

Global Metals Weekly

How reconfigured US economic policy impacts metals

Lack of fiscal consolidation bullish gold

The surge in gold investment demand driving up prices to record levels has been offset by sharply lower jewellery purchases. As such, our supply/demand model suggests that gold can trade comfortably above \$3,000/oz, but not above \$3,500/oz for now, especially if trade disputes ease. For another push higher, investment in the yellow metal would need to increase, while jewellery demand would have to stabilise. Also, US fiscal policy uncertainty metrics have shown a strong correlation with gold. As such, a lack of fiscal consolidation in the US could further support prices, and we still believe that gold could end up being a less-risky investment than Treasuries. And while we see limited upside near-term, we expect prices to push higher again in 2H25, potentially hitting \$4,000/oz.

Tight copper on lack of supply and China's stimulus

Against a challenging macro backdrop, base metals have been remarkably resilient in part due to tight supplies. The Chinese authorities have also made the economy much less dependent on the US. Linked to that, fiscal stimulus has supported metals demand. This has been reflected in rising physical premia, falling inventories and a flip of forward curves into backwardation. While it is still uncertain how the trade disputes will develop, we believe the red metal will ultimately bottom out, potentially also supported by another round of stimulus from China and renewed fiscal easing in Europe.

Three themes matter for the metals

Going forward, we think prices of the mined materials will be influenced by three dynamics: 1) The US attempt to **rebalance external accounts and boost the manufacturing sector**. Tariffs have been the measure of choice, leading to trade disputes, though the heat has come out of them recently; 2) In turn, this threatens to **disrupt supply chains**, which should impact economic growth, although the drag may be offset by **stimulus in China and Europe**. 3) Finally, markets had been optimistic that the Trump Administration would reduce the **US budget deficit**, but fiscal consolidation is a moving target; tariffs are integral to revenues, so unlikely to go away.

Trade disputes are metals-specific

Beyond rebalancing growth, tariffs can also help generate fiscal revenues. Hence, they will in all likelihood remain central to President Trump's economic policy. But Section 232 investigations highlight that metals are a weak spot in US supply chains. Not surprisingly, China has reciprocated with minerals-specific trade restrictions. The impact of these measures on the wider economy looks small, but they could make life difficult for the technology and defense sectors. Our takeaway: trade disputes hurt everyone and, in particular, the restrictions on minerals call for urgent development of local supply chains. President Trump has signed several executive orders to this end.

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US economic policies and metals

Policy uncertainty bullish gold, but trade deals a headwind

The macroeconomic environment and metals prices have been volatile in recent months. From here, we believe that prices of the mined materials will be influenced by three dynamics:

- The US is looking to rebalance external accounts and rebuild manufacturing. Tariffs have been the measure of choice, leading to **trade disputes**, which the administration is now seeking to settle.
- In turn, trade disputes and tariffs threaten to disrupt supply chains. This will in all likelihood impact **economic growth**, though the drag may be offset by stimulus in China and Europe, especially when the spending goes into metals-intensive sectors.
- Finally, markets were optimistic that the Trump Administration would reduce the US budget deficit, but **fiscal consolidation** no longer seems a priority; incidentally, tariffs are seen as integral to revenues so are unlikely to go away.

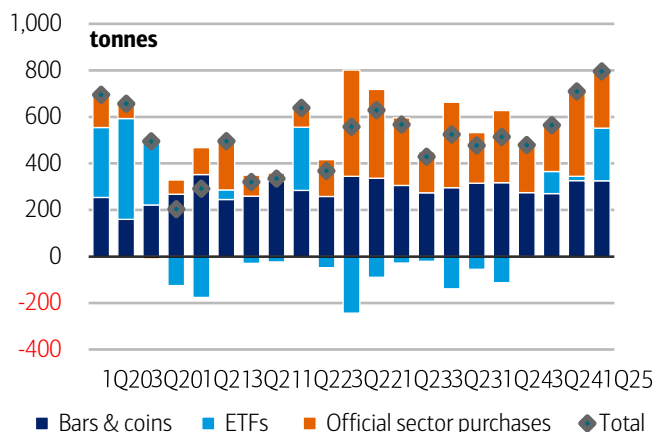
Strong gold investment, weak jewellery demand

Prices above \$3,000/oz can be justified; +\$3,500/oz looks difficult for now

Gold has hit our \$3,500/oz price target, but prices have pulled back since. Beyond macro, this can be explained by flows. Indeed, the World Gold Council confirms a 20% increase in investment demand in 1Q25, led by ETFs, whose AUMs increased by 170% YoY or 550t (Exhibit 1). The importance of that is mirrored by Exhibit 2, which shows the continuing correlation between physically backed ETFs and gold quotations.

Exhibit 1: Gold investment flows

Investment flows have risen to all-time highs

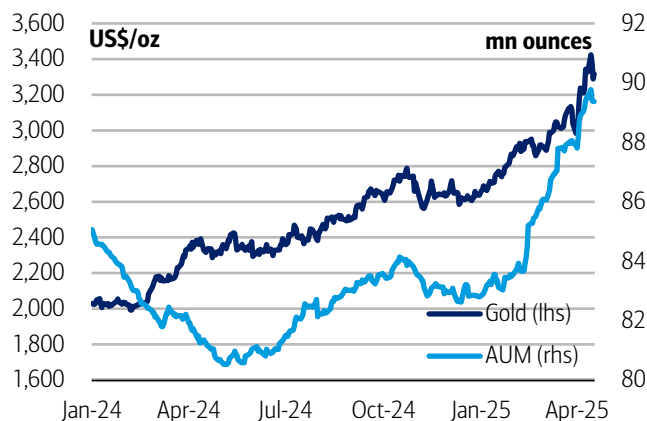


Source: World Gold Council, BofA Global Research

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Exhibit 2: AUMs at physically backed ETFs and gold prices

Gold prices and AUMs at physically backed ETFs have both risen



Source: World Gold Council, BofA Global Research

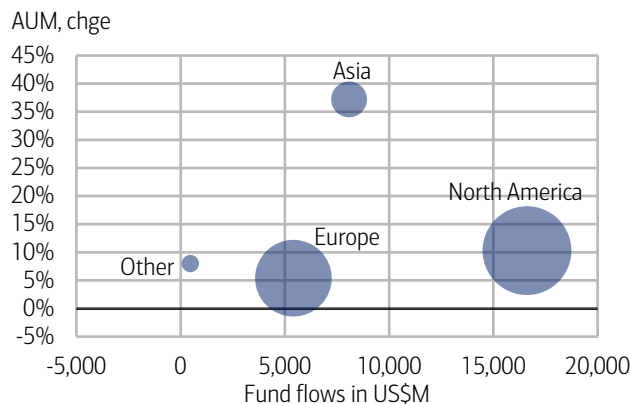
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Exhibit 3 digs a bit deeper, confirming that North America has been critical for the gold market, posting the biggest inflows into ETFs, followed by Asia. Investor interest in those two regions has been driven by a confluence of factors, with continued policy uncertainty and the evolving trade dispute being key.

That said, those investment inflows have come with a wrinkle. The sharp rally in gold prices has impacted price-sensitive sectors like jewellery. To that point, jewellery demand dropped 19% YoY. As a result, total gold purchases were up only 1% YoY. Exhibit 4 picks up on this, showing our gold supply and demand model; to provide some context, we model gold on a series of assumptions, including mine output, scrap supply, gold fabrication/jewellery demand and investor purchases.

Exhibit 3: Regional inflows into physically backed ETFs

Relative to the assets under management, Asia has seen



Note: Size of circles reflects assets under management

Source: World Gold Council, BofA Global Research

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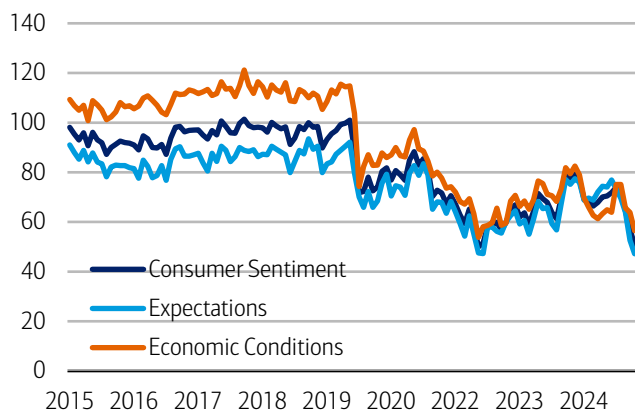
Given scrap and jewellery demand are influenced by prices, it is difficult to estimate a definite market balance without also setting a price level. To get around this problem, we ask how high investment demand, the marginal consumption driver, needs to be at different prices to balance the market. We had factored in an increase in investment demand, but the drag from the jewellery sector was a bit higher than we anticipated. The implications: on current flows, gold can comfortably trade above \$3,000/oz, but not above \$3,500/oz. For that, the market needs another trigger and more stable jewellery demand. To provide some context: investment would need to increase by 18% YoY for gold to hit \$4,000/oz. That may sound like a lot, but purchases exceeded that tally in 2016 and 2020, so twice within the past decade, highlighting that it is possible. What could that trigger be? There are a few candidates, including US policy uncertainty and, perhaps more importantly, US fiscal deficits.

