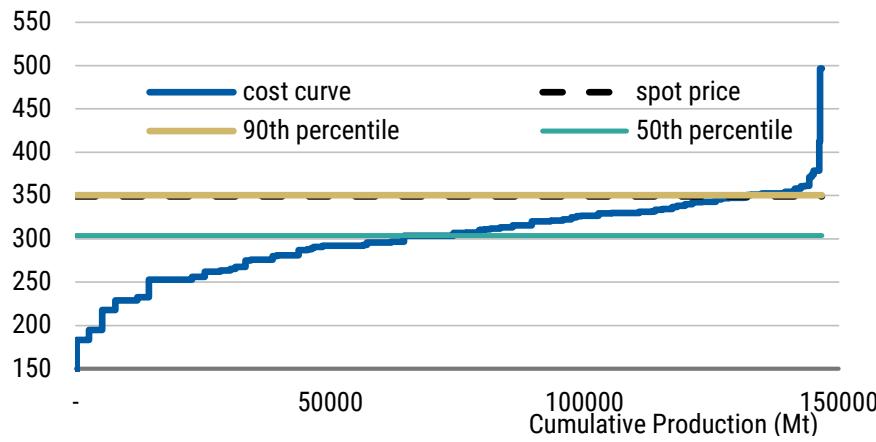
**Exhibit 53:** Raw Materials: Spot Alumina vs China Domestic Price



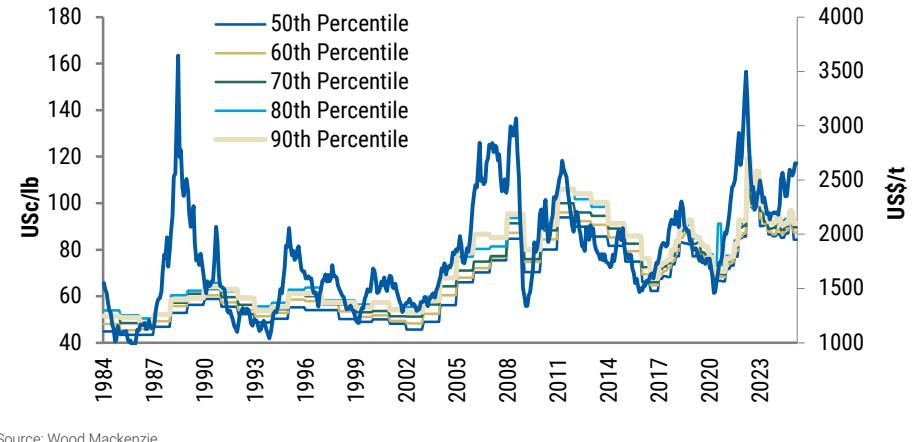
**Exhibit 54:** Price Differentials: SHFE vs LME**Exhibit 56:** IAI Global Aluminium Production**Exhibit 55:** Physical demand: aluminium premia, by region**Exhibit 57:** China Aluminium Production

**Exhibit 58:** Aluminium C1 Cost Curve vs Spot (\$/t)

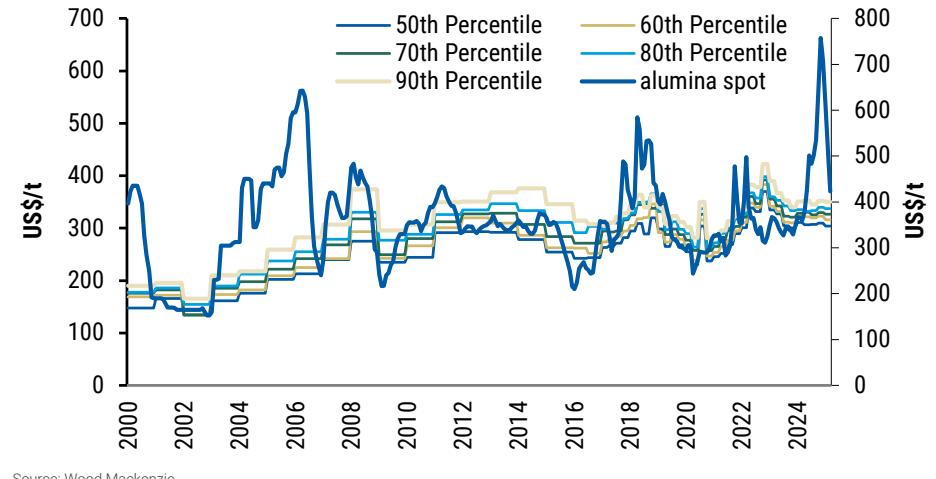
Source: Wood Mackenzie

**Exhibit 60:** Alumina Total Cost Curve vs Spot (\$/t)

Source: Wood Mackenzie

**Exhibit 59:** Aluminium Cost Curve Evolution

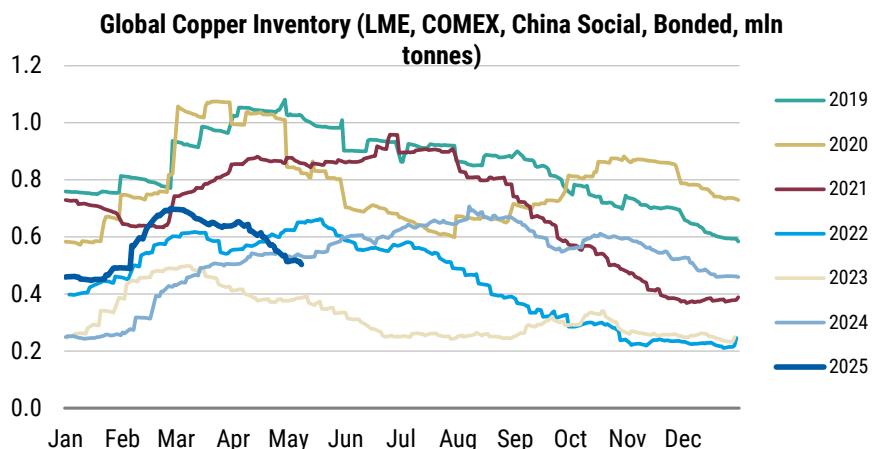
Source: Wood Mackenzie

**Exhibit 61:** Alumina Cost Curve Evolution

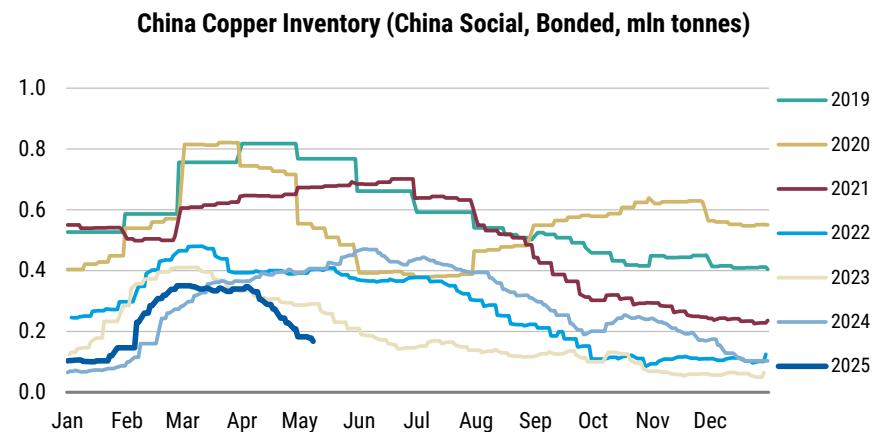
Source: Wood Mackenzie

# Copper

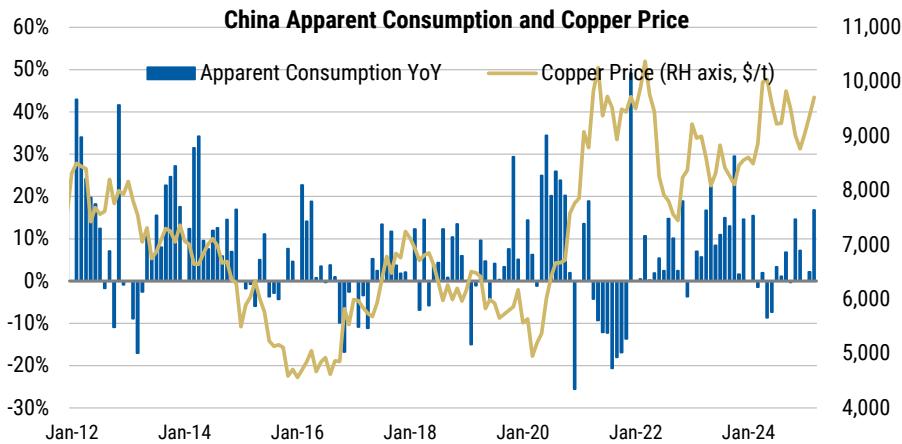
**Exhibit 62:** Global Copper Inventories



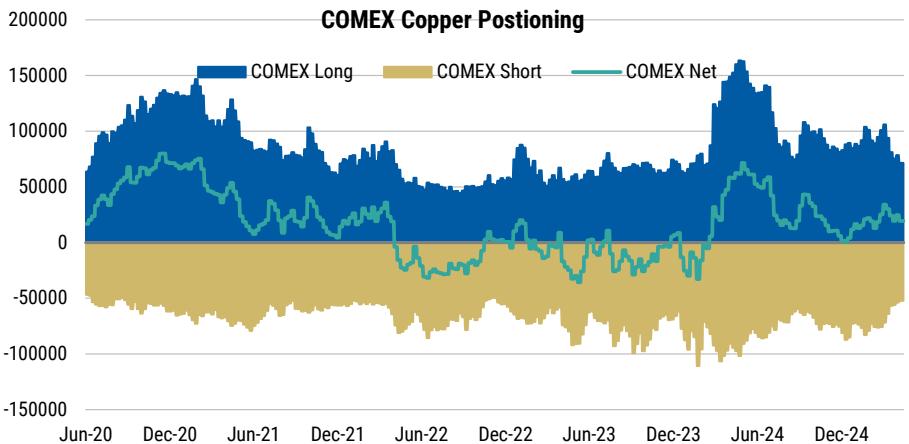
**Exhibit 63:** China Copper Inventories

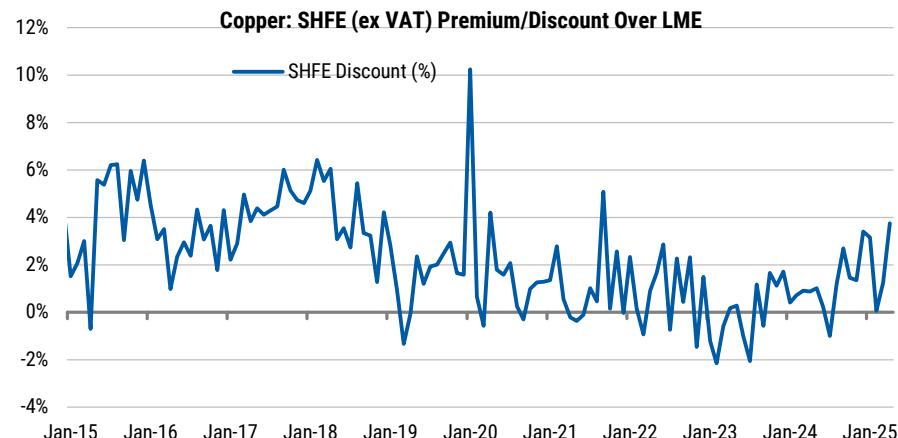
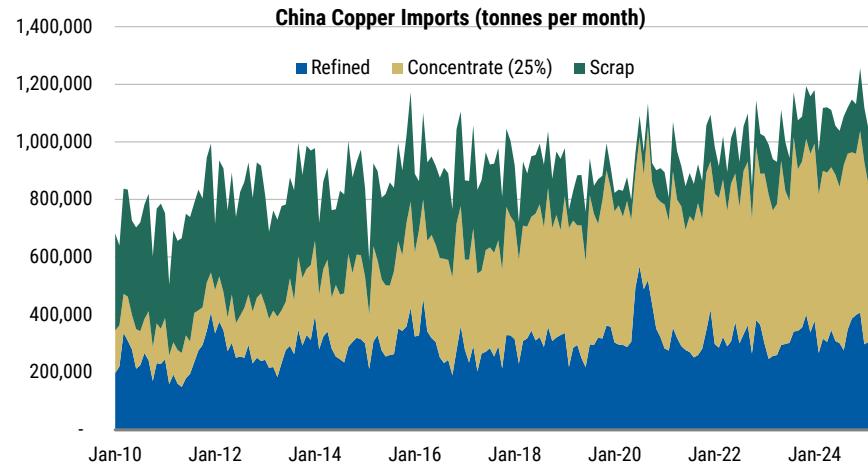
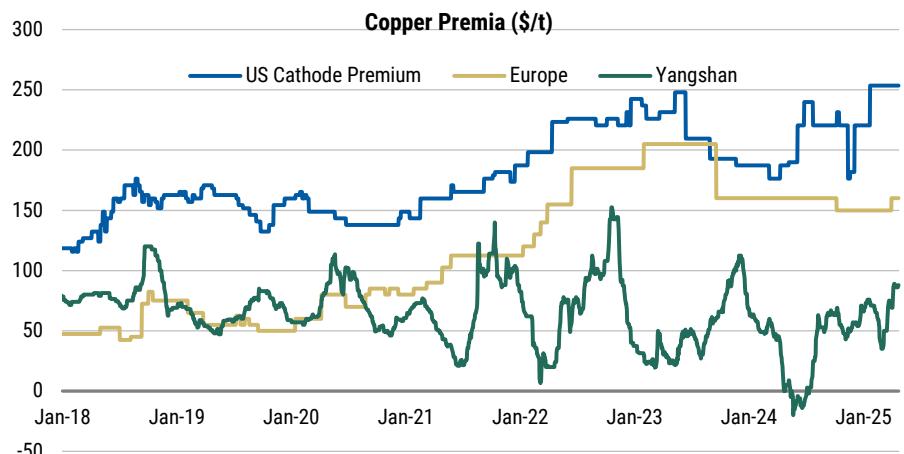


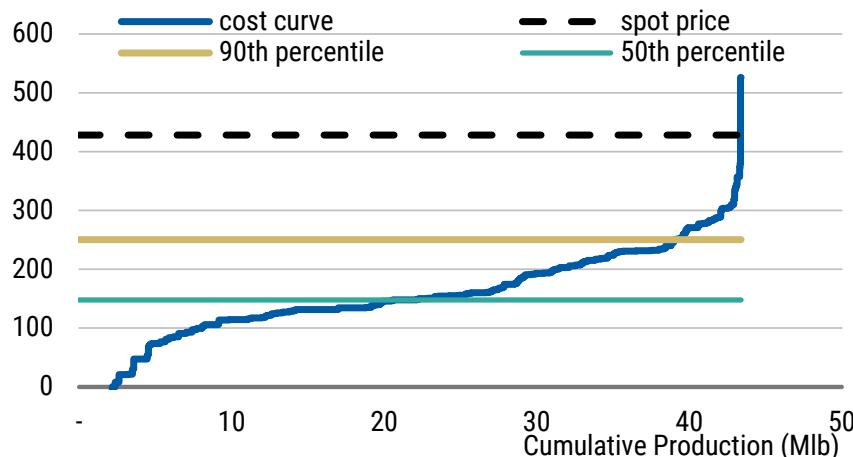
**Exhibit 64:** Copper Price versus China Apparent Consumption



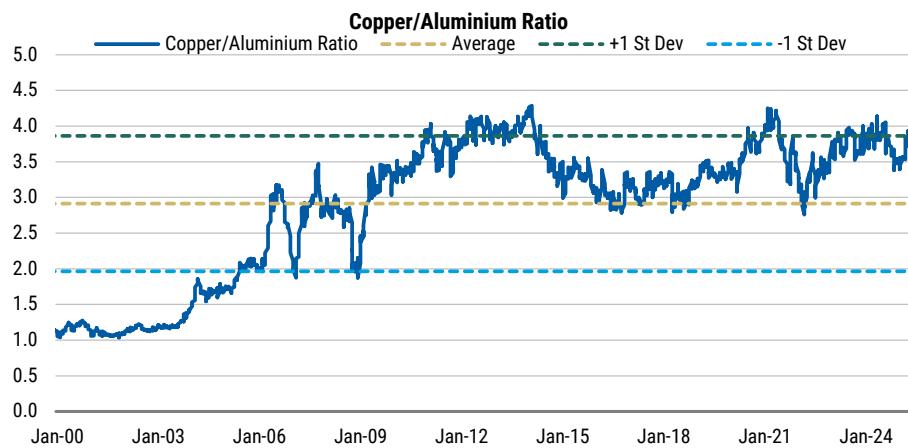
**Exhibit 65:** Copper CFTC Positioning



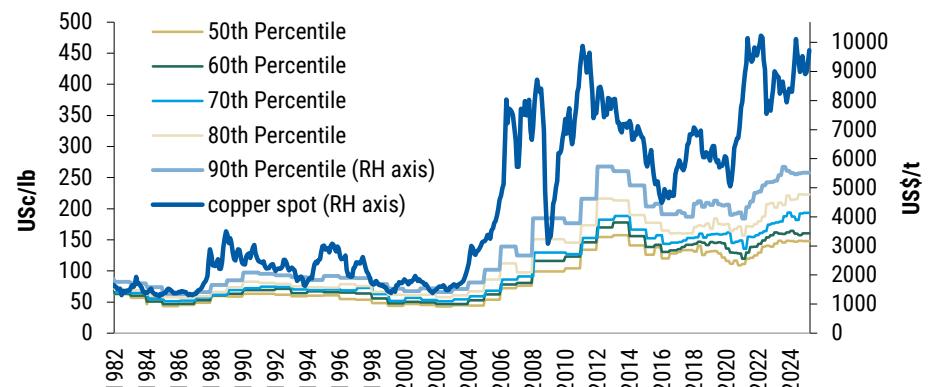
**Exhibit 66:** Price Differentials: SHFE vs LME**Exhibit 68:** Raw materials: China's copper concentrate, refined and scrap monthly import**Exhibit 67:** Copper treatment charges (TCs)**Exhibit 69:** Physical Demand: Copper Premia By Region

