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A quick update on Corona virus and its impact on metals, following up from the larger original note here

MACROECONOMIC:

- It is a black swan event that not only has repercussions for the Chinese economy, but other economies and companies highly dependent on Chinas firepower. **Risk markets have largely priced in the no. of cases in China peaking soon ("a contained outbreak"), and are not pricing in the risk of outbreak spreading to the ROW.**

- Up until Apples warning this week (the poster child for globalism and arguably risk appetite) and short-lived price appreciation in industrial metals last week, t**here was a growing narrative around a V-shaped recovery in markets, which was overly optimistic**. While the situation remains fluid, we think some commodity demand is "lost" (vs simply just being "delayed") and the market should be wary of 1) the severe restrictions (many people are still under some form of quarantine even after Feb 10th), 2) Chinas Q1 GDP is slowing closer to low 4% (vs 6%) according to most street expectations 3) force majeure is being declared on some commodity shipments/contracts to China, 3) uncertainty remains over how long the current logjam will last and how long before manufacturing returns to operating at 100% capacity, 4) increasing risk that the virus damages global supply chains, costing the world's multinationals and creating major bottlenecks in exposed industries like high tech, automobiles and pharma. **Thus, the risk of either a U-shaped (or the uglier L-shaped) recovery for 2020 is growing, albeit from a low level. (Chart 1)**

- As was the case with **"unintended trade war casualties", the Corona virus is likely to have a larger impact on European growth**; its green shoots recovery was already short-lived/weak, the German auto industry is largely exposed to Chinese auto sales and supplies, recent data (ZEW, sharp fall in factory orders) has been very soft AND political uncertainty is rising with AKKs shock resignation. EUR price action sub 1.08, down ~3% MTD got all that

- Similarly, the AUD - a rough proxy for Chinese growth - fell to 10 year lows*. IF AUD were to extend to GFC lows of 0.6 vs the USD, the model implied prices for those commodities its most correlated to, puts these at $640 (Platinum), $9 (Silver), $35 (WTI) & $4680 (Copper). See **Chart 2** which also outlines a reflationary case (AUD at post-Trump win / 2017 highs of 0.80)

- Overall, **the sleepy currency market is showing early signs of correcting/breaking ranges, with DXY probing the psychological 100 handle**. BUT relative US$ out performance (on a mix of better economic data but also safehaven inflows) is a double-edged sword since it strengthens the US$ when the world needs US$ liquidity and tightens financial conditions in offshore funding markets. **Casualty risk to a stronger US$ remains high.**

- If Trump's trade war exposed the risks of supply chains that rely too heavily on China Inc, the coronavirus has accelerated the shift toward a more protectionist self reliance stance; at the very least **carefully managing supply-chain risks including thin inventories and lack of alternative sources for parts will be reconsidered, which at the core is cost inflationary.**

- **YET, despite all this and the US yield curve flattening with 3m//10yr back and inverted, macro fear is absent;** (US) markets are very complacent. Recall the last time the curve inverted (mid 2019), recessionary fears peaked with Global Manufacturing PMIs well below 50 and collective consensus the global economy was rolling over. Its simply very (politically) inconvenient for the global economy to rollover now, so expect efforts from Trump to either talk down the US$ (especially given the 'cheap' EUR is) and/or pressure the Fed to cut short-term rates (and thus steepen the yield curve)

- Corona-infected macro data (especially manufacturing, trade flows, multinational earnings, shipping volumes/freight rates, Air Quality Index **Chart 3**) but also micro (inventories / production losses, physical premiums/raw commodity pricing) will continue to be insightful in navigating a rather fluid situation.

Gold prices are doing what they should given renewed (global) growth risks and easier policy responses is a new core underlying driver; its taken out our average forecast for 2020 ($1600) already and its likely the floors are shifting up…

- Pricing remains incredibly perky and 'coldblooded' in the face of core $ strength and no macro fear (US stocks at ATHs). The fact that its repriced into new all-time highs in many different G-10 currency crosses (in a move very similar to Q4'18 and Summer 2019) is noteworthy, as it indicates a real preference for Gold as an asset class for reasons other than simply a US$ hedge.

- XAUUSD is usually the last shoe to drop (as the reserve US$ has an inherent ability to win over safe haven inflows relatively quickly on any international/non-US event risk). XAU/USD is awaiting a firmer catalyst from perhaps the Fed (or other stimulus measures as we get Corona related earnings/growth downgrades) OR a US$ rollover (at the very least strength topping out).