Policy uncertainty has attracted buyers to the gold market

The Trump Administration has sought to rebalance the current account deficit and rebuild the manufacturing supply chain. Tariffs have been a key tool to accomplish that. Yet, so far trade disputes have predominantly affected the economy by disrupting supply chains and pushing down confidence. Incidentally, accompanying this, USD has also weakened.

Exhibit 5: US consumer sentiment

Consumers have been less optimistic

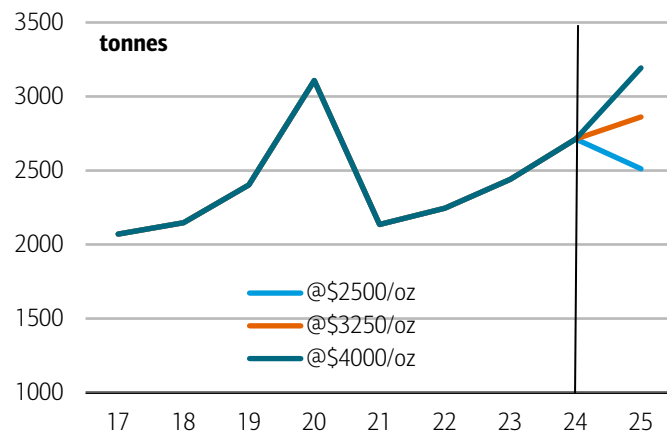


Source: Bloomberg, BofA Global Research

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Exhibit 4: Investment demand required at different gold price levels

Investors would need to liquidate holdings for gold to fall below \$3,000/oz

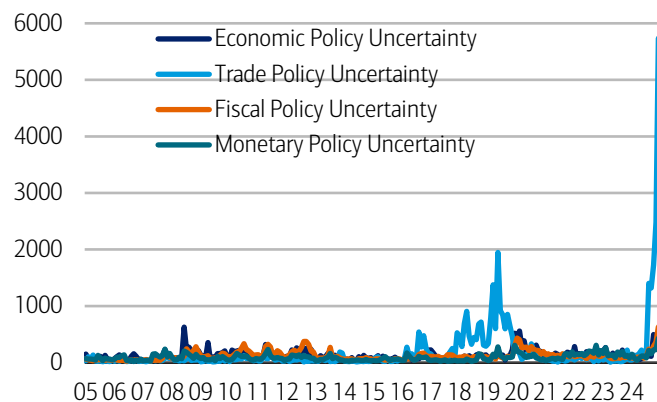


Source: Bloomberg, World Gold Council, BofA Global Research

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Exhibit 6: US policy uncertainty

Policy uncertainty has spiked



Source: Bloomberg, BofA Global Research

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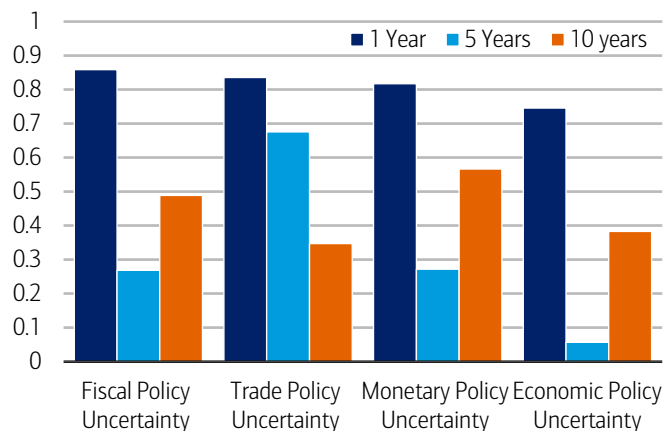
These dynamics are mirrored by Exhibit 5, which shows that consumer sentiment has fallen sharply, while Exhibit 6 outlines that policy uncertainty has risen across the board.

Fiscal and trade policy uncertainty most important for gold

Exhibit 7 zooms in and shows the correlations between gold prices and the different uncertainty measures. Trump's entire policy package has been supportive, including the trade policy uncertainty it has created. That said, fiscal policy uncertainty has been even more critical. This is also mirrored by Exhibit 8, which outlines the strong relationship between gold and fiscal policy uncertainty. Concerns about the fiscal outlook, which we discuss below, will in our view lead to the next leg higher in gold prices.

Exhibit 7: Policy uncertainty and gold prices

Trade policy uncertainty has mattered, but uncertainty over fiscal policy is important for gold too

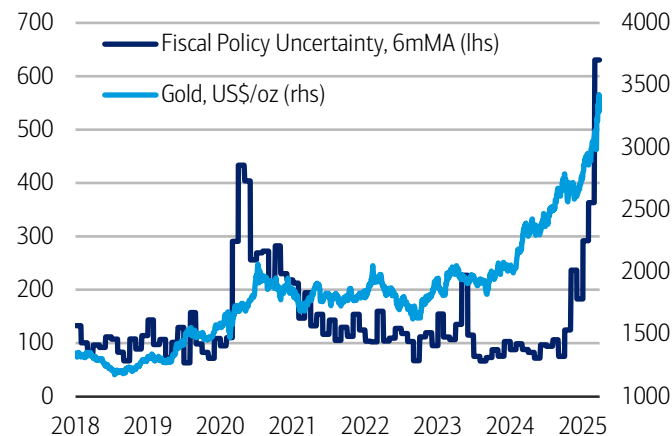


Source: Bloomberg, BofA Global Research

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Exhibit 8: Fiscal policy uncertainty and gold prices

Policy uncertainty and gold prices have been closely aligned



Source: Bloomberg, BofA Global Research

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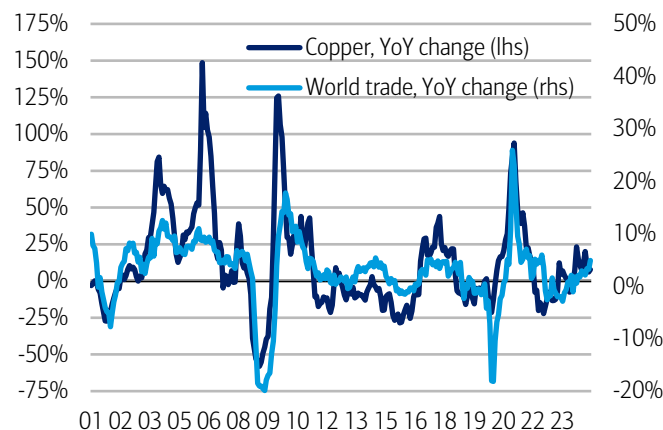
Copper to rally on stimulus and when trade disputes ease

Traditional relationships between trade and copper no longer hold

As gold prices have hit a series of record highs of late, base metals have also been resilient, despite concerns they would be a casualty of the trade disputes. Of course, apprehension has been influenced by expectations that a deceleration of global trade would increase headwinds to demand for cyclical assets like copper (Exhibit 9).

Exhibit 9: Global trade and copper prices

Global trade and copper prices have historically been correlated

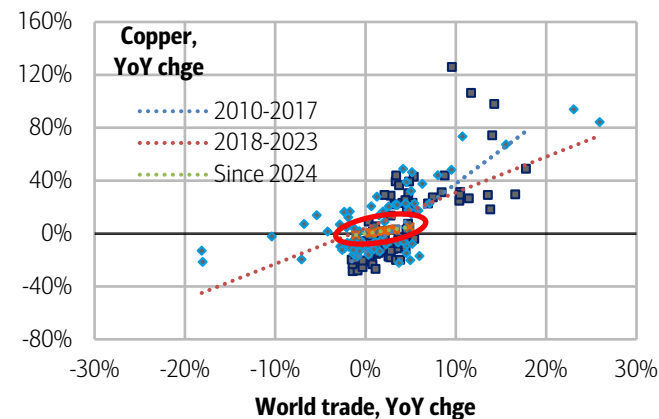


Source: Bloomberg, BofA Global Research

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Exhibit 10: Global trade and copper prices