**Exhibit 70:** Copper C1 Cost Curve vs Spot (USc/lb)

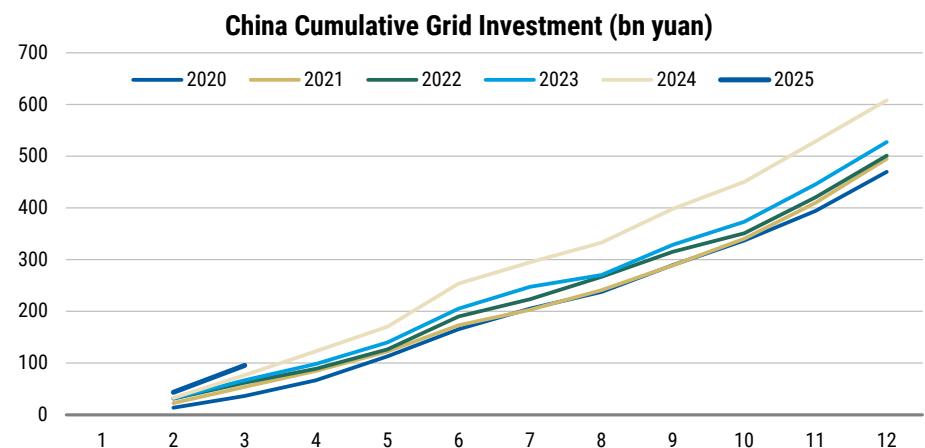
Source: Wood Mackenzie

**Exhibit 72:** Copper: Aluminium Ratio

Source: Bloomberg, Morgan Stanley Research

**Exhibit 71:** Copper Cost Curve Evolution

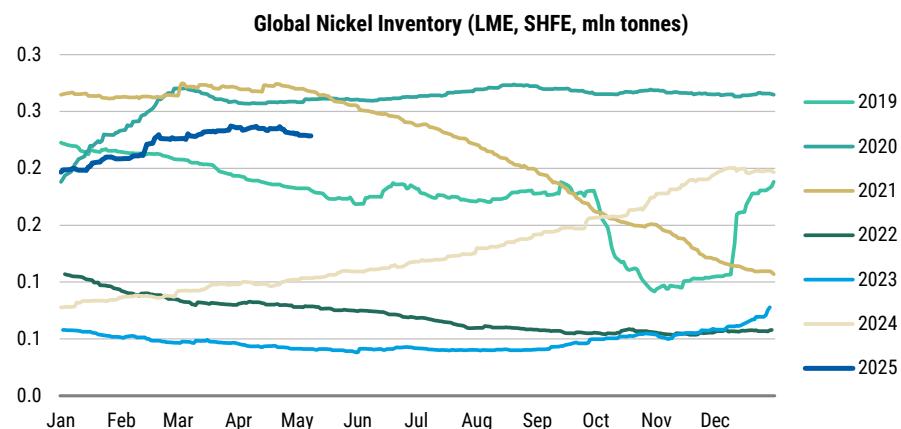
Source: Wood Mackenzie

**Exhibit 73:** China Grid Investment

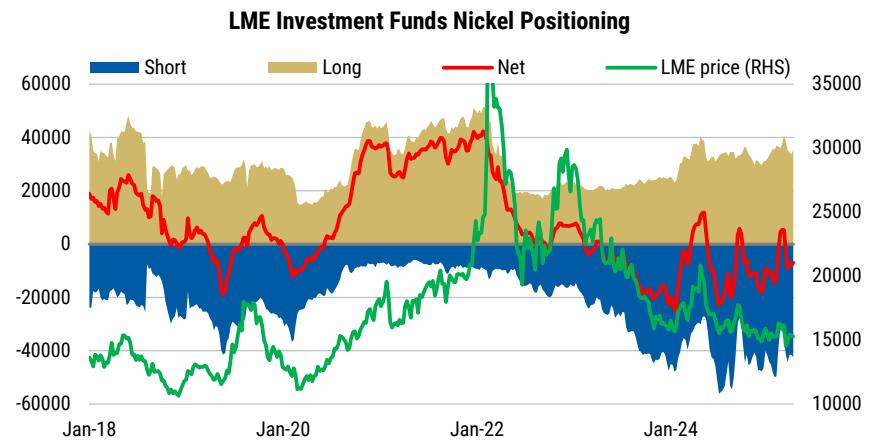
Source: Bloomberg, Morgan Stanley Research

# Nickel

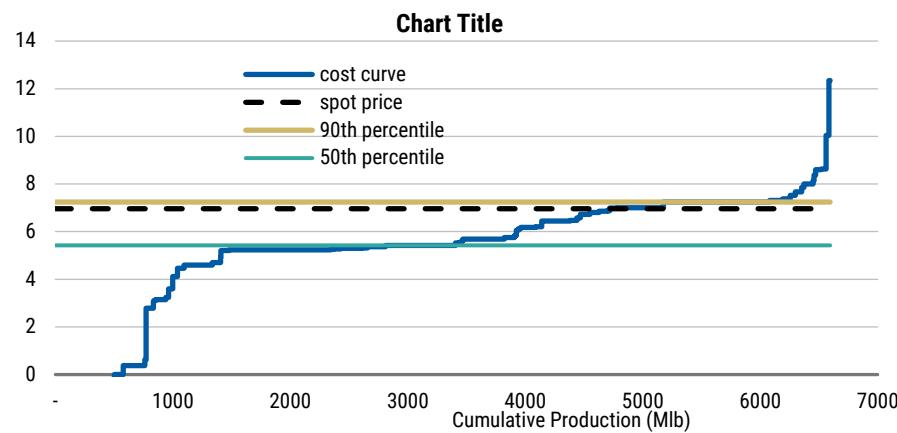
**Exhibit 74:** Global Nickel Inventories



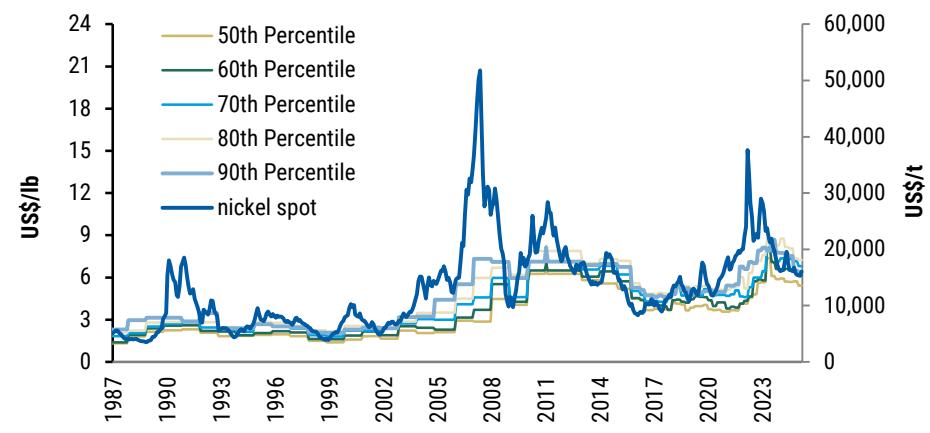
**Exhibit 75:** LME Nickel Positioning

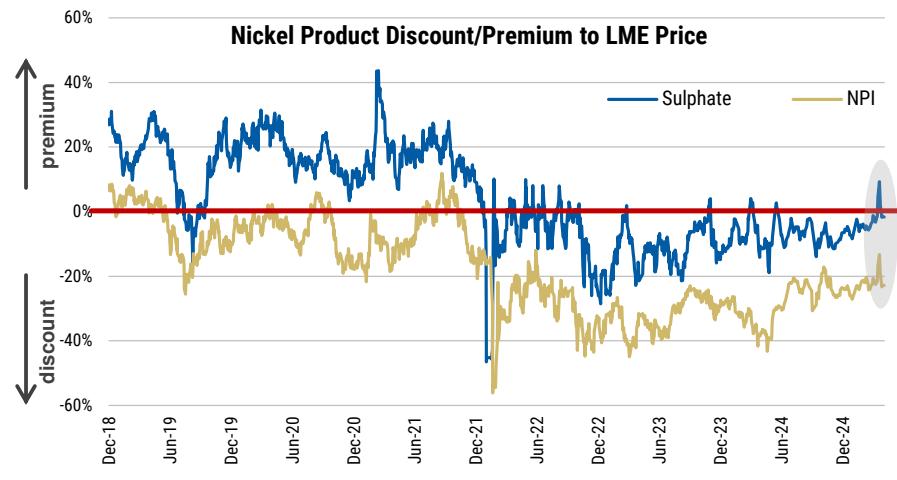


**Exhibit 76:** Nickel C1 Cost Curve vs Spot (USc/lb)

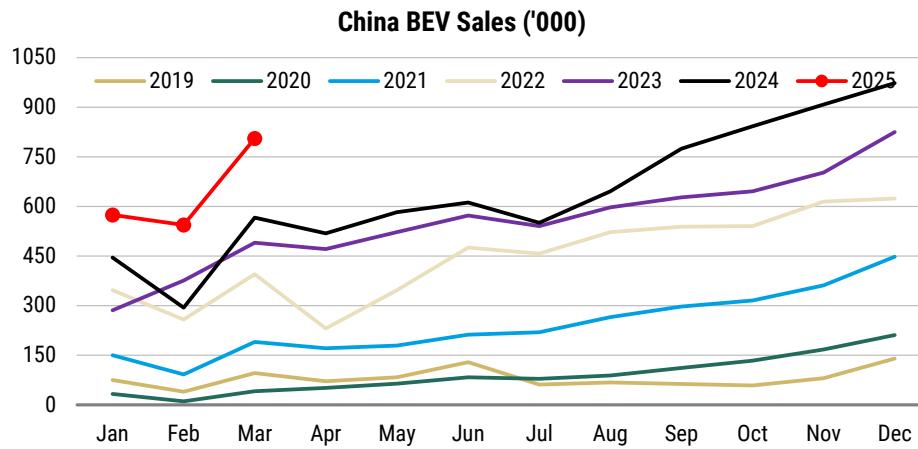


**Exhibit 77:** Nickel Cost Curve Evolution

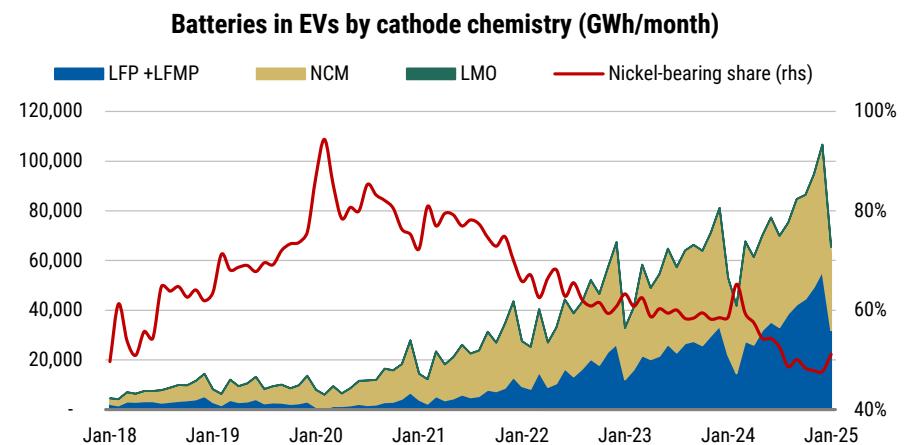


**Exhibit 78:** Nickel Product Spreads vs LME Price

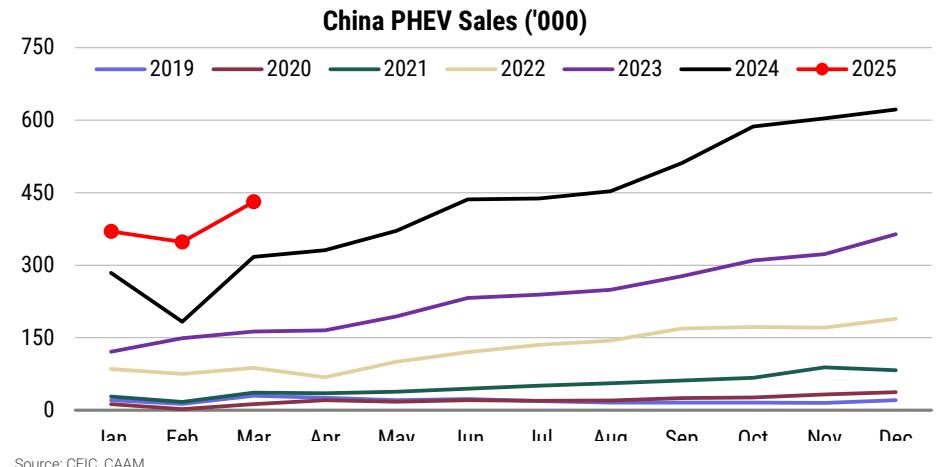
Source: Argus Metals

**Exhibit 80:** China NEV Sales

Source: CEIC, CAAM

**Exhibit 79:** Global Battery Deployment by Chemistry

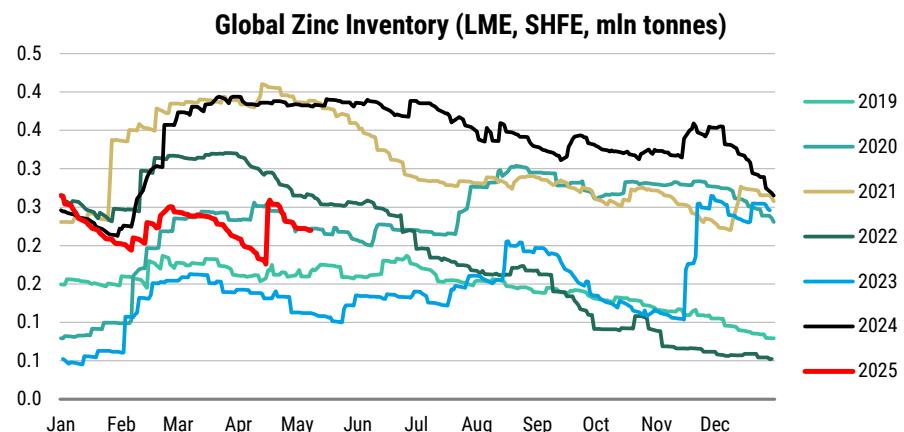
Source: Rho Motion

**Exhibit 81:** China PHEV Sales

Source: CEIC, CAAM

# Zinc

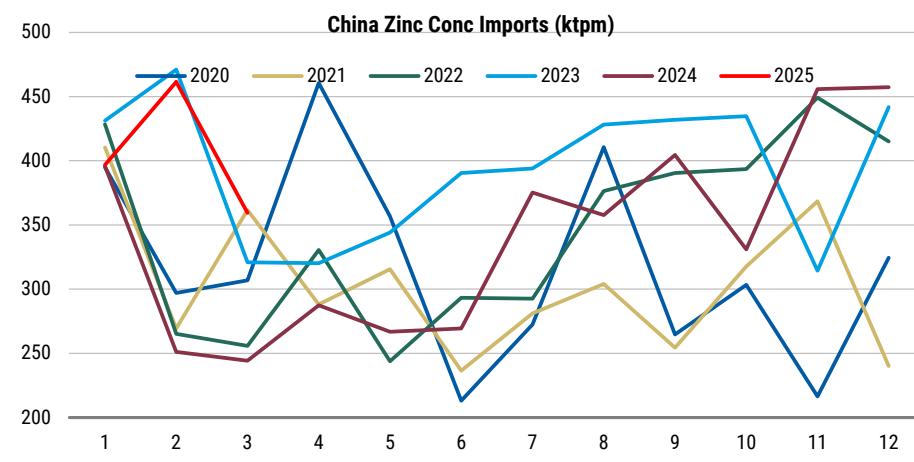
**Exhibit 82:** Global Zinc Inventories



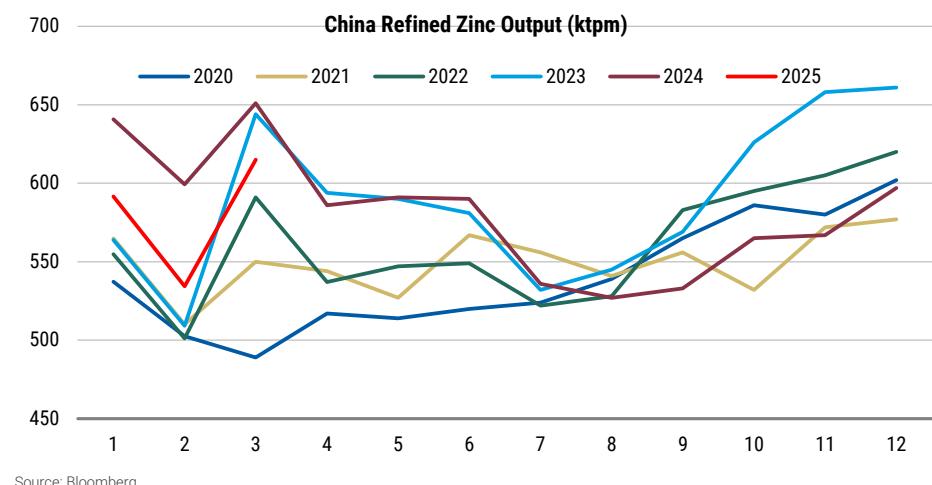
**Exhibit 83:** China Refined Zinc Imports

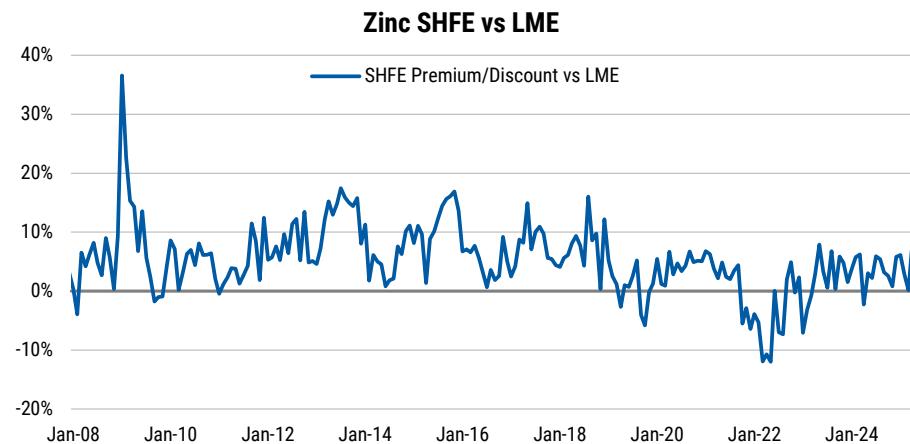


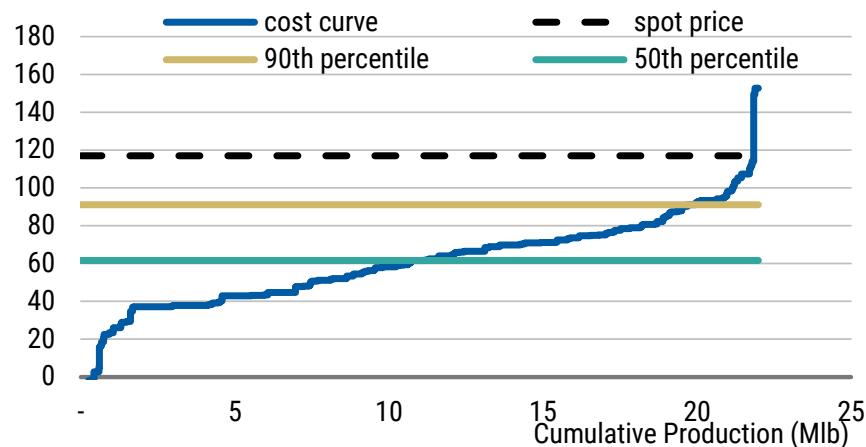
**Exhibit 84:** China Zinc Concentrate Imports



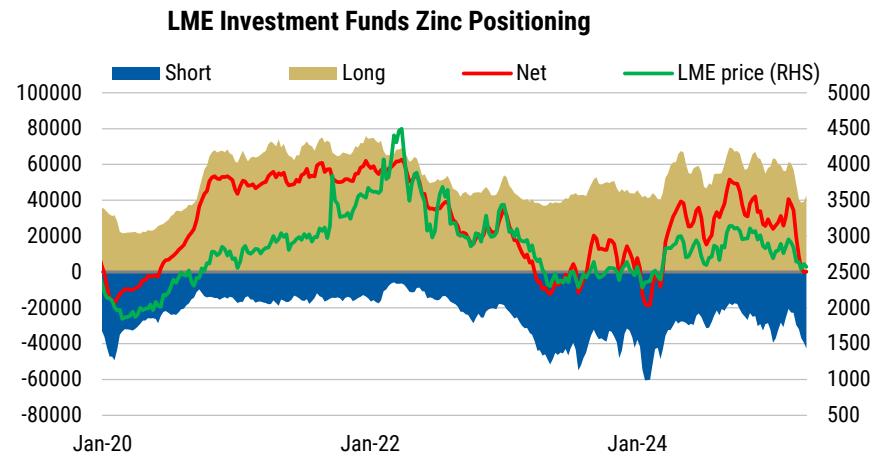
**Exhibit 85:** China Refined Zinc Output



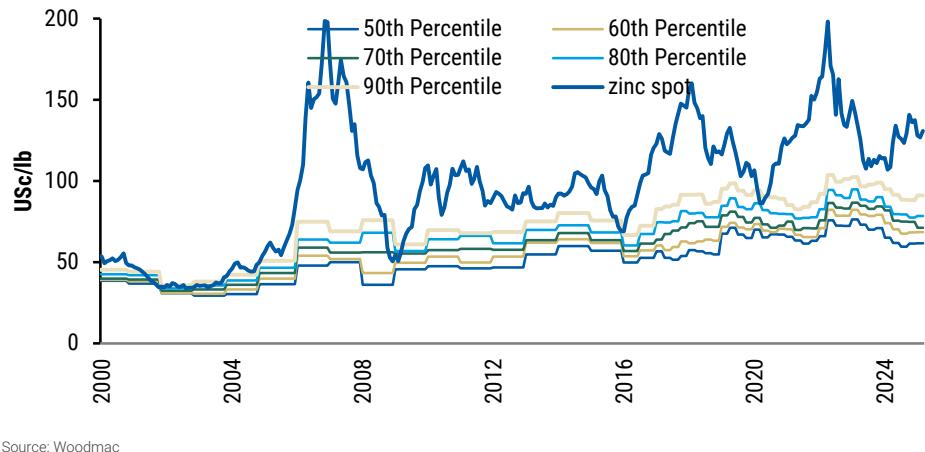
**Exhibit 86:** Price Differentials: SHFE vs LME**Exhibit 88:** Zinc Premia**Exhibit 87:** Zinc Treatment Charges**Exhibit 89:** Zinc/Lead Ratio

**Exhibit 90:** Zinc C1 Cost Curve vs Spot (\$/t)

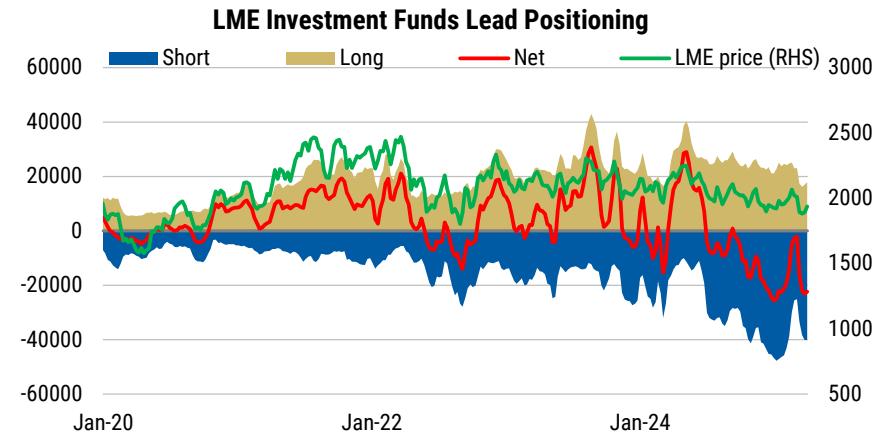
Source: Woodmac

**Exhibit 92:** Zinc Positioning

Source: Bloomberg

**Exhibit 91:** Zinc Cost Curve Evolution

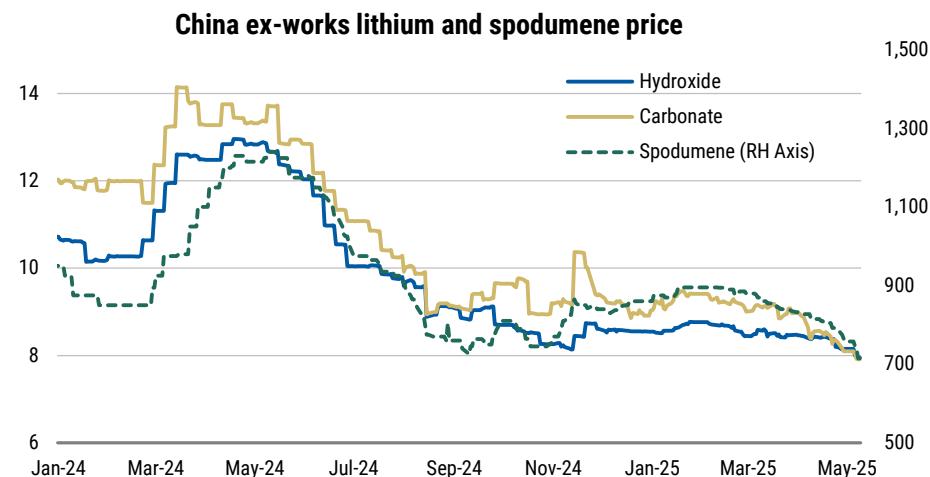
Source: Woodmac

**Exhibit 93:** Lead Positioning

Source: Bloomberg

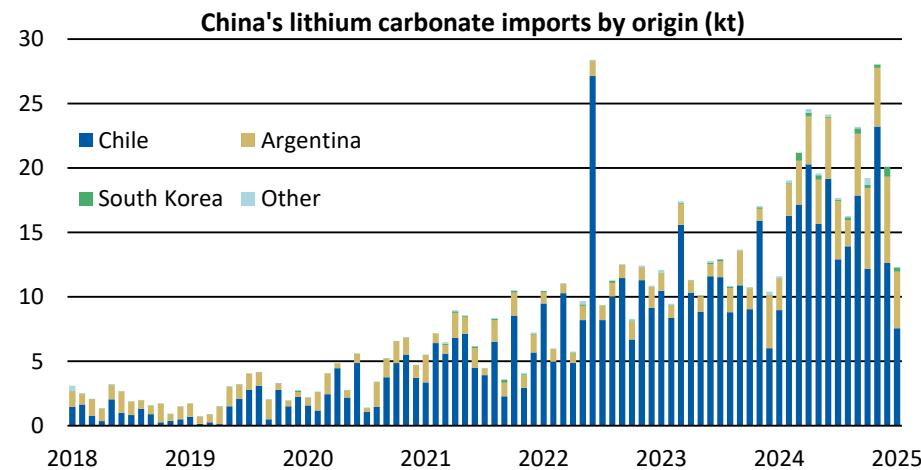
# Lithium

**Exhibit 94:** Lithium Chemical Prices



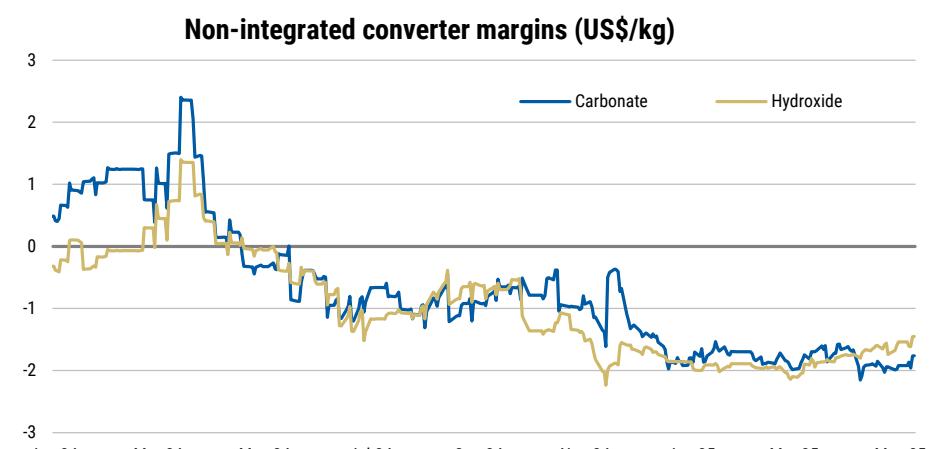
Source: Fastmarkets, Morgans Stanley Research

**Exhibit 96:** China Lithium Carbonate Imports



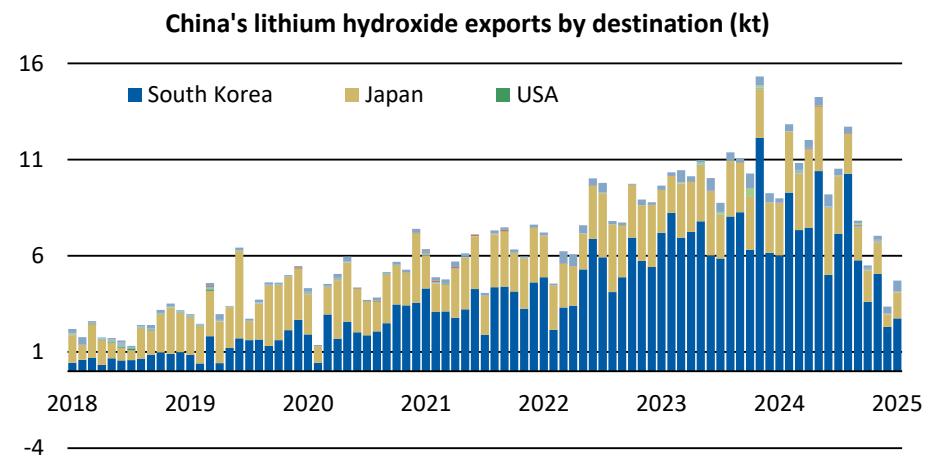
Source: Rystad, Morgan Stanley Research

**Exhibit 95:** Non-integrated Convertor Margins



Source: Fastmarkets, Morgans Stanley Research

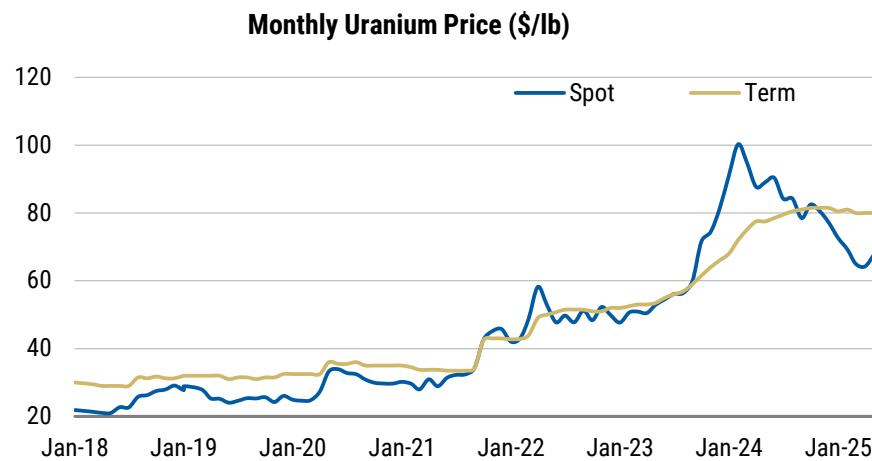
**Exhibit 97:** China Lithium Hydroxide Exports



Source: Rystad, Morgan Stanley Research

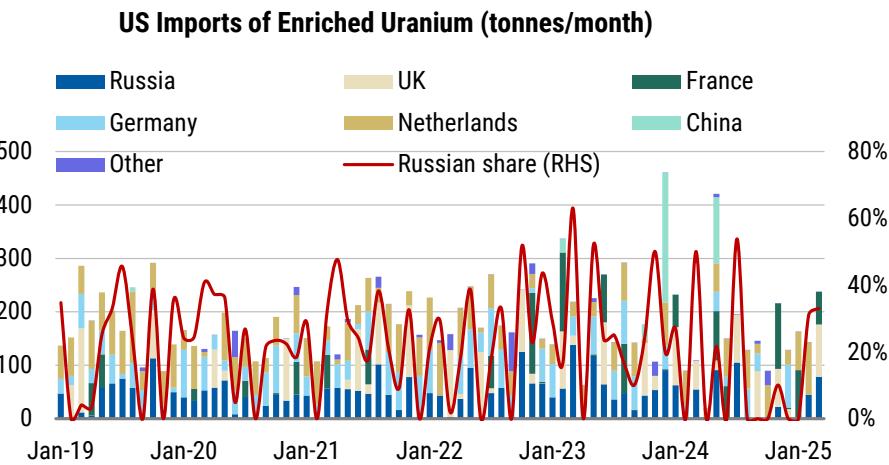
# Uranium

**Exhibit 98:** Uranium Price (Spot and Term)



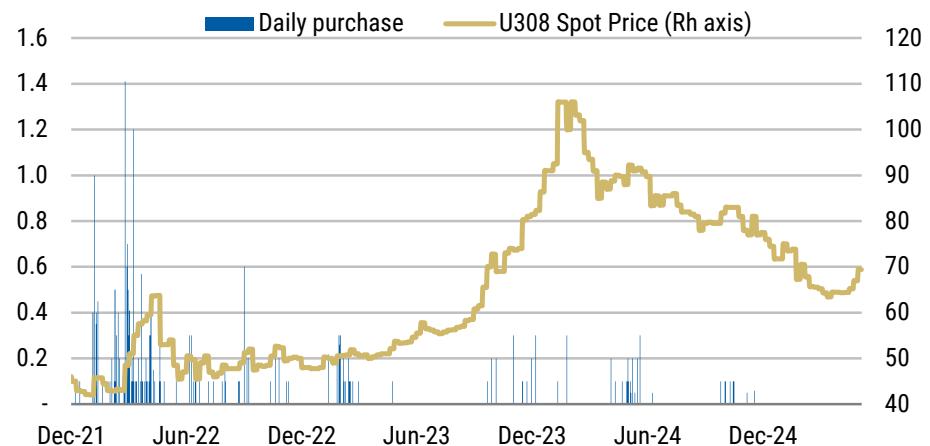
Source: Cameco

**Exhibit 100:** US Enriched Uranium Imports



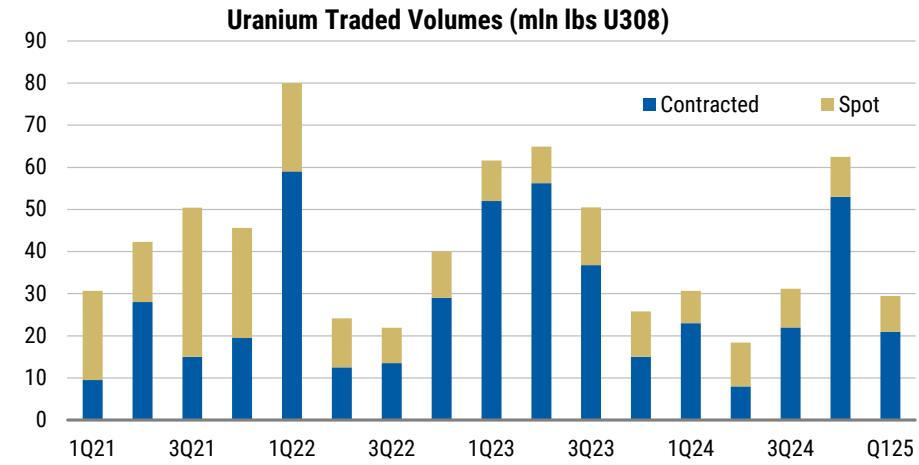
Source: Trademap

**Exhibit 99:** Sprott ETF Purchases



Source: Sprott, UxC, Morgan Stanley Research

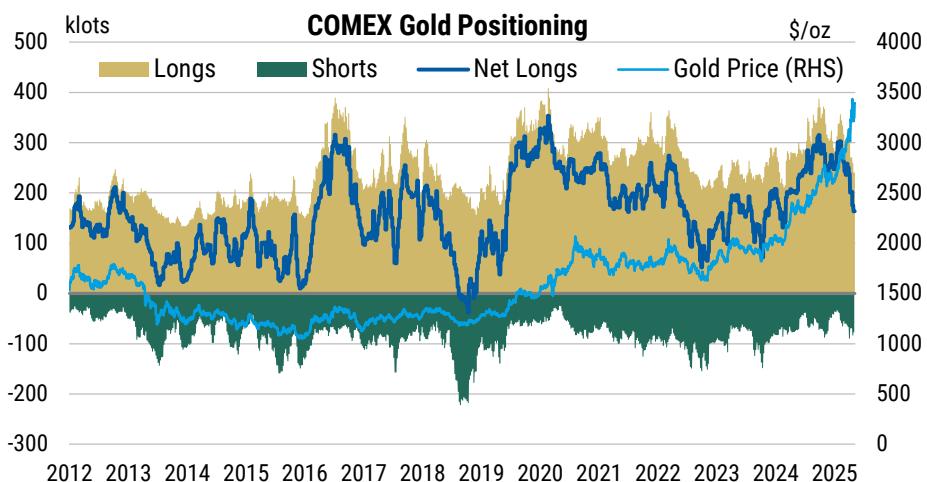
**Exhibit 101:** Quarterly Contracting Volumes