The relationship between trade and copper has become more tenuous since 2018



Source: Bloomberg, BofA Global Research

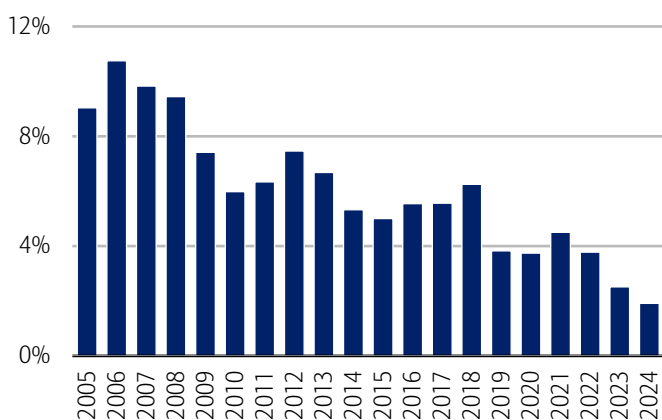
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That said, the correlation between copper prices and global trade has fallen steadily in recent years. Why? Tight mine supply and sustained demand from the energy transition have been key. At the same time, China's government has done a lot of work reconfiguring its economy and reducing interdependencies with the US. Air conditioners are one segment where this shows: the sector usually accounts for around 10% of copper demand in China (Exhibit 11). Yet, the US imports a mere 2% of production from the Asian country, compared to +10% a few years back (we include two trade codes). The authorities have also stimulated domestic consumption, signalling in autumn last year their intention to do whatever it takes to stabilise activity. As a result, every sector except construction is now making a positive contribution to copper offtake (Exhibit 12). The last time China's demand growth was as broad, copper prices rallied 80% YoY (granted, that was also influenced by Covid dislocations then). Encouragingly, the authorities are preparing more stimulus for 2H25, see [Global Metals Weekly: What next for copper amid tariffs and Section 232?](#)

Exhibit 11: US air conditioner imports, of total Chinese production

China has become much less reliant on US demand



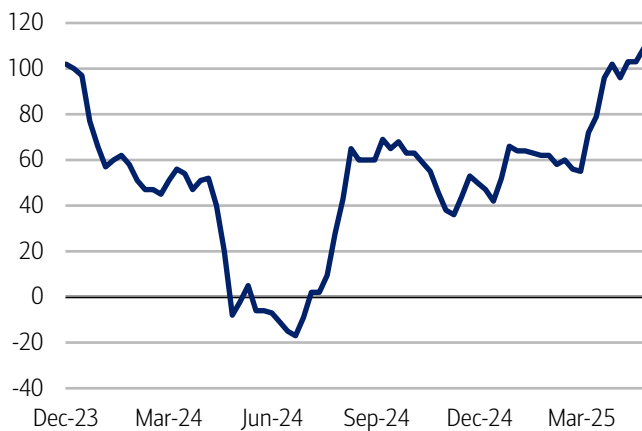
Source: USITC, Bloomberg, BofA Global Research

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Linked to that, and heavily influenced also by a lack of mine supply, China's physical market has tightened, with Exhibit 13 showing a steady increase in premia¹.

Exhibit 13: Shanghai, physical copper premium

Premia above +\$90/t are usually an entry ticket to a bull market

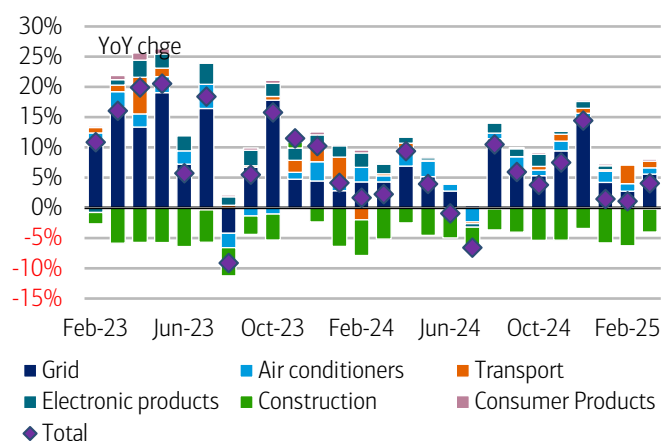


Source: Bloomberg, BofA Global Research

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Exhibit 12: China, real-time copper demand tracker

Construction activity is the only drag on copper demand

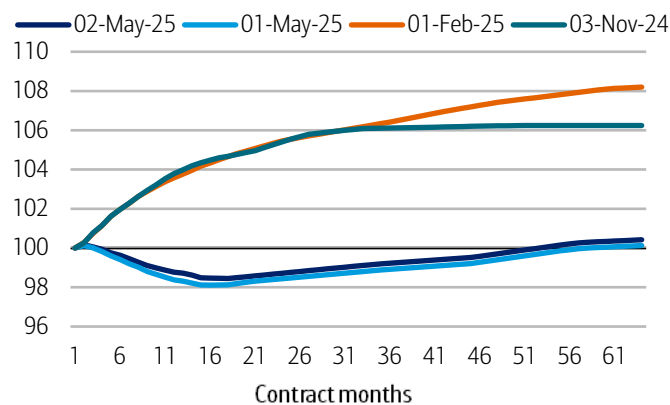


Source: Woodmac, Bloomberg, BofA Global Research

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Exhibit 14: LME forward curves, indexed to 100

Forward curves have flipped into backwardation



Source: Bloomberg, BofA Global Research

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¹ Premia have to be paid on top of the quoted LME price; they can include items such as tariffs, transportation cost and insurance. However, they are also an indicator of regional market tightness.

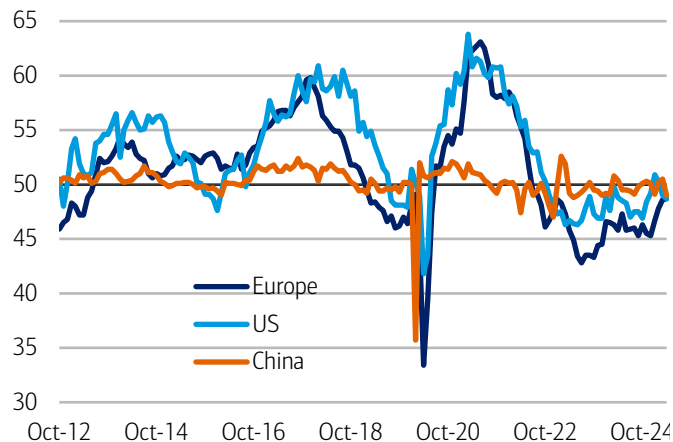
Exchange inventories on the Shanghai Futures Exchange and London Metals have also dropped. The result? Forward curves have flipped into backwardation (Exhibit 14), confirming that the refined copper market is tight.

Metals cite trade dispute as the key overhang

Notwithstanding, the trade disputes are still evolving and there remains a risk that demand will slow. These headwinds have been mirrored in the latest PMI reports, which show that sentiment at manufacturers has been under pressure, after the tentative increases in recent months (Exhibit 15).

Exhibit 15: Headline manufacturing PMIs

While PMIs have held up, they dropped in the US and Europe

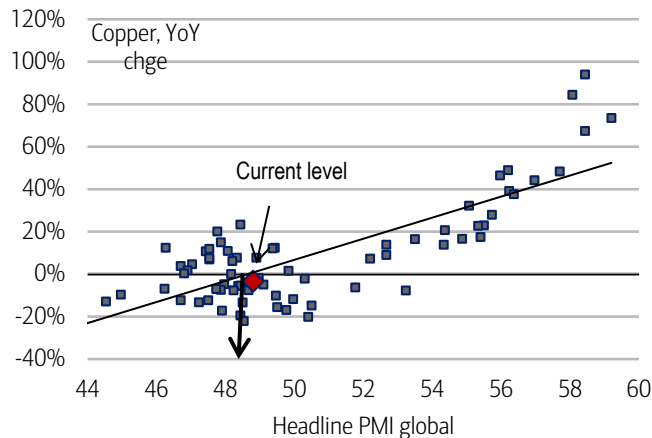


Source: Bloomberg, BofA Global Research

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Exhibit 16: Average (US, Europe, China) headline manufacturing PMIs and copper prices

Copper is fairly valued at present



Source: Bloomberg, BofA Global Research

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Touching on these headwinds, our colleagues in the China economics team note that “The NBS Manufacturing PMI dropped notably to 49 in April from 50.5 in March, the lowest since 2024”, adding that “the sudden deterioration in manufacturing PMI suggested that hefty US tariffs have notably weighted on domestic production activities in China. Later in the quarter, the weakness may sustain amid uncertainties, and we also expect more headwinds from employment, on top of the slower orders. With the slowdown in manufacturing momentum, we believe policy makers will step up supporting measures in the coming month, especially towards the demand side”, see [China Watch: April PMI shows early repercussions from the tariff shock](#).

Similarly, the US Institute of Supply Management said that “Demand and production retreated and destaffing continued, as panelists’ companies responded to an unknown economic environment. Prices growth accelerated slightly due to tariffs, causing new order placement backlogs, supplier delivery slowdowns and manufacturing inventory growth”. As to individual respondents, a Transportation Equipment producer said that “Tariffs are impacting operations — specifically, delayed border crossings and duties calculations that are complex and not completely understood. As a result, we are potentially overpaying duties. Unsure of potential drawbacks. Implementation of tariffs and their application is sudden and abrupt. The business is taking countermeasures.”