Source: Kazatomprom

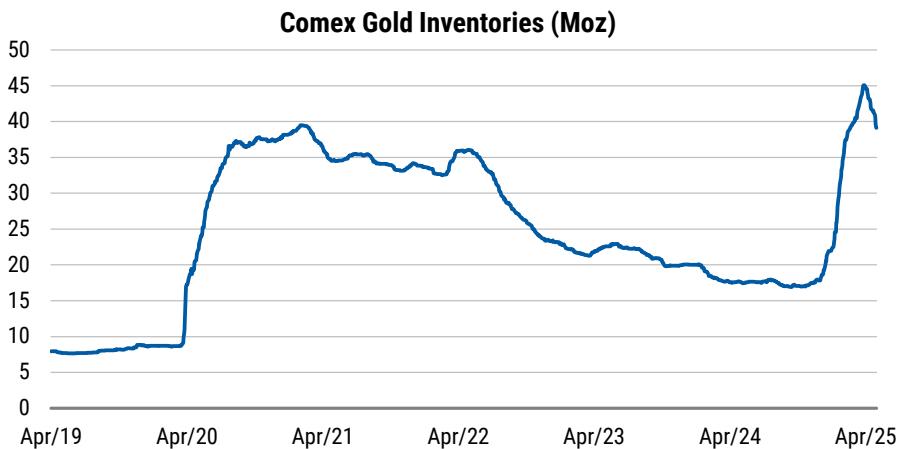
# Gold and Other Precious Metals

**Exhibit 102:** CFTC Gold Futures Positioning



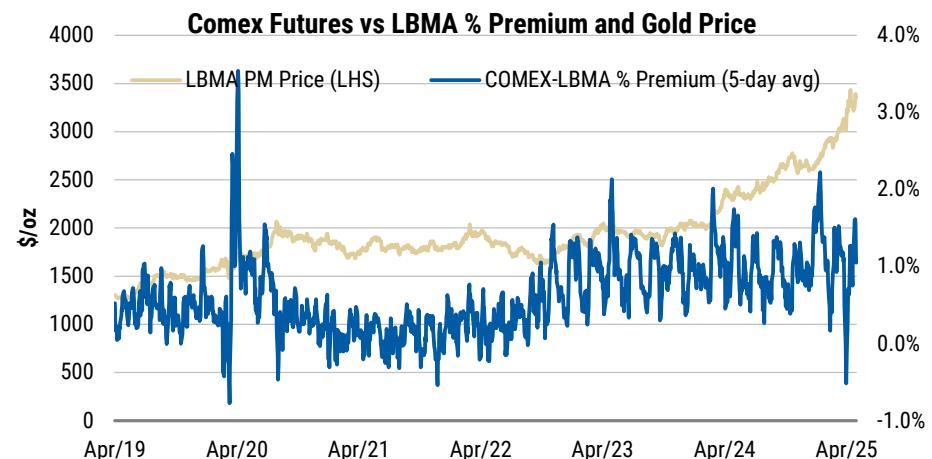
Source: Bloomberg

**Exhibit 104:** COMEX Gold Inventories



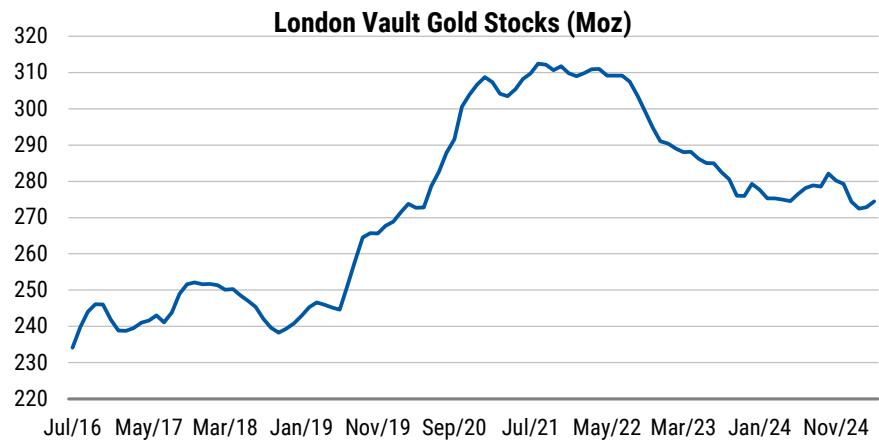
Source: Bloomberg

**Exhibit 103:** COMEX-LBMA Gold Premium

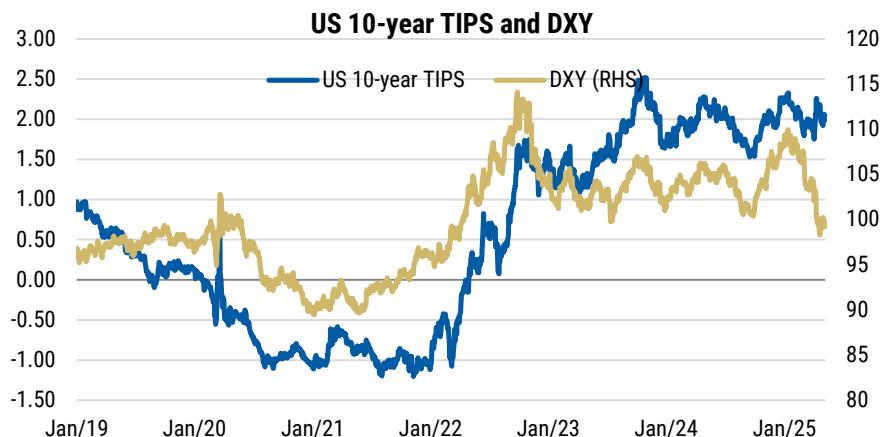
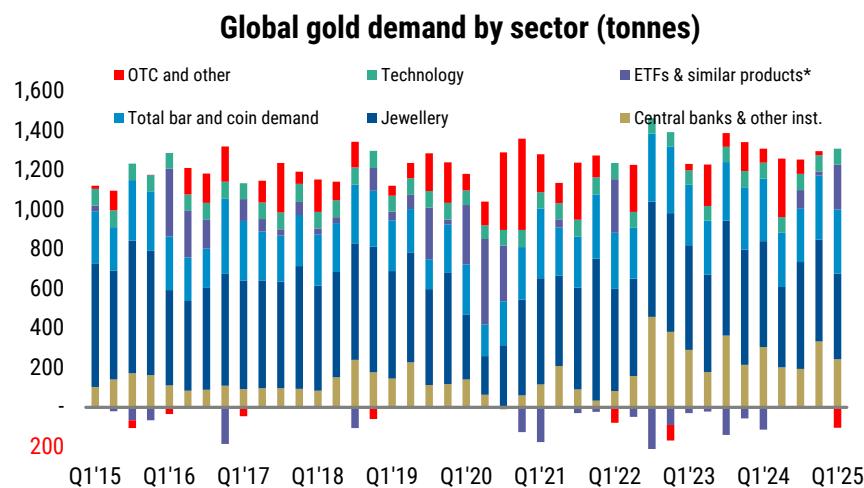
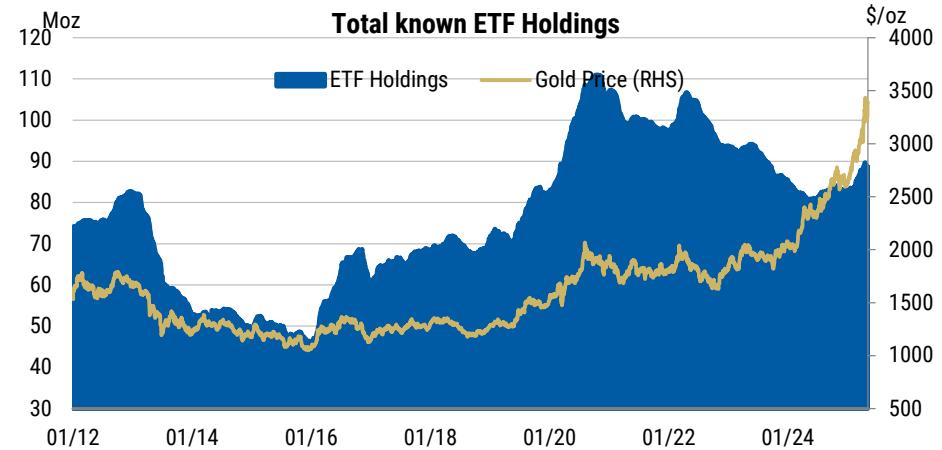
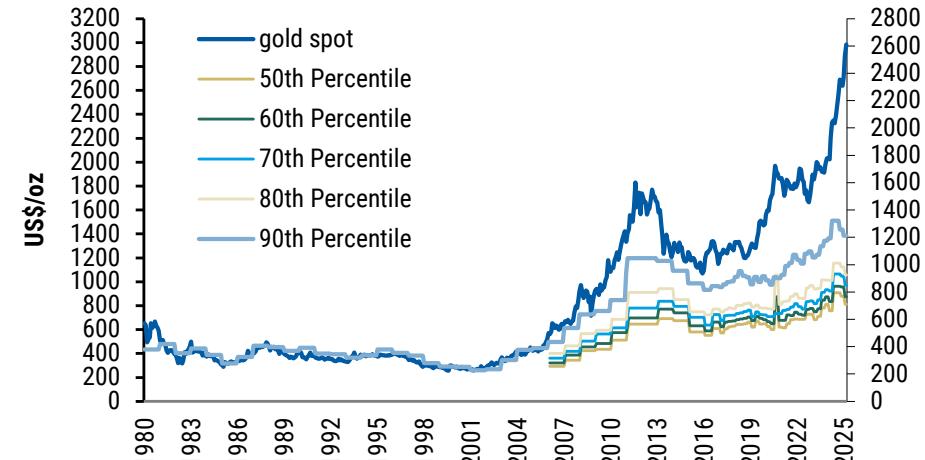


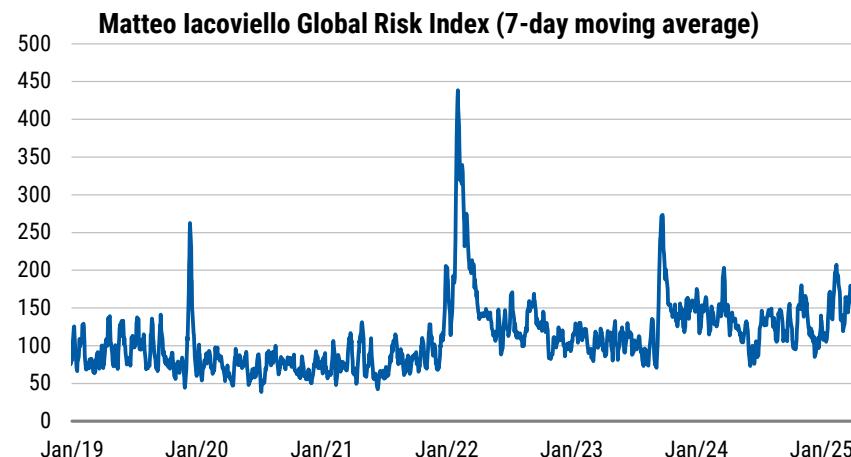
Source: Bloomberg

**Exhibit 105:** London Gold Vault Stocks



Source: LBMA

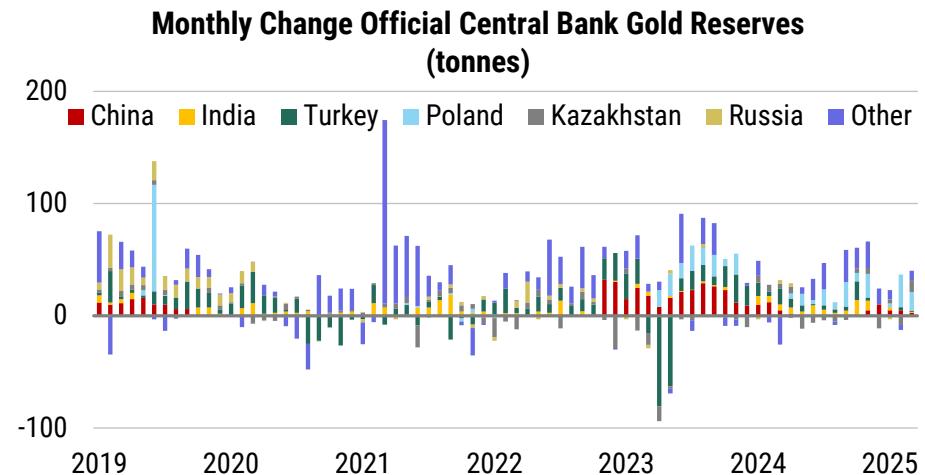
**Exhibit 106:** US 10 Year TIPS and DXY**Exhibit 108:** Global Gold Demand by Sector**Exhibit 107:** ETF Holdings vs Gold Price**Exhibit 109:** Gold Cost Curve Evolution