Meanwhile, a manufacturer of machinery outlined that “Tariff whiplash is causing us major issues with customers. The two issues we are seeing: (1) customers are holding back orders to understand what is happening with tariffs on their products or (2) they are forcing us to accept the tariffs, which causes us to ‘no quote’ the job as we cannot take on that type of risk for an order.” Finally, a company dealing with Fabricated Metal Products suggested that “There is a lot of concern about the inflationary impacts from tariffs in our industry. Domestic producers are charging more for everything because they can.”



There is a silver lining in these comments, which confirm that much of the current headwinds are caused by the trade disputes. If they subside, strong fundamentals should start to matter, pushing metals prices higher again.

US policy: fiscal deficits, tariffs and trade wars

Lack of fiscal consolidation bullish for gold in 2H

Reducing US budget deficits no longer seems a focus

The US has been running budget deficits and there have been increasing concerns over how sustainable those are. We touched on that in a recent gold note, outlining that it could be a less-risky investment than Treasuries (see [Global Metals Weekly: Is gold a safer investment than Treasuries?](#)). In fact, that rationale, and the de-dollarisation, have been key to our bullish gold view.

Hence, we followed closely the discussion in the run-up to the US elections that the Trump Administration would reduce the deficits. Yet, as our colleagues in the economics team note ([US Economic Weekly: Tariffs: show me the money 11 April 2025](#)), the budget resolution recently adopted by both the Senate and the House could be very expansionary. The Committee for a Responsible Federal Budget estimates that by FY2034, it could drive the deficit up to nearly 9% and would increase the debt by nearly \$7tn relative to current law.

Exhibit 17: The Senate Reconciliation proposal is likely to increase the deficit significantly over the next 10 years

Senate Reconciliation instructions

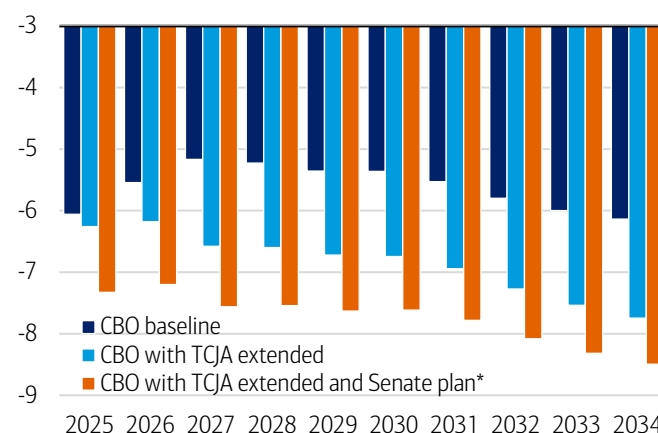
Senate Committee of jurisdiction		\$bn
Deficit increases	Finance	1500
	Homeland Security and Governmental Affairs	175
	Judiciary	175
	Armed Services	150
	Commerce, Science, and Transportation	20
	Environment and Public Works	1
Deficit reductions	Agriculture, Nutrition, and Forestry	-1
	Energy and Natural Resources	-1
	Banking, Housing, and Urban Affairs	-1
	Health, Education, Labor, and Pensions	-1
	Senate proposal net effect on primary deficit	2,017
Estimated cost to extend TCJA		3,800
Interest cost: extending TCJA and Senate proposal		1,100
Total deficit increase		6,900

Source: CRFB

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Exhibit 18: The Senate reconciliation plan could push the deficit to GDP ratio north of 8% over the coming years

Deficit to GDP (%)



Source: CBO, BofA Global Research

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Tariffs may help reduce the deficit marginally

Our colleagues add that this is where tariffs enter the equation. In our view, this highlights that Trump's economic policies may sometimes appear disjointed, when, in fact, there is some complementarity.

To that point, our colleagues in the US economics team note that it wasn't just a coincidence that the Senate unveiled its budget package on April 2. Based on the various measures that have been announced (and walked back) since President Trump took office, we estimate that the effective tariff rate would rise from 2.3% before the elections to about 25% if there is no shift in import patterns. This would increase annual tariff revenues by over \$800bn.

So, on paper, tariffs offset the cost of the Senate package. And this is probably one argument being used to get the Republican deficit hawks in the House and the Senate on board with the fiscal package.

A wrinkle to that: tariffs are not a reliable source of revenue and this takes us back to policy uncertainty, which has been bullish for gold. For example, during the 2018-19 US-China trade war, the Petersen Institute calculated that average tariffs on Chinese goods were nearly 20%. Yet customs revenues never matched this estimate. Before the 2024 elections, the effective tariff on Chinese goods was only around 11%. This is probably because some firms got exclusions, while others either moved production to other countries or found ways to avoid the tariffs.

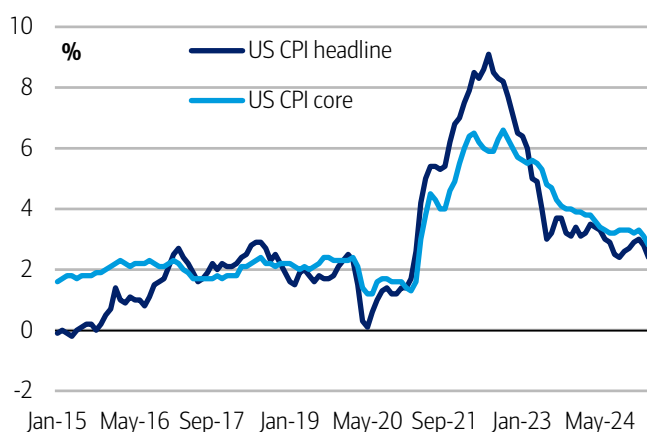
What are the implications? Some of the tariffs will probably stay, also with a view to rebuilding supply chains. Yet, it looks unlikely that the tariffs announced on “Liberation Day” will ultimately fly. The resulting deficits and taking the heat out of the trade disputes would then be bullish gold and base metals.

The Fed is in a difficult position

The tariffs are an integral part of Trump’s policy toolkit, but unfortunately they also impact inflation expectations. Granted, Exhibit 19 highlights that inflation has been falling steadily from the COVID peaks. That said, Exhibit 20 shows that inflation expectations have been picking up visibly. This puts the Fed in a difficult position: the deceleration of economic activity, along with upside pressure to general pricing levels, suggests that real rates will remain low – this is also supportive for gold.

Exhibit 19: US, headline and core price index

Inflation has fallen

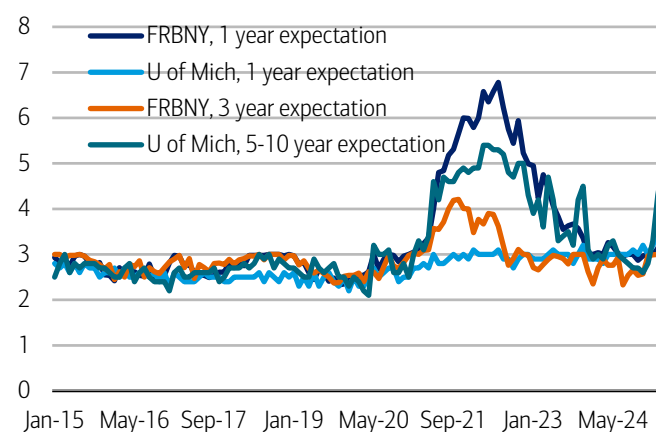


Source: Bloomberg, BofA Global Research

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Exhibit 20: Inflation expectations

Inflation expectation has risen



Source: Bloomberg, BofA Global Research

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Metals at the centre of the trade war

US primary and secondary material production has declined

Looking beyond the immediate implications of US economic policies for the metals, there are also more strategic elements to the measures implemented so far.

While the Trump administration has used tariffs as a broad tool to rebalance the economy, there is also a metals-specific side to the trade dispute, reflected in Section 232 steel and aluminium tariffs, along with ongoing Section 232 investigations into copper and other critical raw materials (see [Global Metals Weekly: What next for copper amid tariffs and Section 232? 17 April 2025](#)).

Mined raw materials are the weak spot of the US, especially now that the authorities are focused on electrifying the economy. Building power generation capacity, transmission / distribution lines and data centres all requires mined commodities. Exhibit 15 picks up on this, showing that the US has limited primary and secondary production for a range of materials, while China dominates many of the sectors.



Exhibit 21: US import reliance on raw materials

The US is heavily reliant on imports of mined raw materials

Critical Mineral	Net import reliance of apparent demand	US			World				
		Primary production	Secondary production	Apparent demand	Primary import source (2020-23)	Leading producing country	Production in leading country	% of world total	World production total
Arsenic	100	—	NA	9,100	China	Peru	627,000	47	658,000
Fluorspar	100	NA	—	430,000	Mexico	China	5,900,000	62	9,500,000
Gallium	100	—	—	19	Japan	China	750	99	760
<i>Graphite (natural)</i>	<i>100</i>	<i>—</i>	<i>—</i>	<i>52,000</i>	<i>China</i>	<i>China</i>	<i>1,270,000</i>	<i>79</i>	<i>1,600,000</i>
Indium	100	—	—	250	South Korea	China	760	70	1,080
Manganese	100	—	—	680,000	Gabon	South Africa	7,400,000	37	20,000,000
Niobium	100	—	NA	8,400	Brazil	Brazil	100,000	91	110,000
Scandium	100	—	—	NA	Japan	China	NA	NA	NA
Tantalum	100	—	NA	770	China	Congo (Kinshasa)	880	42	2,100
<i>Yttrium</i>	<i>100</i>	<i>NA</i>	<i>—</i>	<i>500</i>	<i>China</i>	<i>China</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
Beryllium	E	180	NA	170	Kazakhstan	US	180	50	360
Titanium (metal)	>95	340,000	W	400,000	Japan	China	220,000	69	3,320,000
<i>Bismuth</i>	<i>89</i>	<i>—</i>	<i>80</i>	<i>760</i>	<i>China</i>	<i>China</i>	<i>13,000</i>	<i>81</i>	<i>16,000</i>
<i>Antimony</i>	<i>85</i>	<i>—</i>	<i>3,500</i>	<i>24,000</i>	<i>China</i>	<i>China</i>	<i>60,000</i>	<i>60</i>	<i>100,000</i>
Platinum	85	2	8.5	71	South Africa	South Africa	120	71	170
<i>Rare earths (compounds and metals)</i>									
	<i>80</i>	<i>1,300</i>	<i>NA</i>	<i>6,600</i>	<i>China</i>	<i>China</i>	<i>10,270,000</i>	<i>69</i>	<i>10,390,000</i>
Chromium	77	—	100,000	440,000	South Africa	South Africa	21,000,000	45	47,000,000
Cobalt	76	300	2,000	8,500	Norway	Congo (Kinshasa)	220,000	76	290,000
Aluminum (metallurgical grade bauxite)	>75	—	—	1,800,000	Jamaica	Guinea	130,000,000	29	3,450,000,000
Barite	>75	W	—	W	India	India	2,600,000	32	38,200,000
Magnesium	>75	—	110,000	50,000	Israel	China	950,000	95	31,000,000
Tin	73	—	17,900	37,000	Peru	China	69,000	23	300,000
Zinc	73	220,000	—	820,000	Canada	China	4,000,000	33	12,000,000
Germanium	>50	—	NA	NA	Belgium	China	NA	NA	NA
Lithium	>50	W	NA	W	Chile	Australia	88,000	37	3,240,000
<i>Tungsten</i>	<i>>50</i>	<i>—</i>	<i>W</i>	<i>W</i>	<i>China</i>	<i>China</i>	<i>67,000</i>	<i>83</i>	<i>81,000</i>
Nickel	48	8,000	92,000	180,000	Canada	Indonesia	2,200,000	59	3,700,000
Vanadium	40	—	8,200	14,000	Canada	China	70,000	70	100,000
Palladium	36	8	45	83	Russia	Russia	75	39	190
Tellurium	<25	W	—	W	Canada	China	750	77	3980
Zirconium (ores and concentrates)	<25	<100,000	NA	<100,000	South Africa	Australia	500,000	33	1,500,000

Source: USGS, BofA Global Research

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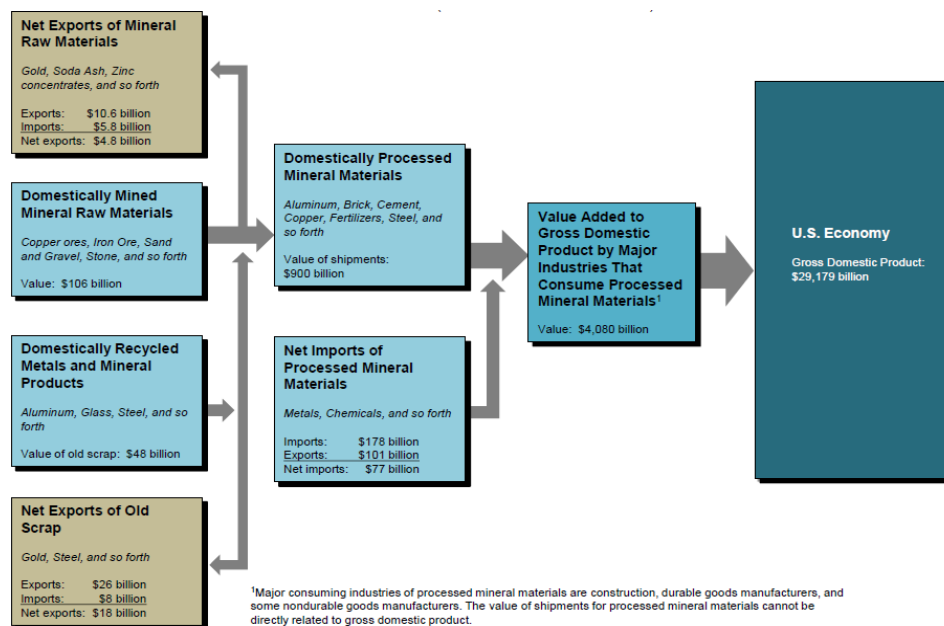
Dependencies a concern for the economy, but a real issue for specific sectors

Digging deeper, the US Geological Survey (USGS) confirms that modern technology depends on reliable supplies of mineral commodities². Yet, supply chains are under increasing strain from regional conflicts, trade disputes, and resource nationalization. Exhibit 22 shows the USGS's assessment that the value added of industries using minerals sums up to \$4TN or 14% of total US GDP.

² <https://pubs.usgs.gov/of/2024/1057/ofr20241057.pdf>

Exhibit 22: The role of nonfuel mineral commodities in the US economy

The value added of industries using minerals sums up to \$4TN or 14% of total GDP



Source: U.S. Geological Survey, 2025, Mineral commodity summaries 2025 (ver. 1.2, March 2025): U.S. Geological Survey, 212 p., <https://doi.org/10.3133/mcs2025>.

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Rebalancing trade is not easy and there have been second-round effects from the US tariffs. Indeed, China has taken advantage of its leadership in critical minerals production, retaliating by restricting exports, highlighting the importance of setting up independent, sustainable supply chains. Of course, trade restrictions can come in various forms, including licenses, tariffs, quotas, or outright bans; China's authorities have taken a nuanced approach, banning exports of materials like gallium and germanium, while requiring licenses for shipments of rare earths elements (Exhibit 23).

Exhibit 23: China's trade restrictions

China has restricted exports of minerals and ancillary technologies

Date	Material	Comment
3 rd December 2024	Gallium, germanium, antimony and superhard materials including synthetic diamonds and cubic boron nitride	Gallium/ germanium essential for advanced chips. China institutes that the export of dual-use items to U.S. military users or for military uses is prohibited. As such, the export of the relevant dual-use items gallium, germanium, antimony, and superhard materials to the United States is not permitted; stricter end-user and end-use checks will be implemented on exports of dual-use graphite items to the United States.
04 th April 2025	7 of 17 REEs rare earth elements: samarium, gadolinium, terbium, dysprosium, lutetium, scandium, and yttrium; plus rare earths magnets	Companies need to get special export licenses, China accounts for 99% of global heavy REE processing. Companies are High Point Aerotechnologies, Universal Logistics Holdings, Source Intelligence, Coalition For A Prosperous America, Sierra Nevada Corporation, Edge Autonomy Operations, Cyberlux Corporation, Hudson Technologies, Saronic Technologies, Oceaneering International, Stick Rudder Enterprises, Cubic Corporation, S3 AeroDefense, TCOM, Limited Partnership, TextOre, ACT1 Federal
2 nd January 2025	Gallium extraction, lithium processing/ refining technologies	Proposal to require regulatory approval for technology exports, which would capture JVs, licensing, technical services. The initiative would be 1) cathode related: Lithium iron phosphate ("LFP") cathode material preparation technology, lithium manganese iron phosphate ("LMFP") cathode material preparation technology, Phosphate cathode electrode raw materials preparation technology; 2) Lithium carbonate production technology from spodumene, Lithium hydroxide production technology from spodumene, Metal lithium (alloy) and lithium material preparation technology, Direct lithium extraction technology from raw brine, Preparation technology of lithium-containing purified liquid

Source: Bloomberg, CSIS, BofA Global Research

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Restrictions predominantly impact on gallium and germanium

What might the implications of those restrictions be? USGS notes that export controls on gallium and germanium could have limited impact on the wider economy, but they could be very disruptive to tech sectors:



- US GDP would decrease by \$3.1 billion (or about 0.013 percent of U.S. GDP in 2021) if all of China's net exports of **gallium** were restricted for an entire year, so that is negligible. That said, nearly half (46.5 percent) of the decrease would come from the semiconductor and related device manufacturing industry.
- US GDP would decrease by an estimated \$0.4 billion if China banned net exports of **germanium** completely. The number is lower than for gallium because of excess production capacity and inventories in the rest of the world exist, reducing the dependency on China. Also, germanium trade restrictions do not seem to be dominated by a single industry. Instead, the decrease has been driven more or less evenly by several industries, although the semiconductor and related device manufacturing industries again feature as the most impacted.