**Exhibit 110:** Geopolitical Risk Index

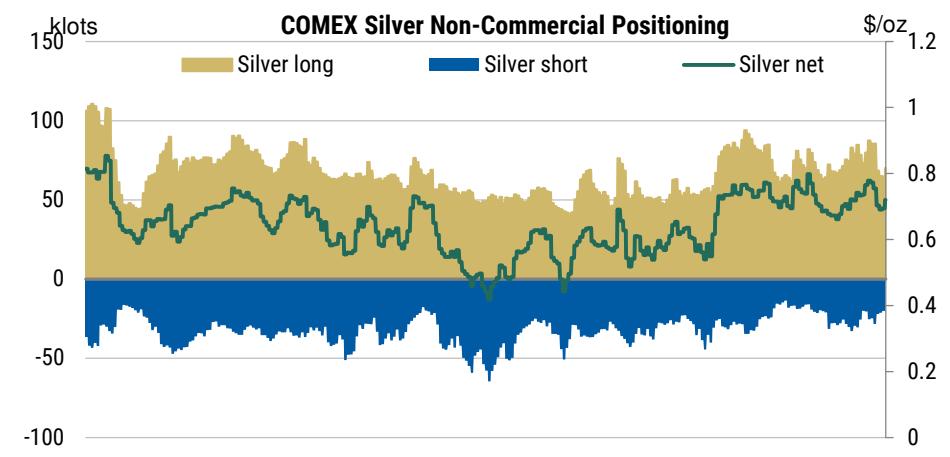
Source: Mateo Iacoviello

**Exhibit 112:** Gold/Silver Ratio

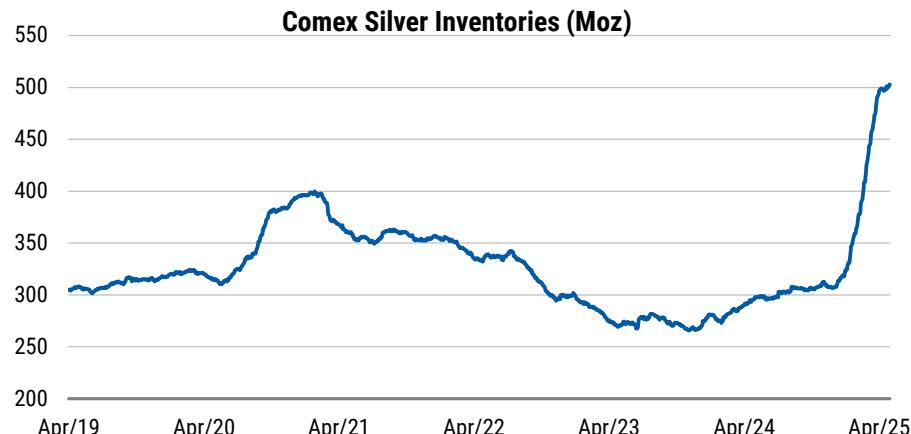
Source: Bloomberg

**Exhibit 111:** Monthly Central Bank Purchasing

Source: World Gold Council

**Exhibit 113:** CFTC Silver Futures Positioning

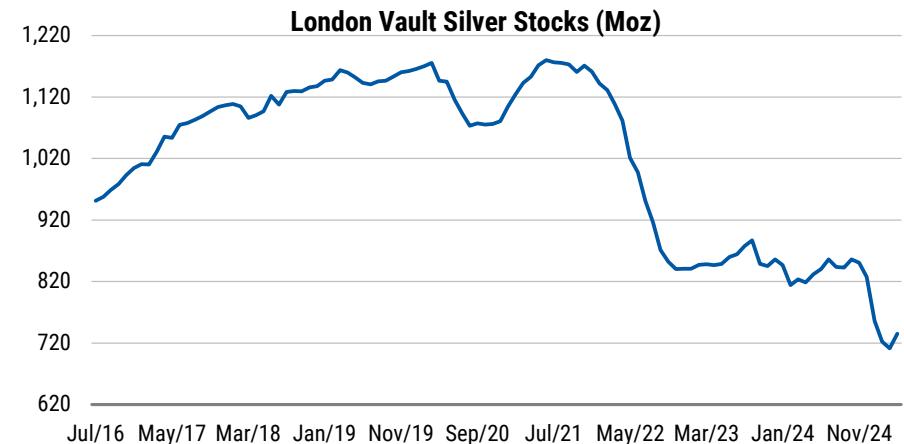
Source: Bloomberg

**Exhibit 114:** COMEX Silver Inventories

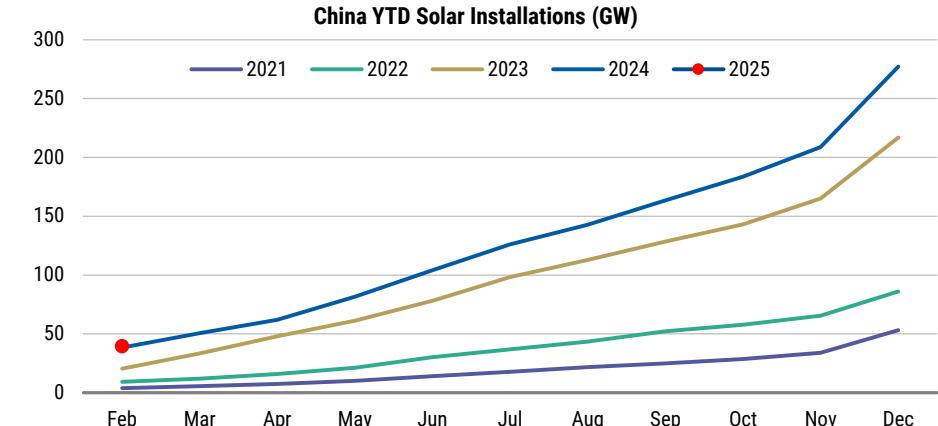
Source: Bloomberg

**Exhibit 116:** Total ETF Holdings

Source: Bloomberg

**Exhibit 115:** London Vault Silver Stocks

Source: LBMA

**Exhibit 117:** China Solar Installations

Source: Bloomberg

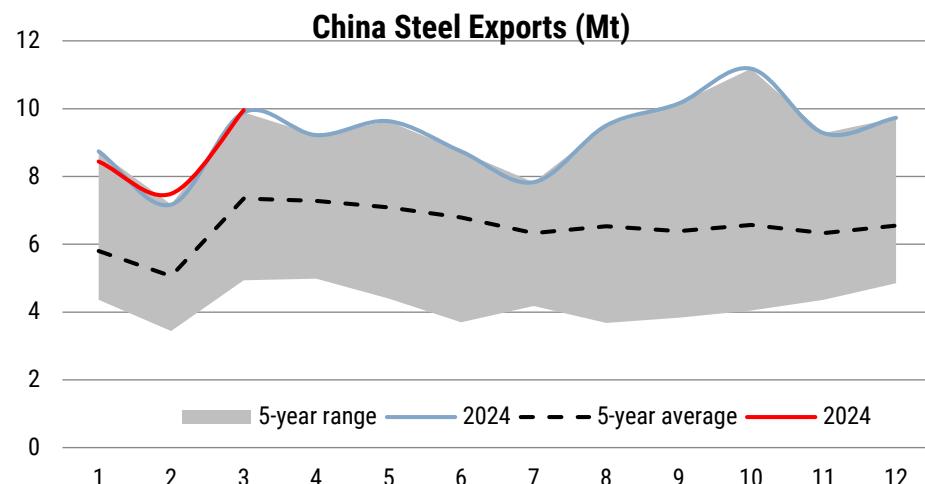
# Iron Ore & Steel

**Exhibit 118:** China CISA Steel Production



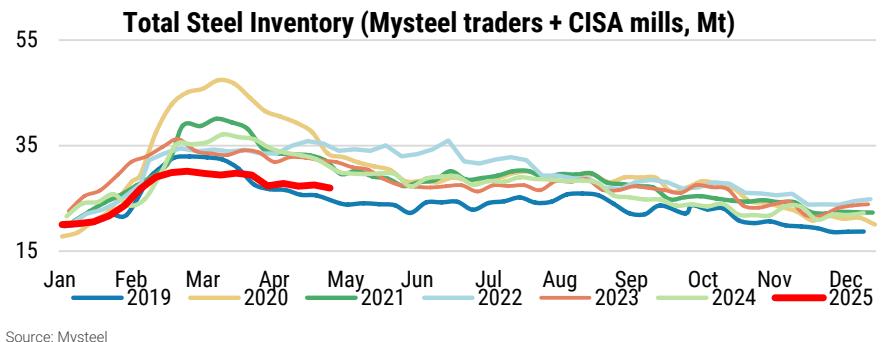
Source: CISA

**Exhibit 120:** China Steel Exports



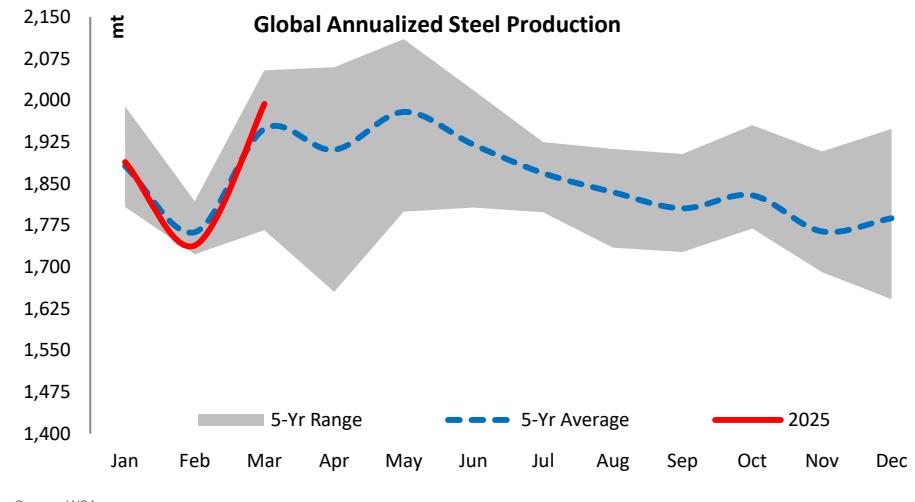
Source: Bloomberg

**Exhibit 119:** China Steel Inventory

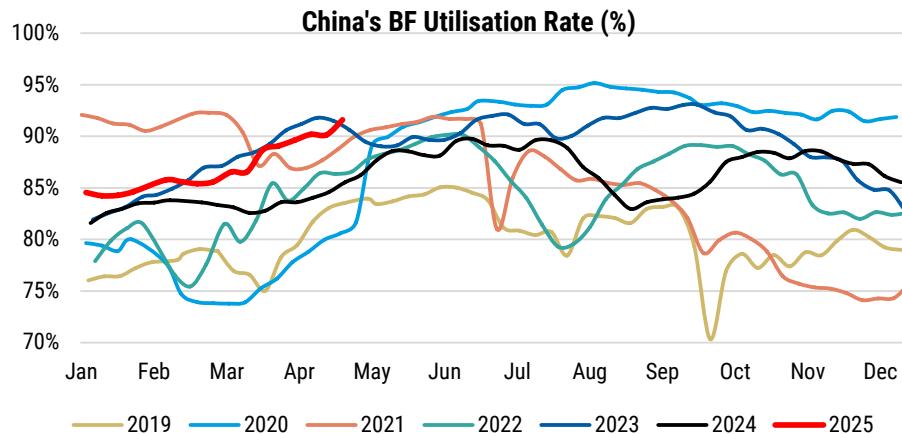
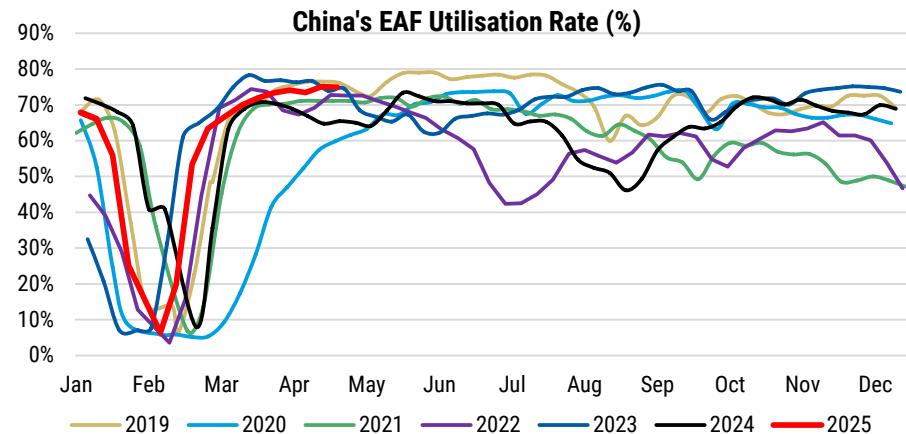


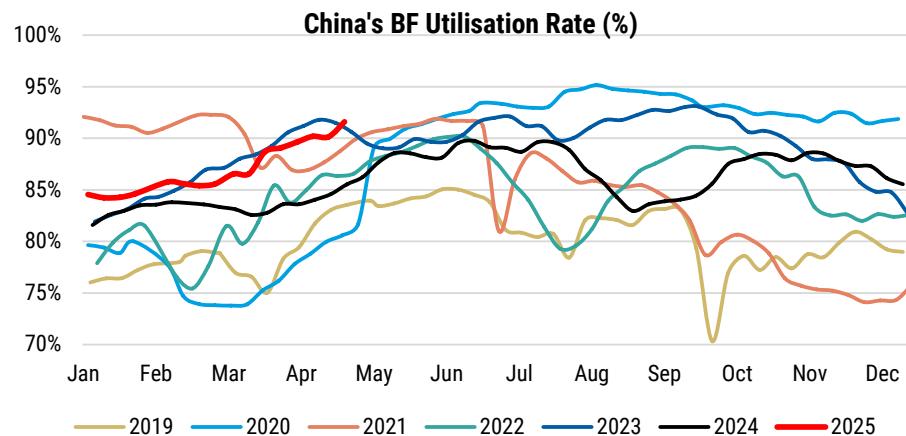
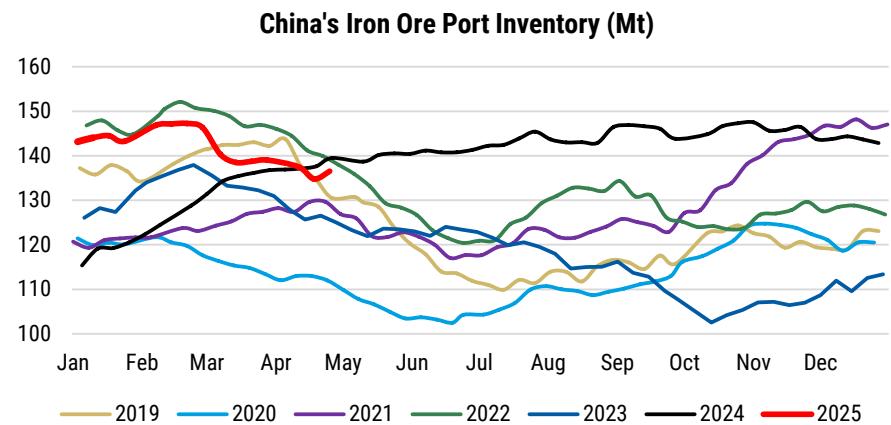
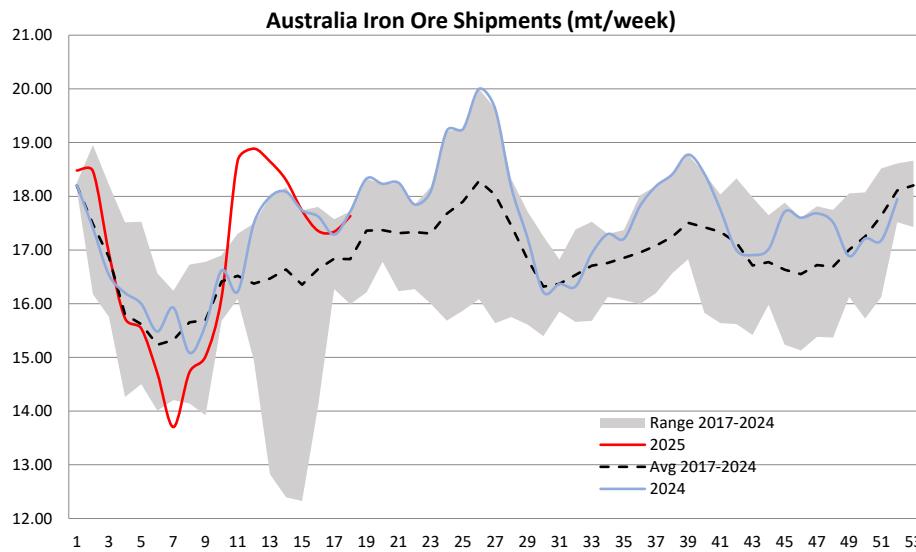
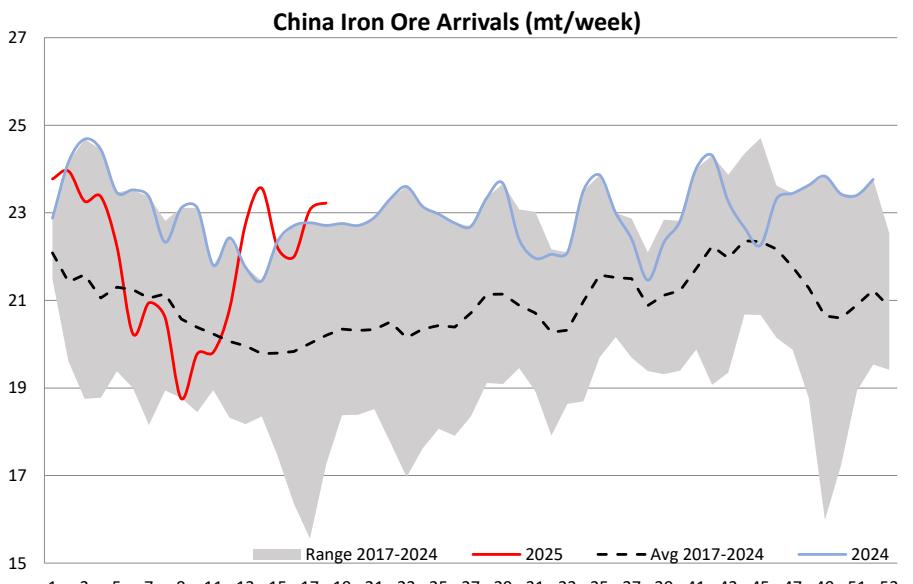
Source: Mysteel

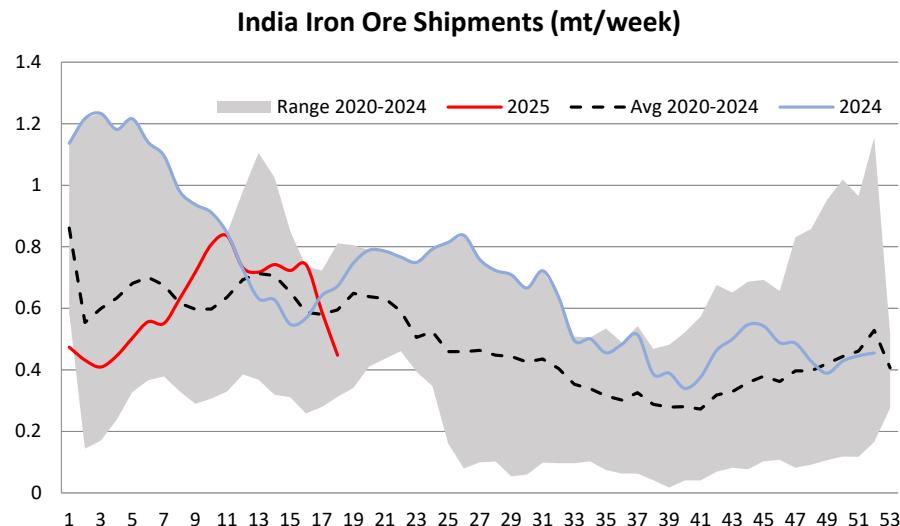
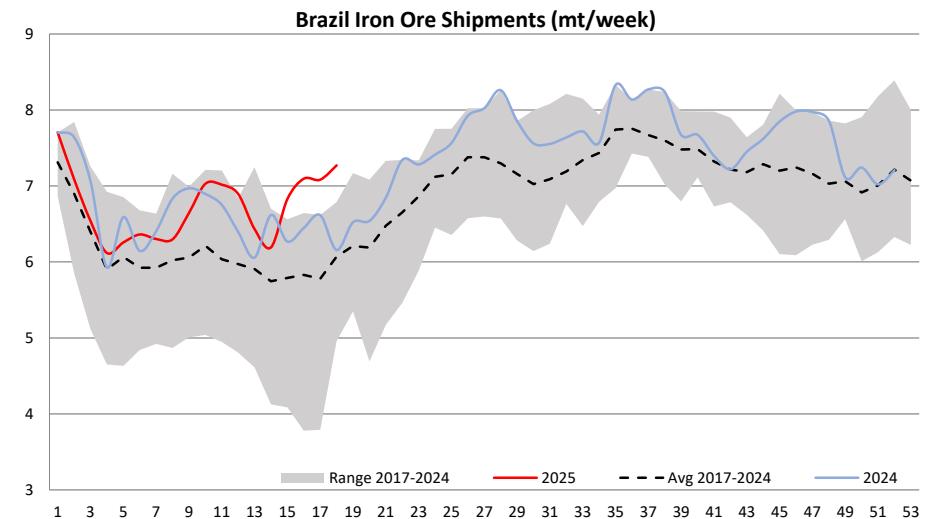
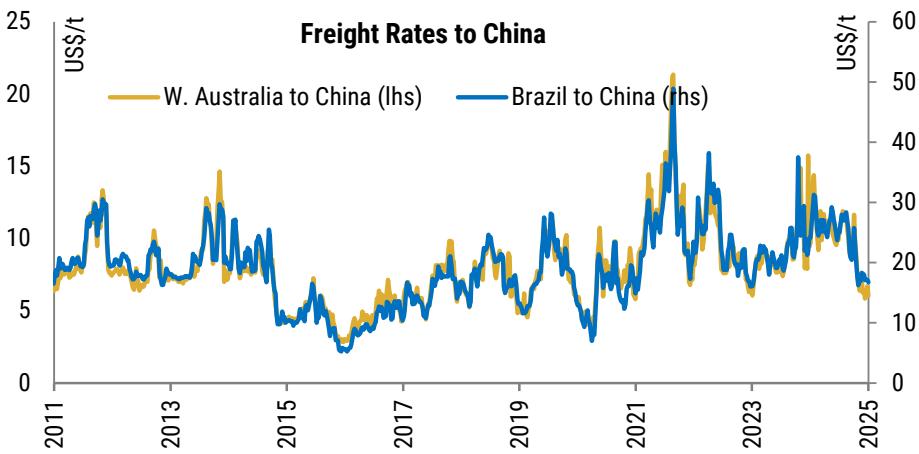
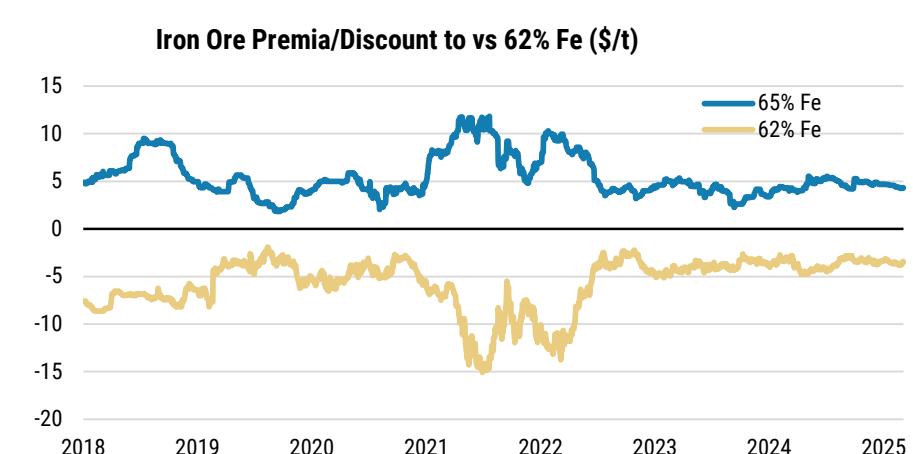
**Exhibit 121:** Global Steel Production