China's authorities also go after rare earth elements

Meanwhile, China's authorities have restricted exports of 7 rare earth metals and rare earth magnets, requiring domestic producers to obtain licenses to make sure that minerals do not go into defence applications. This has been reflected in comments from Tesla during the recent earnings call, when the company noted that "Tesla as a whole does not need to use permanent magnets, but when something is volume-constrained, like an arm of the robot, then you want to try to make the motors as small as possible. And so, we did design in permanent magnets for those motors, and those were affected by the supply chain, by basically China requiring export license to send out any rare earth magnets. We are working through that with China. Hopefully, we'll get a license to use the rare earth magnets. China wants some assurances that these are not used for military purposes, which obviously they're not. They're just going into a humanoid robot. So, it's not a weapon system. But that is an example of a challenge there. But I'm confident we'll overcome these issues, and we'll, by the end of this year, have thousands of Optimus robots".

Highlighting how essential magnets produced from rare earths elements are, the Department of Defense highlights³:

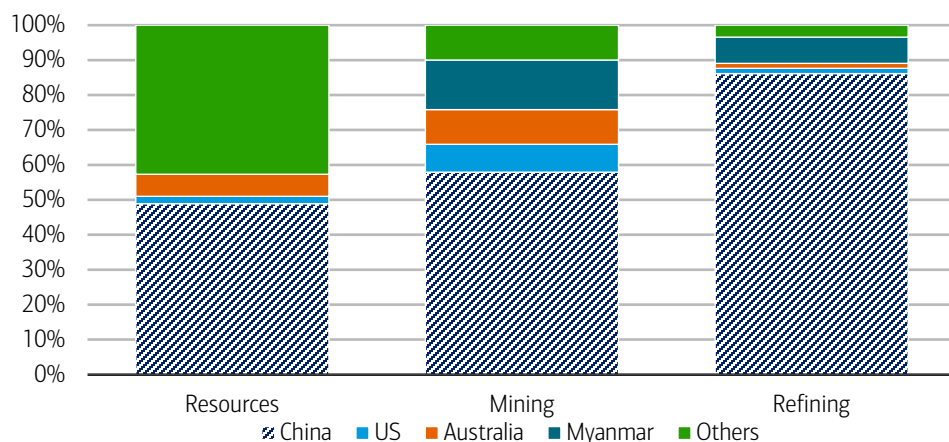
- An F-35 fighter jet requires more than 900 pounds of rare earth elements.
- An Arleigh Burke DDG-51 destroyer requires 5,200 pounds of rare earth elements.
- A Virginia class submarine needs 9,200 pound of rare earth elements.

While it is hard for a country to clamp down entirely on global commodity trade flows, these restrictions could still be a headache. That said, while China dominates especially heavy rare earth production, it is worth noting that the Asian country is punching well above its weight in terms of its domestic resource endowment (Exhibit 24). As such, World Ex-China can reduce its dependency on China's tonnages.

³ <https://www.defense.gov/News/News-Stories/Article/Article/3700059/dod-looks-to-establish-mine-to-magnet-supply-chain-for-rare-earth-materials/#:~:text=The%20F%2D35%2C%20for%20instance,class%20submarine%20needs%209%2C200%20pounds.>

Exhibit 24: Rare earths elements supply chain

China is punching well above its weight relative to its domestic resource endowment



Source: IEA, USGS, BofA Global Research

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President Trump's Critical Minerals Executive Order

Acknowledging that metals are a weak spot of the US economy, President Trump has launched several Section 232 investigations and signed Executive Orders to reduce dependencies and fast-track reconstruction of the supply chain.

- On 20th March, President Trump signed an Executive Order with **"Immediate Measures to Increase American Mineral Production"**, aimed at boosting American mineral production, streamlining permitting, and enhancing national security, asking agencies to compile a list of projects that have submitted operation plans and permit applications, with a focus also on tailings. As part of the initiative, financial assistance will be provided for new mineral production projects, including a dedicated critical minerals fund established through the United States International Development Finance Corporation in collaboration with the Department of Defense. Importantly, and going beyond the original USGS list, "Minerals" covered by the order include critical minerals, uranium, copper, potash and gold.
- On 24th April, President Trump signed [Executive Order "Unleashing America's offshore critical minerals and resources"](#), which outlines that "The United States [...] controls seabed mineral resources in one of the largest ocean areas of the world. Our Nation can, through the exercise of existing authorities and by establishing international partnerships, access potentially vast resources in seabed polymetallic nodules; other subsea geologic structures; and coastal deposits containing strategic minerals such as nickel, cobalt, copper, manganese, titanium, and rare earth elements, which are vital to our national security and economic prosperity. Our Nation must take immediate action to accelerate the responsible development of seabed mineral resources, quantify the Nation's endowment of seabed minerals, reinvigorate American leadership in associated extraction and processing technologies, and ensure secure supply chains for our defense, infrastructure, and energy sectors."



Appendix

Exhibit 25: Commodity prices, exchange rates, equity indices, yields and inventories

Base metals have rebounded, as gold keeps printing record highs

Base metals	Cash, \$/t	3-month, \$/t	Cash, WoW change	3-month, WoW change
Aluminium	2,409	2,432	0.4%	-0.1%
Copper	9,386	9,366	-0.2%	-0.1%
Lead	1,919	1,935	-1.6%	-1.7%
Nickel	15,287	15,480	-0.8%	-0.9%
Tin	30,469	30,698	-4.3%	-4.1%
Zinc	2,570	2,608	-1.1%	-1.0%
LMEX	4,001		-0.6%	
	Cash, c/lb	3-month, c/lb		
Aluminium	109	110		
Copper	426	425		
Lead	87	88		
Nickel	693	702		
Tin	1,382	1,393		
Zinc	117	118		
Other commodities, freight, exchange rates, equities and yields	Spot	WoW change		
Gold, \$/oz	3,334	-0.3%		
Silver, \$/oz	32	-2.0%		
Platinum, \$/oz	964	-2.6%		
Palladium, \$/oz	946	-0.6%		
Iron ore, China fines cfr \$/dmt	98	-2.2%		
Brent, \$/bbl	60	-7.0%		
Baltic Dry Index	1,421	1.3%		
EUR/USD	1.132	-0.9%		
Dow Jones Industrial Average	41,219	2.5%		
10-year US Treasury yield	4.345	3.2%		
ICE BofA Commodity index, ER	377	-3.8%		
ICE BofA Commodity index Industrial Metals, ER	179	-0.3%		
ICE BofA Commodity index Precious Metals, ER	327	-0.9%		
ICE BofA Commodity index Energy, ER	414	-5.7%		
Exchange stocks and cancelled warrants	Stocks, tonnes	WoW change	Canc. warrants, tonnes	Canc. warr., of stocks
Aluminium				
LME	411,575	-1.9%	160,900	39.1%
Shanghai	175,857	-1.5%		
Total aluminium	587,432	-1.8%		
Copper				
LME	195,625	-3.5%	86,950	44.4%
Comex	138,453	12.9%		
Shanghai	89,307	-23.5%		
Total copper	423,385	-4.2%		
Lead				
LME	261,500	-3.5%	142,375	54.4%
Shanghai	46,786	2.5%		
Total lead	308,286	-2.7%		
Nickel				
LME	200,082	-0.7%	20,658	10.3%
Shanghai	28,675	-3.1%		
Total nickel	228,757	-1.0%		
Tin	2,700	-5.1%	155	5.7%
Zinc				
LME	172,925	-3.6%	32,250	18.6%
Shanghai	48,477	-5.6%		
Total zinc	221,402	-4.0%		

Source: BofA Global Research

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Price forecasts and summary of rationale/risks

Exhibit 26: Commodity price forecasts

We forecast near-term headwinds to base metals, but remain bullish gold and silver