Source: WSA

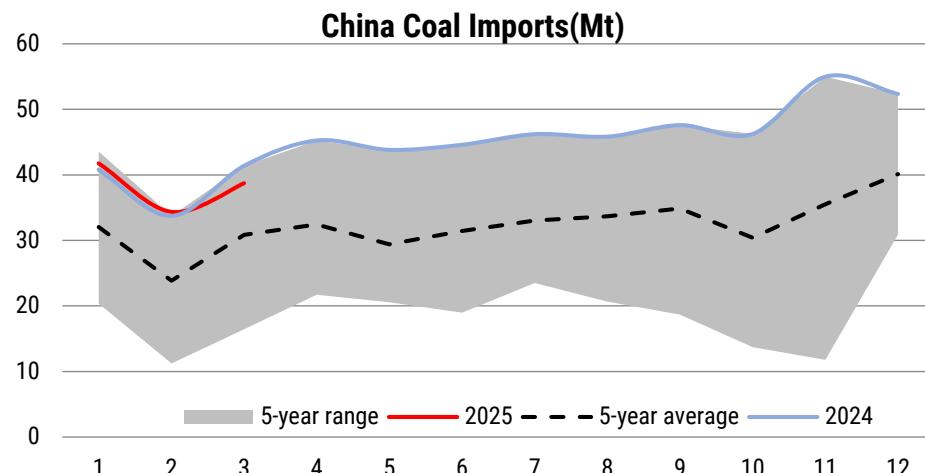
**Exhibit 122:** China BF Utilisation Rate**Exhibit 123:** China EAF Utilisation Rate**Exhibit 124:** China Steel Scrap Ratio**Exhibit 125:** China Steel Mill Margin

**Exhibit 126:** China Iron Ore Imports**Exhibit 127:** China Iron Ore Port Inventory**Exhibit 128:** Australia Iron Ore Shipments**Exhibit 129:** China Iron Ore Arrivals

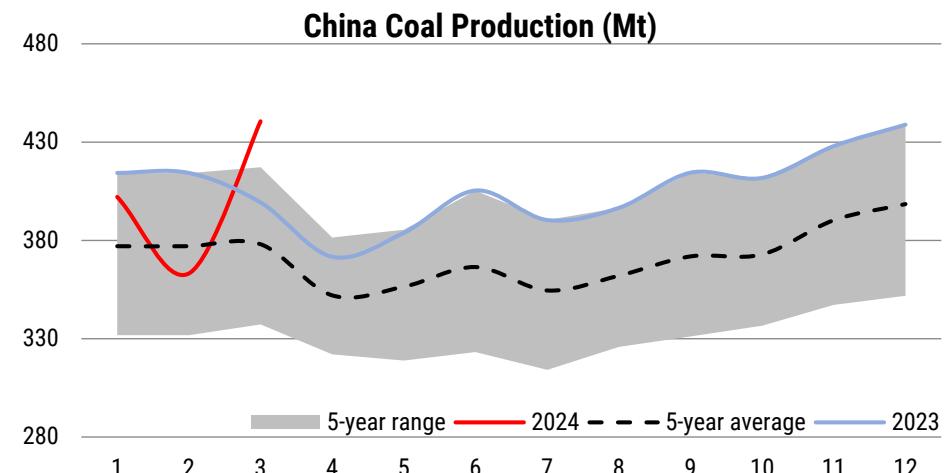
**Exhibit 130:** India Iron Ore Shipments**Exhibit 131:** Brazil Iron Ore Shipments**Exhibit 132:** Freight Rates to China**Exhibit 133:** Iron Ore Premia/Discount

# Coal

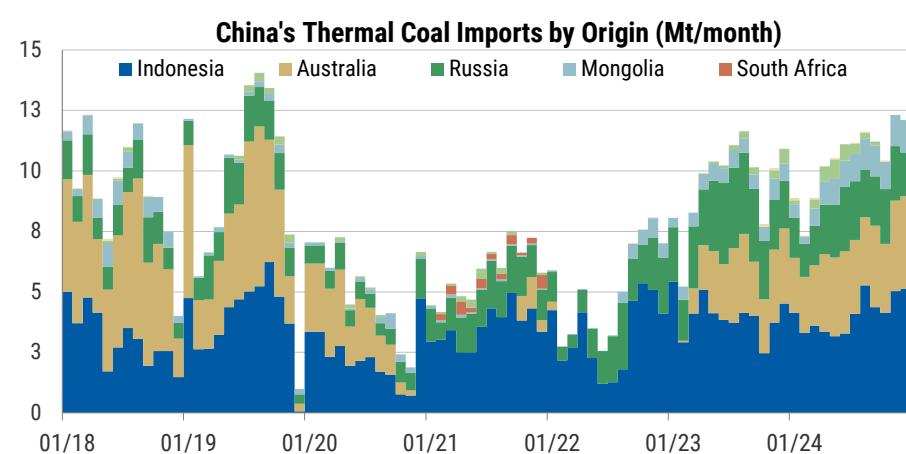
**Exhibit 134:** China Coal Imports



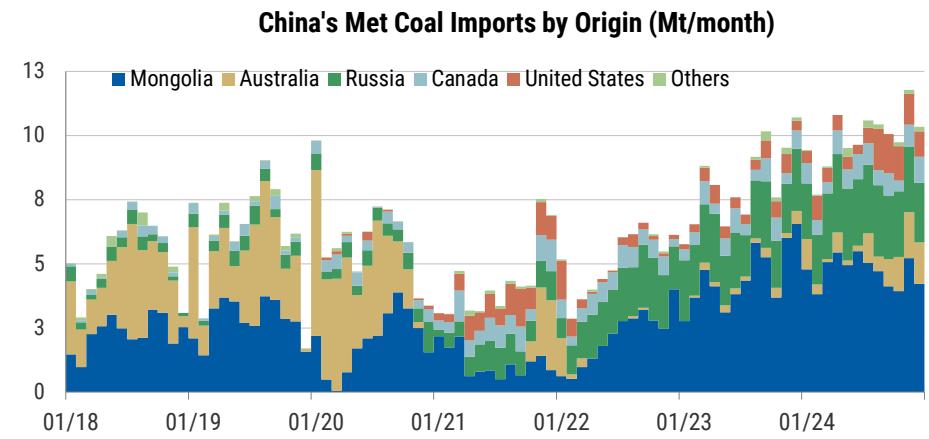
**Exhibit 135:** China Coal Production

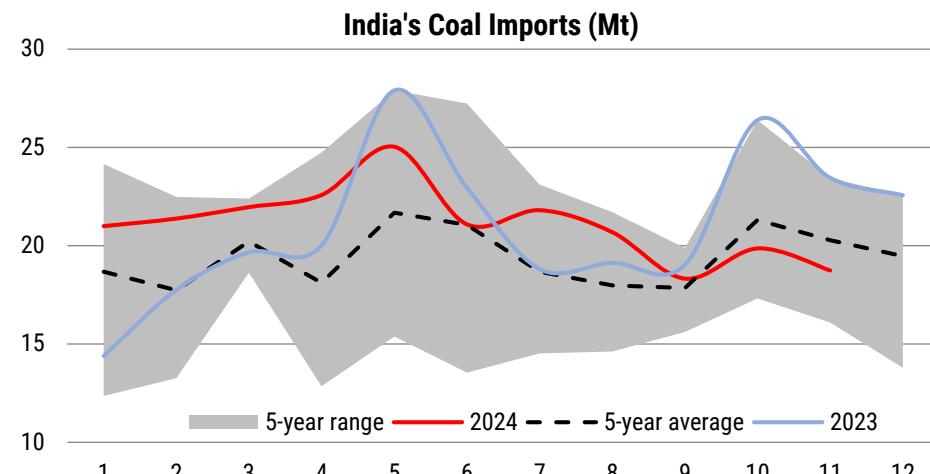
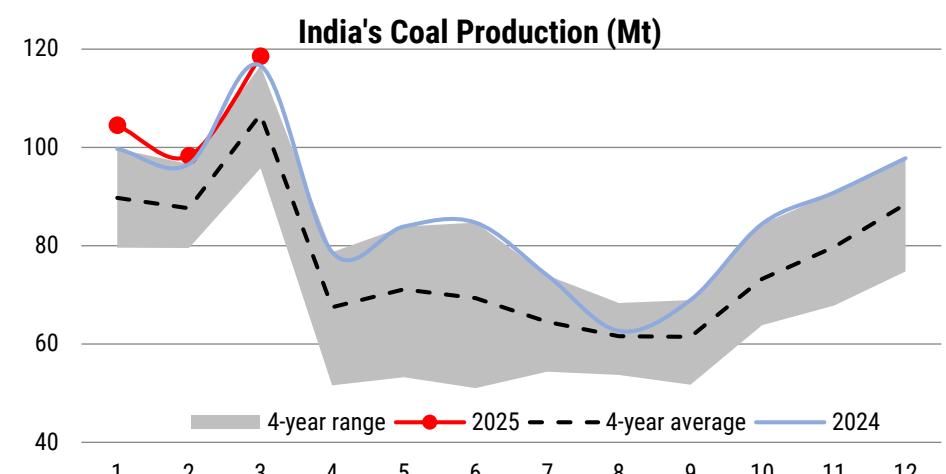
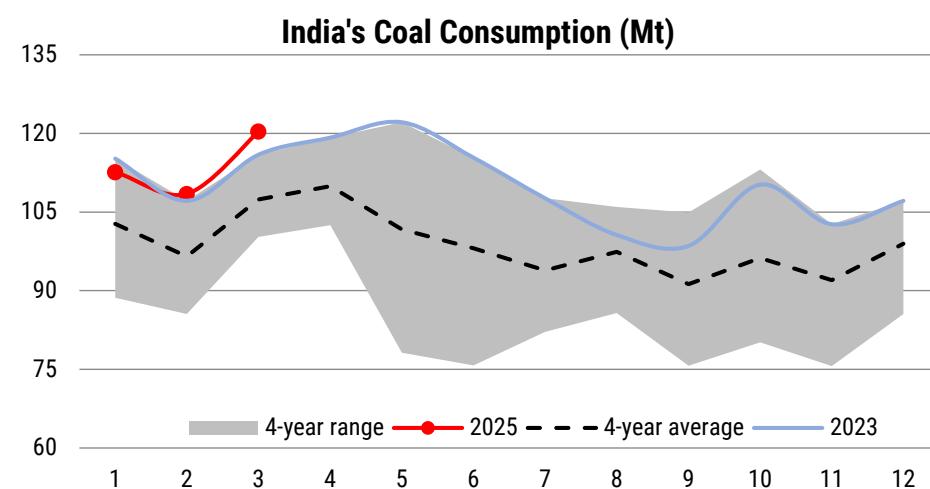
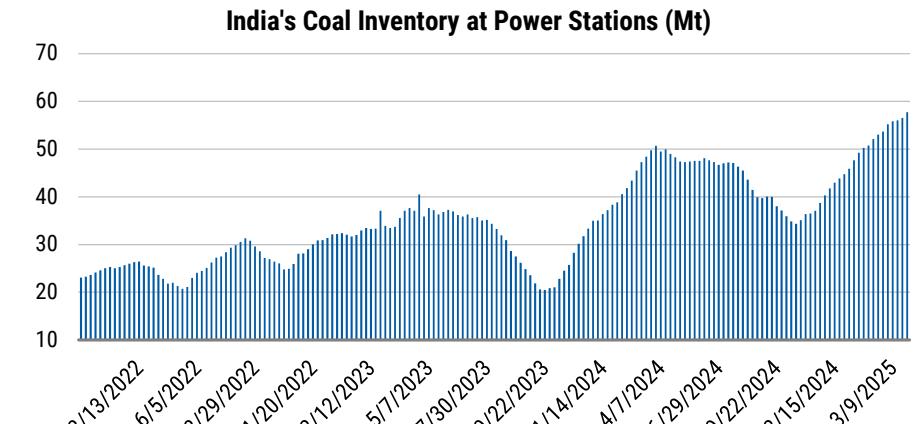


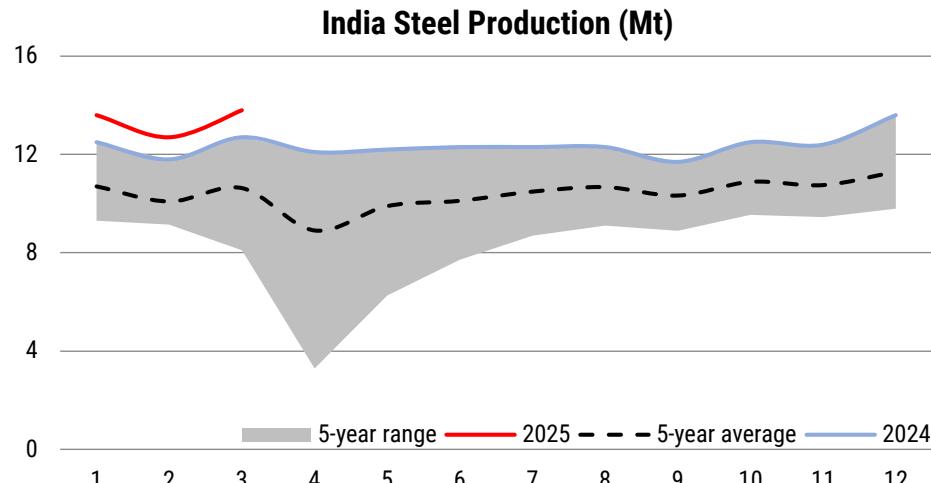
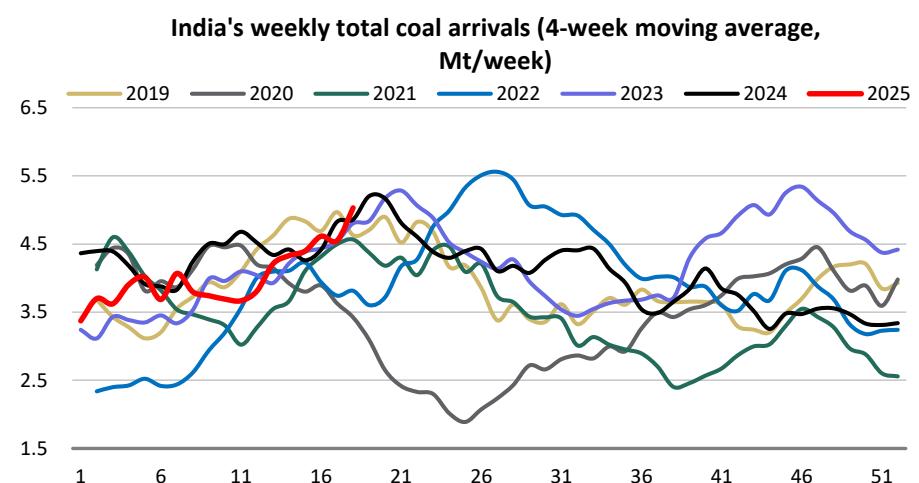
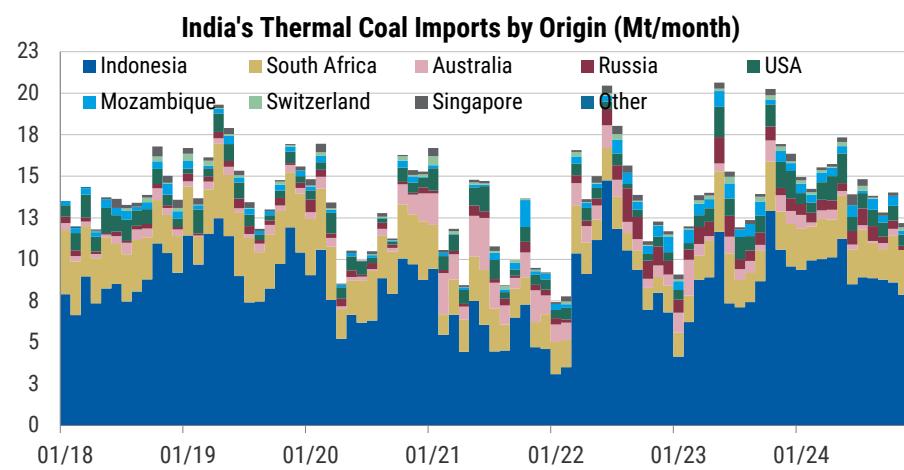
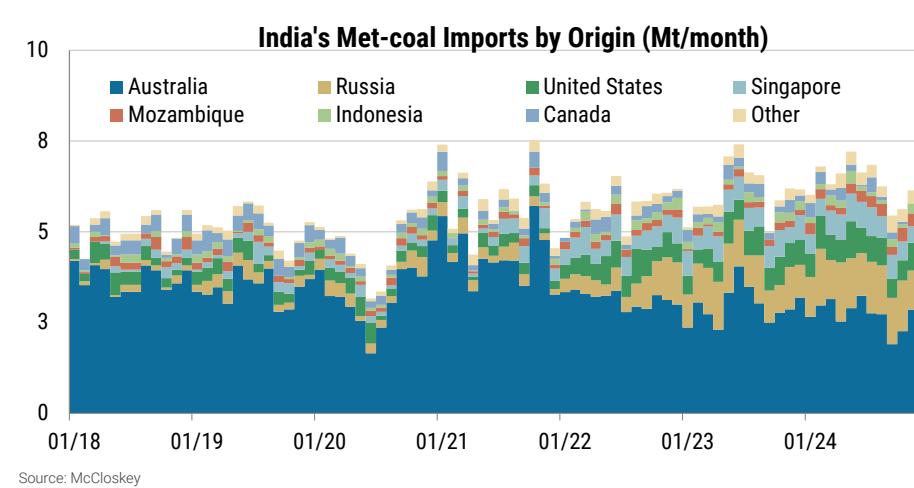
**Exhibit 136:** China Thermal Coal Imports