		Current	2Q25E	3Q25E	4Q25E	1Q26E	2Q26E	3Q26E	2024	2025E	2026E	2027E	2028E	2029E	LT price
Base metals															
Aluminium	US\$/t	2,419	2,350	2,300	2,500	2,750	3,000	2,750	2,420	2,478	2,875	3,250	3,037	2,823	2,610
	US\$/lb	110	107	104	113	125	136	125	110	112	130	147	138	128	118
Copper	US\$/t	9,399	9,000	8,250	9,000	9,500	9,750	10,500	9,150	8,866	10,188	12,000	11,394	10,788	10,183
	US\$/lb	426	408	374	408	431	442	476	415	402	462	544	517	489	462
Lead	US\$/t	1,938	1,800	1,600	1,750	2,024	2,024	2,024	2,071	1,753	2,024	2,217	2,367	2,517	2,667
	US\$/lb	88	82	73	79	92	92	92	94	80	92	101	107	114	121
Nickel	US\$/t	15,620	15,000	16,000	16,500	18,000	18,000	18,000	16,829	15,763	18,000	20,000	19,287	18,573	17,860
	US\$/lb	709	680	726	748	817	817	817	763	715	817	907	875	843	810
NPI, 8-12%	CNY/t	969	975	975	975	975	975	975	969	1,089	975	1,053	1,116	1,178	1,240
Tin	US\$/t	31,594	37,000	33,000	32,000	33,000	35,000	37,000	30,088	33,387	35,500	37,000	36,283	35,567	34,850
	US\$/lb	1,433	1,678	1,497	1,452	1,497	1,588	1,678	1,365	1,514	1,610	1,678	1,646	1,613	1,581
Zinc	US\$/t	2,654	2,500	2,100	2,500	3,000	3,000	2,750	2,778	2,420	2,875	2,500	2,672	2,844	3,016
	US\$/lb	120	113	95	113	136	136	125	126	110	130	113	121	129	137
Precious metals															
Gold, nominal	US\$/oz	3,299	2,900	3,200	3,300	3,400	3,400	3,300	2,387	3,063	3,350	3,300	2,954	2,609	2,263
Gold, real	US\$/oz		2,900	3,200	3,300	3,317	3,317	3,220	2,387	3,063	3,268	3,141	2,761	2,380	2,000
Silver, nominal	US\$/oz	33.44	34.00	36.00	40.00	42.50	42.50	45.00	28.25	35.45	43.75	42.00	38.18	34.37	30.55
Silver, real	US\$/oz		34.00	36.00	40.00	41.46	41.46	43.90	28.25	35.45	42.68	39.98	35.65	31.33	27.00
Platinum	US\$/oz	968	950	920	900	920	920	900	956	935	910	900	1,103	1,305	1,508
Palladium	US\$/oz	942	930	880	880	850	830	800	984	913	820	700	969	1,238	1,508
		Current	2Q25E	3Q25E	4Q25E	1Q26E	2Q26E	3Q26E	2024	2025E	2026E	2027E	2028E	2029E	LT price
Bulk Commodities															
Hard coking coal	US\$/t														
	fob	191	170	180	180	170	170	180	241	179	175	170	191	211	232
Semi-soft	US\$/t														
	fob	105	114	121	121	114	114	121	144	119	117	114	140	145	153
Thermal Coal	US\$/t														
	fob	94	98	105	109	106	100	102	136	105	103	100	105	111	116
Iron ore fines	US\$/t CIF	100	100	90	90	100	90	80	110	96	90	80	88	96	104
		Current	2Q25E	3Q25E	4Q25E	1Q26E	2Q26E	3Q26E	2024	2025E	2026E	2027E	2028E	2029E	LT price
Other materials															
Lithium spodumene	US\$/t	841	750	750	750	800	800	800	919	775	800	1,000	1,162	1,324	1,486
Lithium carbonate	US\$/t	8,950	10,000	10,000	10,000	10,000	10,000	10,000	12,420	10,112	10,000	18,667	19,278	19,889	20,500
Lithium hydroxide	US\$/t	8,950	9,500	9,500	9,500	9,500	9,500	9,500	12,085	9,503	9,500	20,167	20,790	21,414	22,038
Alumina	\$/t	348	350	325	325	300	300	300	502	381	300	300	341	382	422
Uranium	\$/lb		70.00	80.00	85.00	80.00	95.00	115.00	86.46	75.68	105.00	135.00	111.67	88.33	65.00
Molybdenum	\$/lb	19.7	20.56	20.56	20.56	20.56	20.56	20.56	21.30	20.56	20.56	18.78	16.88	14.98	13.08
Cobalt	\$/lb	17.5	14.56	14.56	14.56	18.44	18.44	18.44	15.27	14.56	18.44	19.84	20.96	22.07	23.19
Manganese ore	\$/dmu	4.80	4.71	6.00	4.18	4.93	4.93	4.93	5.39	4.90	4.93	5.52	5.52	6.11	6.87
Steel, HRC															
HRC, Europe	US\$/t	619	693	653	678	736	685	665	676	668	697				
HRC, US	US\$/t	1,014	992	860	750	854	854	854	847	871	854				
HRC, China	US\$/t	450	493	493	493	492	492	492	510	493	492				
		Current	2Q25E	3Q25E	4Q25E	1Q26E	2Q26E	3Q26E	2024	2025E	2026E	2027E	2028E	2029E	LT price
WTI	US\$/bbl	63	72	70	68	68	70	70	76	71	69				
Brent	US\$/bbl	66	76	74	72	72	74	74	80	75	73				
	US\$/MM														
Henry Hub	Btu	2.9	3.0	3.2	4.0	3.7	3.7	4.3	2.4	3.3	4.1				

Source: BofA Global Research

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Exhibit 27: Price forecasts, fundamental drivers and risks

We forecast near-term headwinds to base metals, but remain bullish gold and silver

Metal	2025E	2026E	Fundamental drivers	Risks (D = downside; U = upside)
Aluminium	\$2,478/t 112c/lb	\$2,875/t 130c/lb	<ul style="list-style-type: none"> We expect rising deficits going forward, but macro uncertainty drowns them out for now. Demand uncertainty over trade disputes, but energy transition spend to be supportive. China is almost operating at its 45mt capacity cap and smelters ex-China have closed capacity. Smelters globally have been under pressure on rising bauxite/alumina prices. 	<ul style="list-style-type: none"> D: Trade wars impact on sentiment D: No production discipline in China/World ex-China D: China exports more U: Smelter restraint and/or production disruptions reduce output U: Stronger-than-anticipated demand growth
Copper	\$8,866/t 402c/lb	\$10,188/t 462c/lb	<ul style="list-style-type: none"> We expect rising deficits going forward, but macro uncertainty drowns them out for now. Demand uncertainty over trade disputes, but energy transition spend to be supportive. Demand in China has been patchy, but grid spending has completely offset weakness in housing. Mine supply is extremely tight, pushing down smelter capacity utilisation rates. 	<ul style="list-style-type: none"> D: Trade wars impact on sentiment D: China re-exports metal D: Global demand slows sharply into next year U: Restocking through the supply chain on improved confidence U: Continued production disruptions in coming quarters
Lead	\$1,753/t 80c/lb	\$2,024/t 92c/lb	<ul style="list-style-type: none"> There are no immediate scrap or concentrates shortages, suggesting the market could flip back into surplus. China's demand has slowed structurally, but a shift to lead acid batteries in e-bikes to be supportive. EVs are not a threat yet. 	<ul style="list-style-type: none"> D: Trade wars impact on sentiment D: Destocking in China or higher lead exports from the country U: Strong seasonal demand for replacement batteries U: Recycling underperforms and mine supply tightens further
Nickel	\$15,763/t 715c/lb	\$18,000/t 817c/lb	<ul style="list-style-type: none"> Demand uncertainty over trade disputes, but energy transition spend to be supportive. Indonesia is looking to slow the unfettered output growth seen in recent years, likely reducing surpluses and supporting prices in 2025/26. 	<ul style="list-style-type: none"> D: Trade wars impact on sentiment. D: NPI producers don't close shop; ore inventories last for longer and more ores are imported from the Philippines D: Faster ramp-up of Indonesian NPI production D: Stainless steel demand remains subdued
Zinc	\$2,420/t 110c/lb	\$2,875/t 130c/lb	<ul style="list-style-type: none"> We expect a deficit this year, but macro uncertainty drowns that out for now. Zinc mine supply remains extremely tight, reducing concentrates import and refined production China. Beyond Kipushi, there are very few sizeable in the pipeline and output at a series of existing mines is falling. 	<ul style="list-style-type: none"> D: Trade wars impact on sentiment D: Unreported inventories exist on the zinc market. More metal could become available D: The zinc market is fragmented. Miners, especially in China, could consider further output increases
Gold	\$3,063/oz	\$3,350/oz	<ul style="list-style-type: none"> Gold has rallied and President Trump's objective to boost manufacturing activity and rebalance external accounts are bullish. The macro backdrop incentivises further reserve diversification; CBs should allocate 30% of their reserves to gold Retail investors also purchasing hold, ongoing macro uncertainty and rising global debt levels remain supportive. 	<ul style="list-style-type: none"> D: Deterioration of investor sentiment D: Real rates become more positive; sustained USD rally D: High gold prices deter buyers of physical gold; increased scrap supply
Silver	\$35/oz	\$43.75/oz	<ul style="list-style-type: none"> The silver market has rebalanced on production discipline and demand from new applications including solar panels. As more spending on solar panels come through, silver should rally. Silver to also benefit from safe haven demand 	<ul style="list-style-type: none"> U: Investors returning to the market U: China's imports to rise D: ETF liquidation D: More supply
Platinum Palladium	\$935/oz \$913/oz	\$910/oz \$820/oz	<ul style="list-style-type: none"> Palladium has been moving into surplus, keeping pressure on prices. Headwinds to demand from global auto industry over tariffs and rising EV penetration. More production discipline is necessary. Potential trade restrictions on Russian ounces may be worth following. Any supply cuts may reduce the palladium surpluses, but will likely push platinum into a deficit, so prices might diverge. 	<ul style="list-style-type: none"> D: Jewellery demand suffers due to rising prices D: In palladium, the risk of deliveries from Russian stockpiles has not gone away D: Demand from key buyers like Europe not increasing U: Production disruptions reduce availability of PT and PD
Iron Ore	\$96/t CIF	\$90/t CIF	<ul style="list-style-type: none"> Global iron ore production keeps pushing higher, likely giving rise to a surplus next year. More production discipline is necessary. Depending on how resilient iron ore supply is, prices may have to cut deep into the cost curve. China's steel mills remain under pressure on overcapacities and pushback from countries around the world against steel exports. 	<ul style="list-style-type: none"> D: China's steel production slowing sharply U: Mine closures/slowdown in production increases
HCC Thermal coal	\$179/t \$105t	\$175/t \$103/t	<ul style="list-style-type: none"> Thermal coal prices to remain under pressure as supply is increasing and the energy emergency normalises. Normalisation of supply should also contribute to lower met coal prices. 	<ul style="list-style-type: none"> D: Lack of supply discipline U: Chinese steel production stronger (HCC) U: mine closures