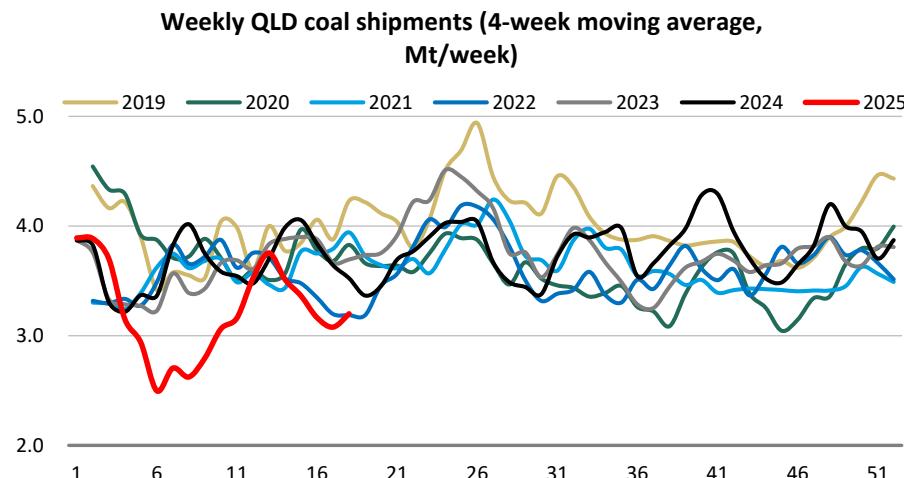


**Exhibit 137:** China Met Coal Imports

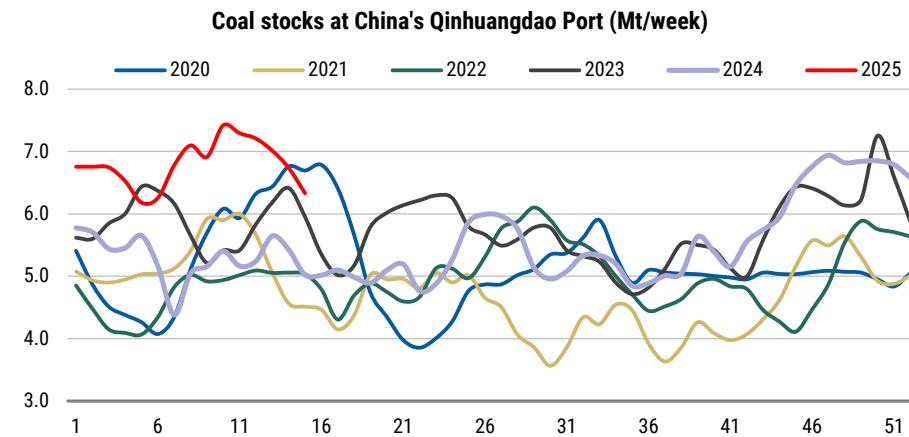


**Exhibit 138:** India Coal Imports**Exhibit 139:** India Coal Production**Exhibit 140:** India Coal Consumption**Exhibit 141:** India Coal Inventory at Power Station

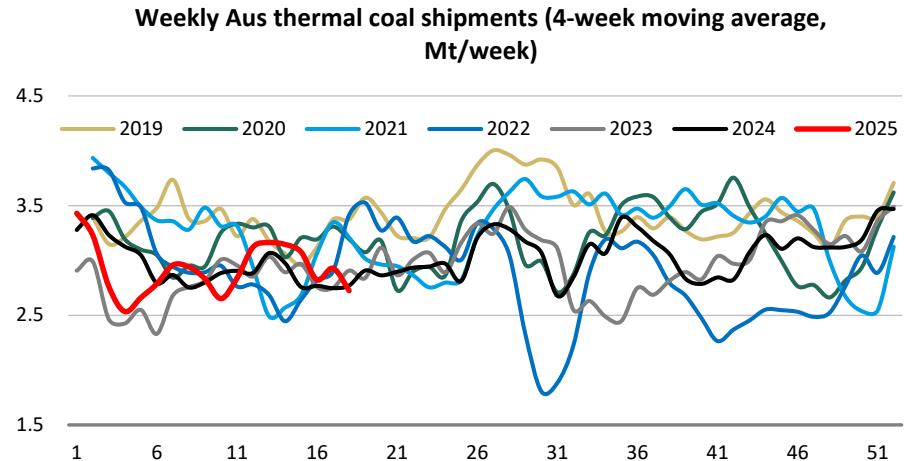
**Exhibit 142:** India Steel Production**Exhibit 143:** India Coal Arrivals**Exhibit 144:** India Thermal Coal Imports**Exhibit 145:** India Met-coal Imports

**Exhibit 146:** Queensland Coal Shipments

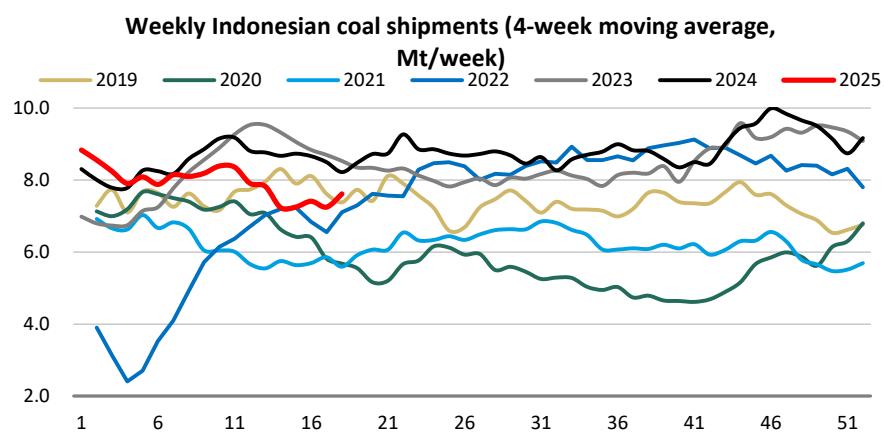
Source: Eikon

**Exhibit 148:** Coal Stocks at Qinhuangdao Port

Source: Bloomberg

**Exhibit 147:** Australia Thermal Coal Shipments

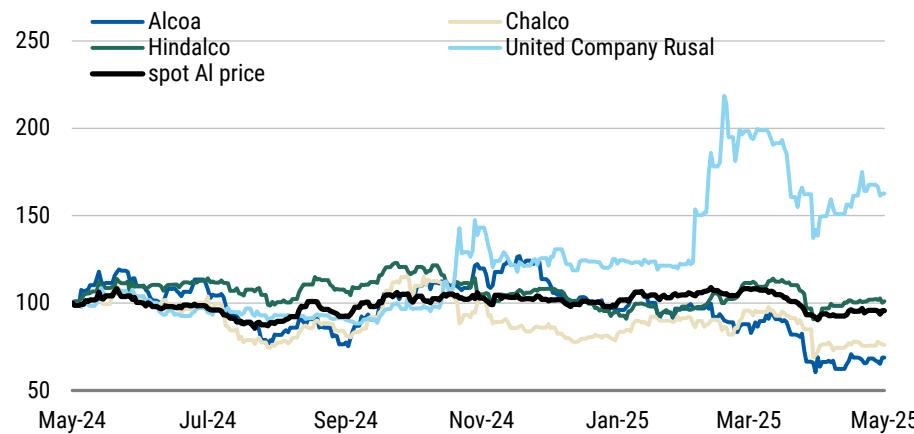
Source: Eikon

**Exhibit 149:** Indonesia Coal Shipments

Source: Eikon

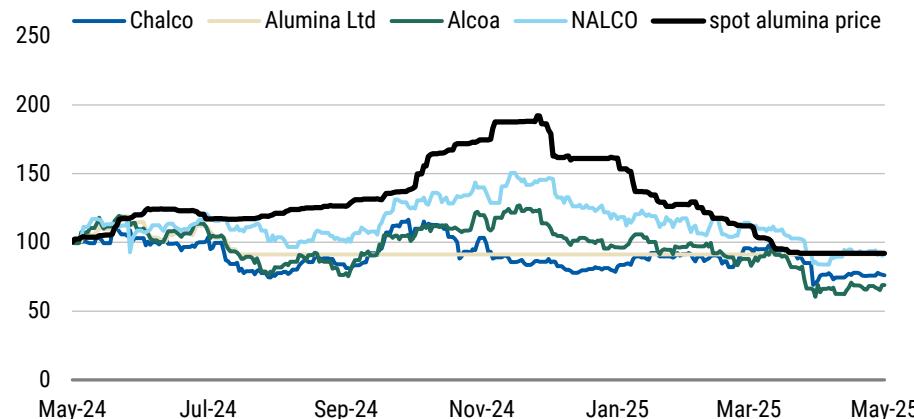
# Equity vs. Commodity – Relative One-Year Performance

**Exhibit 150:** Aluminium (large cap)



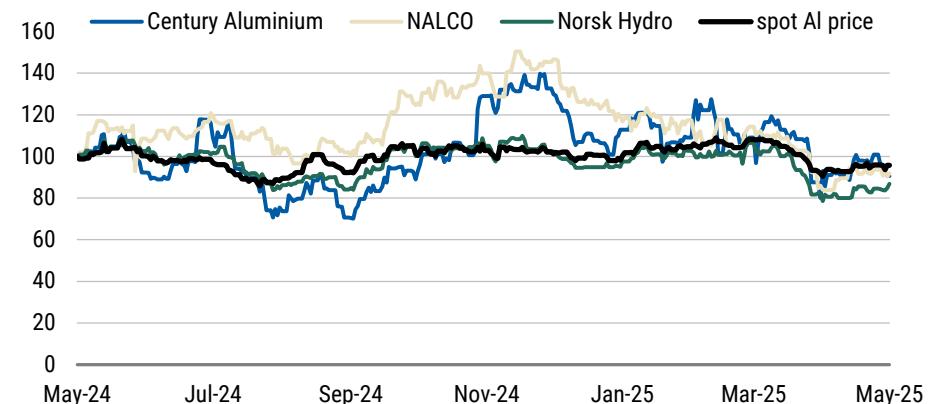
Source: Bloomberg, Morgan Stanley Research

**Exhibit 152:** Alumina



Source: Bloomberg, Morgan Stanley Research

**Exhibit 151:** Aluminium (small-medium cap)

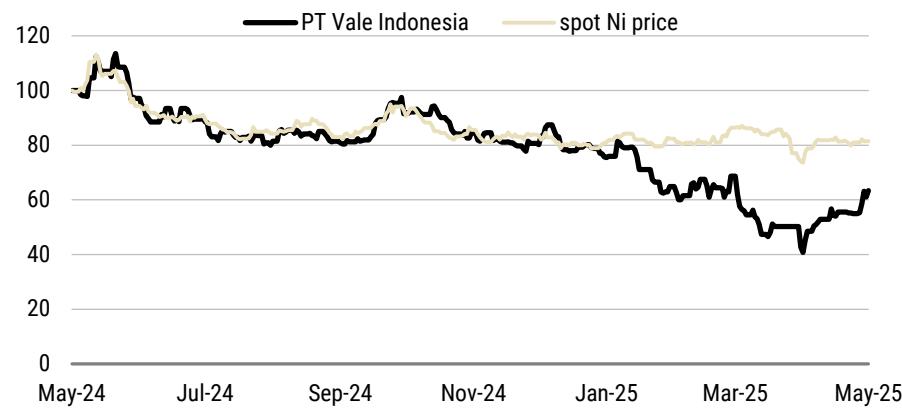


Source: Bloomberg, Morgan Stanley Research

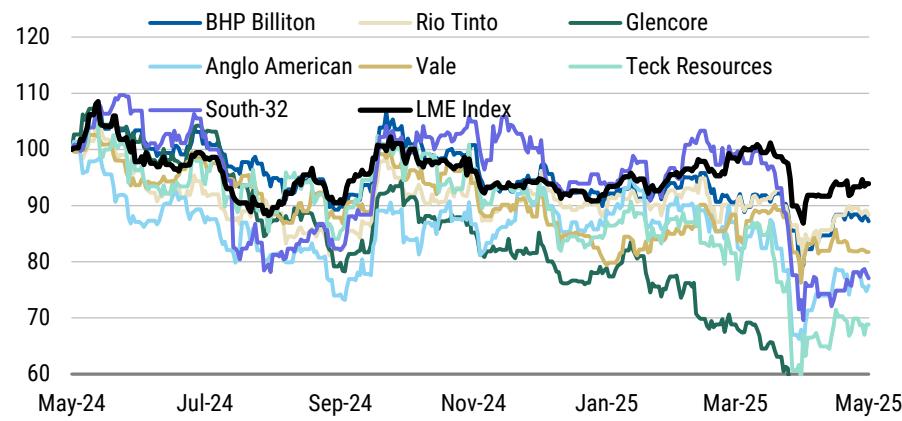
**Exhibit 153:** Copper



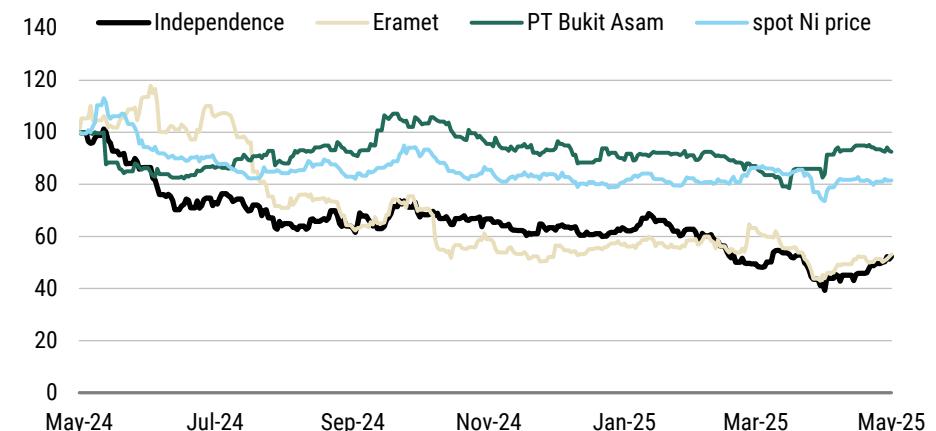
Source: Bloomberg, Morgan Stanley Research

**Exhibit 154:** Nickel (large cap)

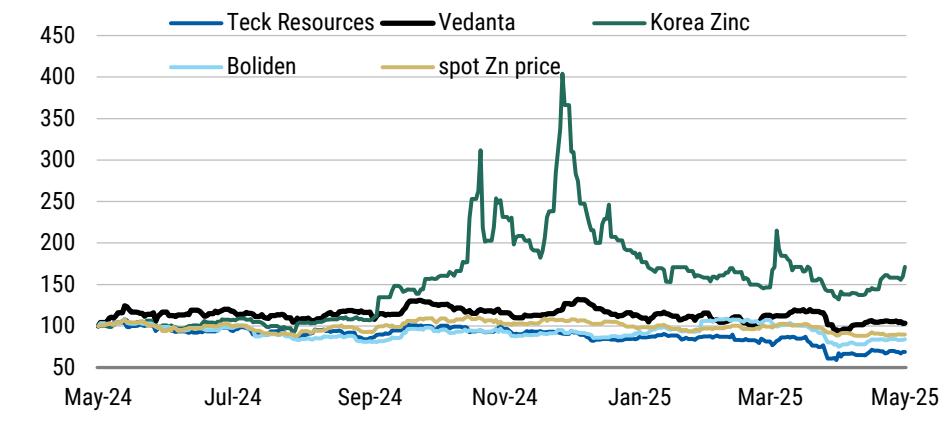
Source: Bloomberg, Morgan Stanley Research

**Exhibit 156:** Diversifieds

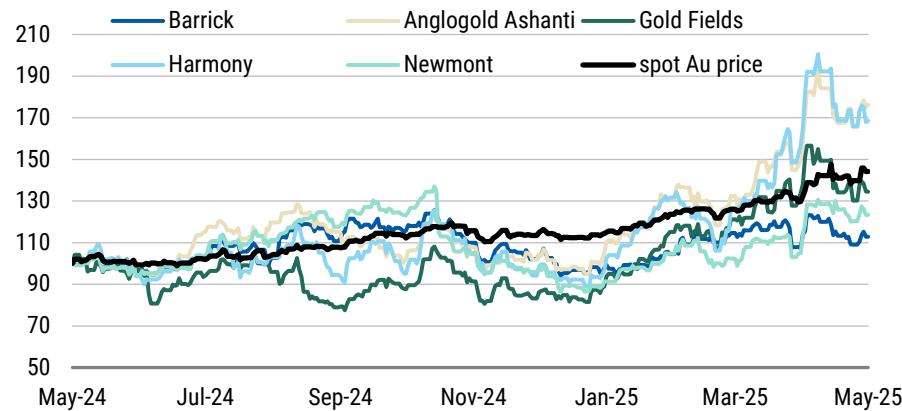
Source: Bloomberg, Morgan Stanley Research

**Exhibit 155:** Nickel (small-medium cap)

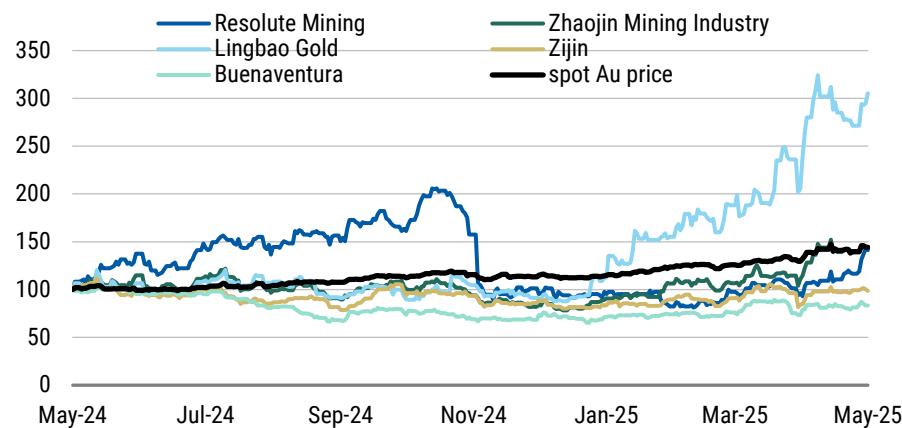
Source: Bloomberg, Morgan Stanley Research