Colours indicate our stance on each commodity: Green = bullish, Yellow = neutral, Red = cautious. **Source:** BofA Global Research estimates

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Supply and demand balances

Exhibit 28: Aluminium supply and demand balance

Deficits set to increase

'000 tonnes	2022	2023	2024	2025E	2026E
Global production	68,607	70,608	72,772	73,499	75,677
YoY change	1.8%	2.9%	3.1%	1.0%	3.0%
Global consumption	69,307	69,856	72,072	73,820	76,773
YoY change	0.9%	0.8%	3.2%	2.4%	4.0%
Balance	-701	751	700	-321	-1,095
Market inventories	8,769	9,237	9,184	8,863	7,768
Weeks of world demand	6.6	6.9	6.6	6.2	5.3
LME Cash (\$/t)	2,706	2,254	2,420	2,478	2,875
LME Cash (c/lb)	123	102	110	112	130

Source: SNL, Woodmac, CRU, Bloomberg, company reports, IAI, BofA Global Research
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Exhibit 30: Nickel supply and demand balance

Nickel expected to be well supplied

'000 tonnes	2022	2023	2024	2025E	2026E
Global production	3,088	3,517	3,610	3,865	4,127
YoY change	16.2%	10.5%	4.9%	9.2%	9.8%
Global consumption	2,945	3,174	3,450	3,735	4,059
YoY change	4.1%	7.8%	8.7%	8.4%	7.5%
Balance	143	344	160	130	68
Weeks of world demand	3.0	3.1	4.6	6.1	6.5
LME price (\$/t)	25,707	21,483	16,829	15,763	18,000
LME price (c/lb)	1,166	974	763	715	817

Source: SNL, Woodmac, CRU, Bloomberg, company reports, INSG, BofA Global Research
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Exhibit 32: Tin supply and demand balance

Tin fundamentals set to remain strong

'000 tonnes	2022	2023	2024E	2025E	2026E
Global production	381	371	360	376	382
YoY change	0.7%	-2.6%	-3.0%	4.3%	1.8%
Global consumption	380	359	380	396	406
YoY change	-2.7%	-5.4%	5.8%	4.2%	2.6%
Balance	2	12	-20	-20	-24
LME Cash (\$/t)	30,959	25,922	30,088	33,387	35,500
LME Cash (c/lb)	1,404	1,176	1,365	1,514	1,610

Source: CRU, S&P, company reports, BofA Global Research estimates
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Exhibit 34: Metallurgical coal supply and demand balance

Tightness likely to persist

Mt	2022	2023	2024	2025E	2026E
Global production	904	926	938	962	958
YoY change	-0.2%	2.4%	1.3%	2.5%	-0.4%
Global consumption	931	943	950	941	928
YoY change	-0.8%	1.3%	0.7%	-0.9%	-1.3%
Balance	-26	-16	-11	21	30
Met coal price (US\$/t)	365	296	241	179	175

Source: Woodmac, McCloskey, company reports, BofA Global Research estimates
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Exhibit 29: Copper supply and demand balance

Balanced market expected to flip into deficit

'000 tonnes	2022	2023	2024	2025E	2026E
Global production	24,747	26,447	26,622	27,106	27,824
YoY change	1.5%	6.9%	0.7%	1.8%	2.6%
Global consumption	25,210	25,895	26,717	27,328	27,901
YoY change	1.1%	2.7%	3.2%	2.3%	2.1%
Balance	-463	552	-95	-221	-77
Market inventories	1,030	1,016	920	699	
Weeks of world demand	2.1	2.0	1.8	1.3	
LME Cash (\$/t)	8,822	8,484	9,150	8,866	10,188
LME Cash (c/lb)	400	385	415	402	462

Source: SNL, Woodmac, CRU, Bloomberg, company reports, ICSG, BofA Global Research
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Exhibit 31: Zinc supply and demand balance

Supply remains an issue

	2022	2023	2024	2025E	2026E
Global production	13,366	13,592	13,361	13,800	14,250
YoY change	-3.7%	1.7%	-1.7%	3.3%	3.3%
Global consumption	13,641	13,394	13,703	13,953	14,246
YoY change	-3.0%	-1.8%	2.3%	1.8%	2.1%
Balance	-275	198	-342	-153	4
Market inventories	580	750	408	255	260
Weeks of world demand	2.2	2.9	1.5	1.0	0.9
LME Cash (\$/t)	3,482	2,648	2,778	2,420	2,875
LME Cash (c/lb)	158	120	126	110	130

Source: SNL, Woodmac, CRU, Bloomberg, company reports, ILZSG, BofA Global Research
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Exhibit 33: Iron ore supply and demand balance

Widening surpluses

Wet Mt	2022	2023	2024	2025E	2026E
Global production	2,366	2,398	2,440	2,437	2,496
YoY change	2.0%	1.3%	1.8%	-0.1%	2.4%
Global consumption	2,356	2,376	2,406	2,415	2,398
YoY change	-6.0%	0.9%	1.3%	0.4%	-0.7%
Balance	11	22	34	22	99
Iron ore price (US\$/t)	120	120	110	96	90

Source: Woodmac, CRU, Bloomberg, company reports, BofA Global Research estimates
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Exhibit 35: Platinum supply and demand balance

Supply cuts could flip the market into deeper deficit

'000 ounces	2022	2023	2024	2025E	2026E
Global production	6,791	6,675	7,038	6,997	7,165
YoY change	-10.8%	-1.7%	5.4%	-0.6%	2.4%
Global consumption	6,223	7,368	7,396	7,423	7,457
YoY change	-20.7%	18.4%	0.4%	0.4%	0.5%
Balance	568	-693	-359	-426	-292
Spot (\$/oz)	964	967	956	935	910

Source: Matthey, company reports, BofA Global Research estimates
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Exhibit 36: Palladium supply and demand balance

Rising surpluses expected

'000 ounces	2022	2023	2024	2025E	2026E
Global production	9,506	9,002	9,090	9,394	9,993
YoY change	-3.2%	-5.3%	1.0%	3.3%	6.4%
Global consumption	9,855	10,236	8,920	8,545	8,379
YoY change	-2.9%	3.9%	-12.9%	-4.2%	-1.9%
Balance	-349	-1,234	170	849	1,614
Spot (\$/oz)	2,110	1,340	984	913	820

Source: Matthey, company reports, BofA Global Research estimates

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Exhibit 37: Lithium supply and demand balance

The lithium market is increasingly oversupplied

tonnes	2022	2023	2024	2025E	2026E
Global production	702,022	959,920	1,295,422	1,593,978	1,908,372
YoY change	29.7%	36.7%	35.0%	23.0%	19.7%
Global consumption	760,824	1,025,900	1,208,188	1,463,174	1,817,815
YoY change	48.3%	34.8%	17.8%	21.1%	24.2%
Balance	-58,801	-65,980	87,234	130,803	90,557
Spot (\$/t)	71,531	45,980	12,464	10,000	10,000

Source: Company reports, Woodmac, Bloomberg, BofA Global Research estimates

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