**Exhibit 157:** Zinc

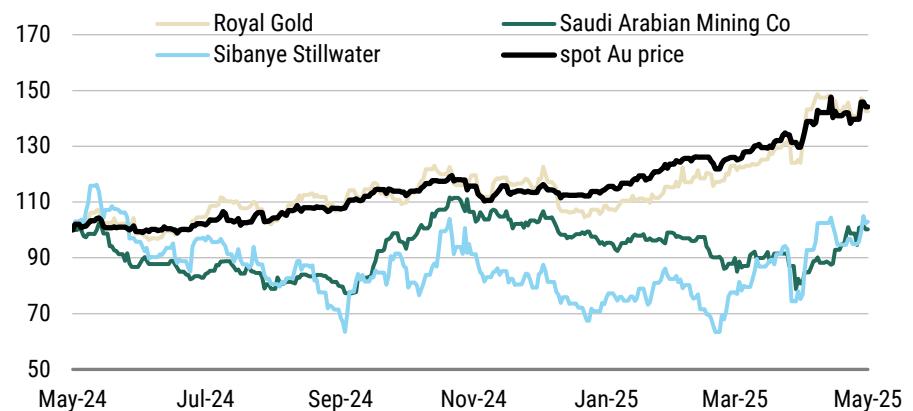
Source: Bloomberg, Morgan Stanley Research

**Exhibit158:** Gold (large cap)

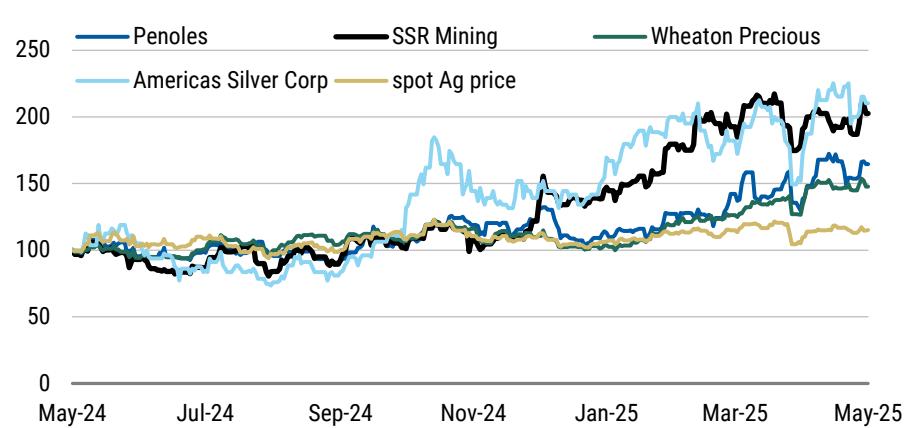
Source: Bloomberg, Morgan Stanley Research

**Exhibit160:** Gold (small / medium cap)

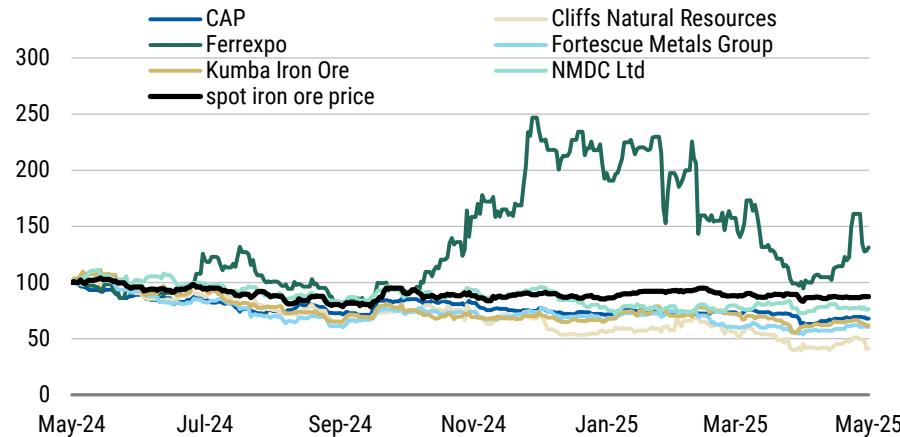
Source: Bloomberg, Morgan Stanley Research

**Exhibit159:** Gold (small/medium cap)

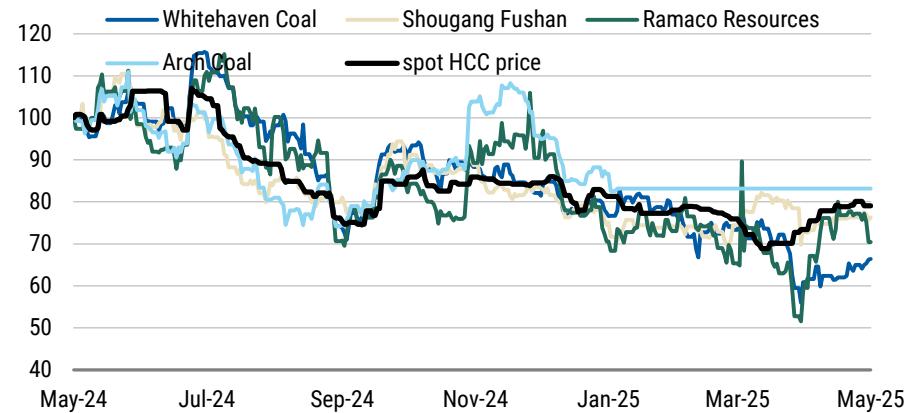
Source: Bloomberg, Morgan Stanley Research

**Exhibit161:** Silver

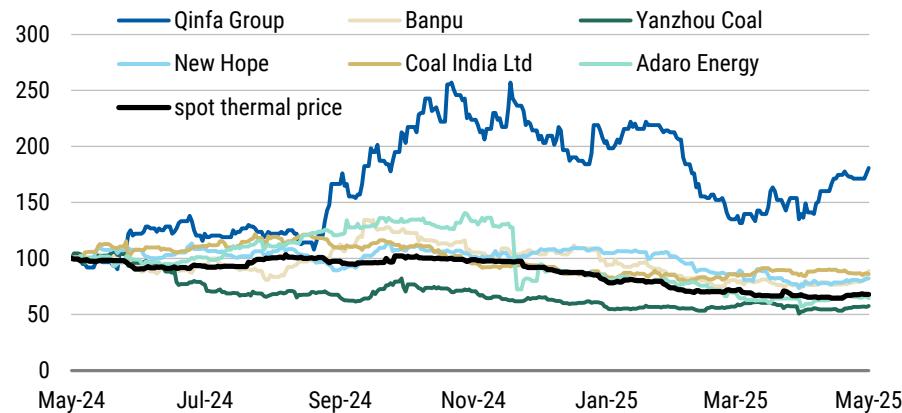
Source: Bloomberg, Morgan Stanley Research

**Exhibit 162:** Iron ore

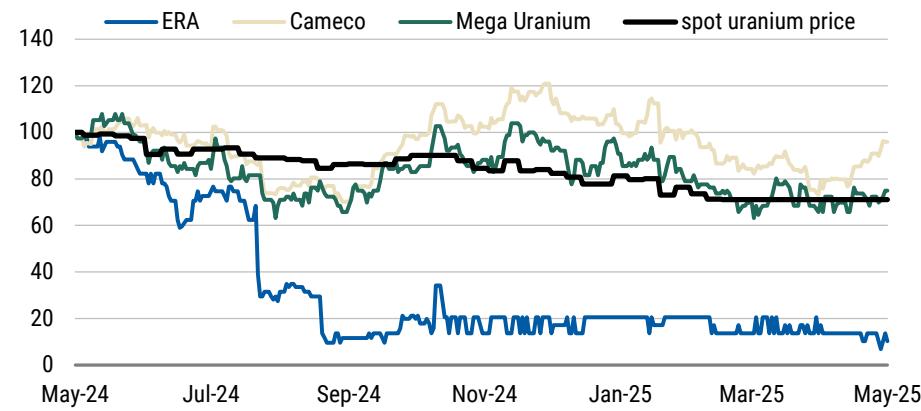
Source: Bloomberg, Morgan Stanley Research

**Exhibit 163:** Metallurgical coal

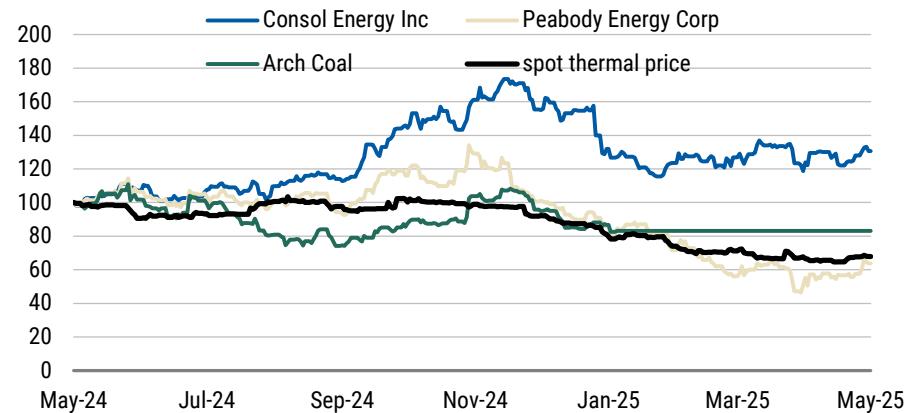
Source: Bloomberg, Morgan Stanley Research

**Exhibit 164:** Thermal coal – Asia

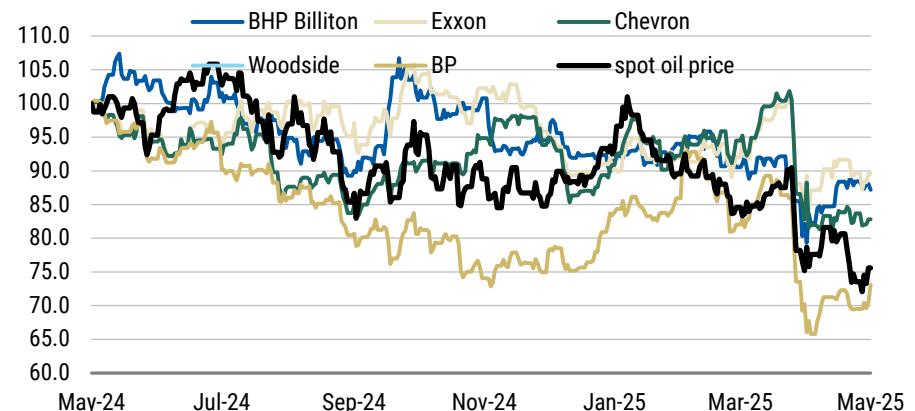
Source: Bloomberg, Morgan Stanley Research

**Exhibit 166:** Uranium

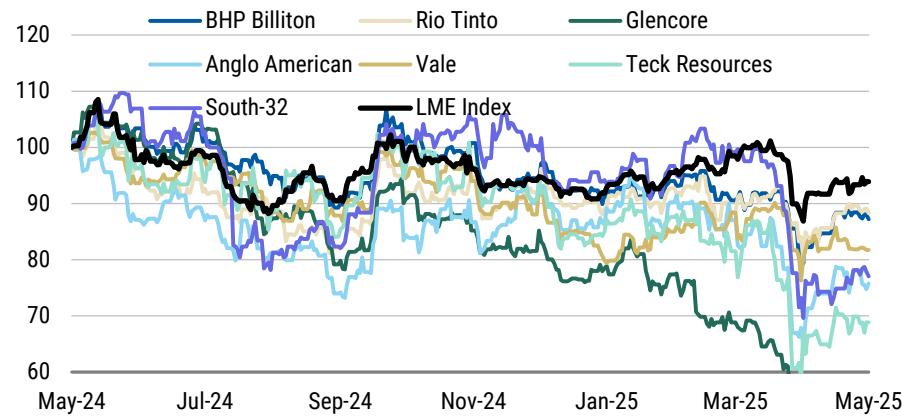
Source: Bloomberg, Morgan Stanley Research

**Exhibit 165:** Thermal coal – North America

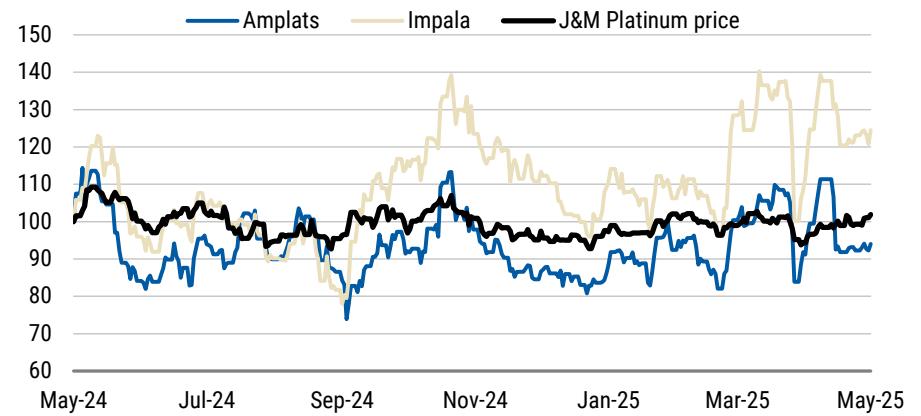
Source: Bloomberg, Morgan Stanley Research

**Exhibit 167:** Oil

Source: Bloomberg, Morgan Stanley Research

**Exhibit 168:** Diversifieds

Source: Bloomberg, Morgan Stanley Research

**Exhibit 169:** PGM

Source: Bloomberg

# Key Morgan Stanley Forecasts

**Exhibit 170:** Base metals price forecasts

Period	Aluminium			Copper			Nickel			Zinc			Lead			Tin			
	Bull	Base	Bear	Bull	Base	Bear	Bull	Base	Bear	Bull	Base	Bear	Bull	Base	Bear	Bull	Base	Bear	
	US\$/lb	US\$/lb	US\$/lb		US\$/lb	US\$/lb		US\$/lb	US\$/lb		US\$/lb	US\$/lb		US\$/lb	US\$/lb		US\$/lb	US\$/lb	
2025e	1.37	1.19	0.84	5.03	4.19	3.14	8.51	7.10	5.53	1.71	1.36	0.96	0.99	0.90	0.72	15.19	13.81	11.05	
2026e	1.50	1.25	1.00	5.16	4.30	3.52	9.57	7.65	6.12	1.55	1.29	1.16	1.04	0.93	0.84	13.68	11.40	9.12	
2027e	1.52	1.27	1.04	5.53	4.42	3.76	10.61	8.16	6.12	1.64	1.32	1.18	1.20	1.00	0.90	14.16	11.80	9.44	
2028e	1.59	1.27	1.08	5.78	4.45	4.00	11.20	8.62	6.03	1.64	1.32	1.18	1.28	1.07	0.96	14.16	11.80	9.44	
2029e	1.64	1.32	1.12	6.12	4.54	4.08	12.21	9.39	6.57	1.64	1.32	1.18	1.33	1.11	1.00	14.16	11.80	9.44	
2030e	1.59	1.27	1.08	6.43	4.76	4.29	12.21	9.39	6.57	1.63	1.36	1.16	1.36	1.13	1.02	17.16	14.30	11.44	
LT nom.	1.43	1.24	1.12	6.28	4.83	4.10	12.16	9.35	6.55	1.48	1.35	1.08	1.26	1.14	0.91	15.87	13.22	10.58	

Source: Morgan Stanley Commodities Research estimates (e)

**Exhibit 171:** Precious metals price forecasts

Period	Gold			Silver			Platinum			Palladium			Rhodium			
	Bull	Base	Bear	Bull	Base	Bear	Bull	Base	Bear	Bull	Base	Bear	Bull	Base	Bear	
	US\$/oz	US\$/oz	US\$/oz		US\$/oz	US\$/oz		US\$/oz	US\$/oz		US\$/oz	US\$/oz		US\$/oz	US\$/oz	US\$/oz
2025e	3,947	3,289	2,631	43.15	35.96	21.57	1,260	1,050	735	1,149	957	670	8,151	5,434	3,804	
2026e	3,705	3,088	2,624	43.56	36.30	29.04	1,470	1,225	980	1,170	900	630	10,440	5,800	4,060	
2027e	3,219	2,575	2,189	41.93	33.54	28.51	1,847	1,421	1,279	1,050	875	613	18,000	6,000	4,200	
2028e	2,860	2,200	1,870	40.18	30.90	26.27	1,948	1,499	1,349	1,050	875	613	19,200	6,400	4,480	
2029e	2,970	2,200	1,870	42.43	31.43	26.71	1,977	1,521	1,369	1,320	1,100	770	20,400	6,800	4,760	
2030e	2,970	2,200	1,870	42.43	31.43	26.71	2,015	1,550	1,395	1,440	1,200	960	21,000	7,000	4,900	
LT nom.	2,874	2,129	1,810	38.32	28.39	24.13	2,075	1,596	1,436	1,479	1,233	986	21,544	7,181	5,027	

Source: Morgan Stanley Commodities Research estimates (e)

**Exhibit 172:** Bulks Price Forecasts

Period	Iron Ore (spot)			Hard Coking Coal (spot)			Thermal Coal			Manganese ore (44%)			Lithium (fob LatAm)			Uranium (spot)			
	Bull	Base	Bear	Bull	Base	Bear	Bull	Base	Bear	Bull	Base	Bear	Bull	Base	Bear	Bull	Base	Bear	
	US\$/t	US\$/t	US\$/t		US\$/t	US\$/t		US\$/t	US\$/t		US\$/lb	US\$/lb		US\$/lb	US\$/lb		US\$/lb	US\$/lb	
2025e	123	98	81	223	179	143	132	106	84	5.8	4.6	3.8	13,755	9,825	6,386	89	69	48	
2026e	124	95	76	275	211	169	146	113	90	6.0	5.0	4.0	19,553	10,863	6,518	110	79	55	
2027e	125	93	69	287	213	159	163	125	94	6.6	5.5	4.4	26,125	13,063	7,838	113	75	56	
2028e	130	96	72	289	214	160	169	130	98	6.6	5.5	4.4	30,250	15,125	10,588	105	70	56	
2029e	135	100	75	290	215	161	176	135	101	6.6	5.5	4.4	30,800	15,400	10,780	105	70	56	
2030e	135	100	75	290	215	161	176	135	101	6.6	5.5	4.4	30,800	15,400	10,780	105	70	56	
LT nom.	136	101	76	295	219	164	182	140	105	6.5	5.4	4.3	30,704	15,352	9,211	101	67	54	

Source: Morgan Stanley Commodities Research estimates (e)

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Stock Rating Category	Coverage Universe		Investment Banking Clients (IBC)			Other Material Investment Services Clients (MISC)	
	Count	% of Total	Count	% of Total IBC	% of Rating Category	Count	% of Total Other MISC
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Equal-weight/Hold	1667	44%	375	45%	22%	796	46%
Not-Rated/Hold	3	0%	0	0%	0%	1	0%
Underweight/Sell	603	16%	76	9%	13%	229	13%
Total	3,774		828			1717	

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