- Technically, expect prices to grind around the 'Soleimani high' (which is currently also a double top at ~$1611) as cross-currency prices entices in a mix of opportunistic producer related selling & deters physical (XAUINR) or investor inflows (XAUEUR).

- Lastly, the recently strong inflows from investors (ETF + COT) keeping total positioning consistently near record highs is NOT a huge deterrent in the medium-term and into a late cycle; known Gold holdings only represent 0.57% of equity portfolios (vs peak of 1.64% in 2011). See **Chart 4**. The massive wealth thats been created through easier monetary policy requires an equity-inflation hedge.

PGMS: Demand shocks - like monetary policy liquidity drains (i.e: QE tapering), not coincidentally shows up 'true fundamentals' and separates the men (Rhodium, Palladium) from the boys (Platinum).

- See Fridays note here on PGM specific themes & drivers and why we continue to believe the consumer-friendly PGM price period is behind us, albeit some prices may have overshot in the short-term.

- Palladium and Rhodium remain in parabolic trajectory; they are factoring in supply fears (threat of Eskom disruptions, current lack of availability) AND technical changes (stricter emission regulations that do NOT moderate with a demand shock like Corona) OVER demand fears (reduced or only temporary demand stall because of the automaker closures in Asia).

COPPER & BASE METALS: beware of sentiment starting to price in a macro U-shaped recovery

- While we argued that Copper (and crude) have shouldered most of the downside macro risk, and are technically closer to fundamental 'worst-case' floors vs other industrial metals, **Copper can *still* shoulder more of the macro uncertainty but only has limited capacity to do so - gross short (HG) positioning is already short 90% of peak short positioning** (seen in Aug 2019). Clearly if global economic outlook alters drastically, investor positioning trends is no match for the physical demand destruction.

- Fundamentally, **Copper struggled through years before reliably turning onto a tightening path in 2019/2020 with our deficit of -84K mt in 2020 now under threat,** given that the market balance is especially sensitive to Chinese growth expectations (Chinese demand ~50% of global consumption). We expected, pre-Corona, that a CAGR of 1.6% over 2020-2023 is required to keep the market balanced. However, while some of that demand is only delayed (i.e: the demand from consumer durables, which would claw back in 2H'20), demand from infrastructure and construction will be harder to make-up for quicker, without significant stimulus measures. **Thus there is downside risk to our forecast of 1.7% Chinese total copper consumption growth for 2020.**

- A +/-1% change in our 2020 Chinese copper consumption forecast would impact global demand by ~120K mt, and enough to swing the deficit back into surplus; thats the lower end of some expectations with ranges between 200K & 300K mt of lost demand being estimated for. **We expect disruptions at smelters reducing production, to partially offset the impact of declining demand, and sentiment (on stimulus hopes) to buffer some of the downside.**

- Theres still skepticism over the outbreak with base metals unable to break higher this week; even with the latest data showing a decline in cases, given China wasn't transparent in the beginning in handling the situation/stats, its only fair that a number of worst/best scenarios remains on the table as a handful of bottom-up indicators reflect activity hasn't quite fully returned:

1. The Air Quality Index across many of the manufacturing hubs hasn't substantially really picked up; in Wuhan its AQI (2.5PM) is still "moderate" at 80 (2nd lowest category), seasonally well below the 150-200 range seen in recent years post CNY.

2. Warehouse Stocks in China (especially local listed and bonded) continue to see large inflows as the impact on (cathode) demand outweighs any local supply outages. Aggregated Base metals SHFE stocks* have climbed seasonally early (due to earlier than usual CNY), but more aggressively than the past seasonal inflows; that creates a negative feedback loop and is a green light for CTA shortsellers. Overall, if the lockdown/reduced road transportation persists for longer, other global warehouse will become the recipient of rerouted of cathode shipments, **chart 5**.

3. Physical premiums remain soft. Coppers Yangshan premia has fallen to $57 (above $80 when Global Mfg PMIs began to rebound in 2H'19); Aluminums Midwest premium is back down to $12 and even the SGE gold premium is basically flat vs London Gold, as China remains "unplugged"

4. Anecdotally, theres recounts of ships idled off the coast for weeks now, but some talk of them perhaps docking in Weihai (a good access pt to one of Chinas industrial hubs and home to many smelters/refineries) which would be an early sign business is finally picking up

⇒ **For now Corona base metals' lows are in, but trading and risk appetite is tentative with the preference to fade short-lived positioning-induced rallies in place and not wrong** (Copper >$5800, Ali ~$1740, Zinc ~$2180, Nickel at ~$13,400).

Chart 1: Sector risk to manufacturing and share prices, The Economist

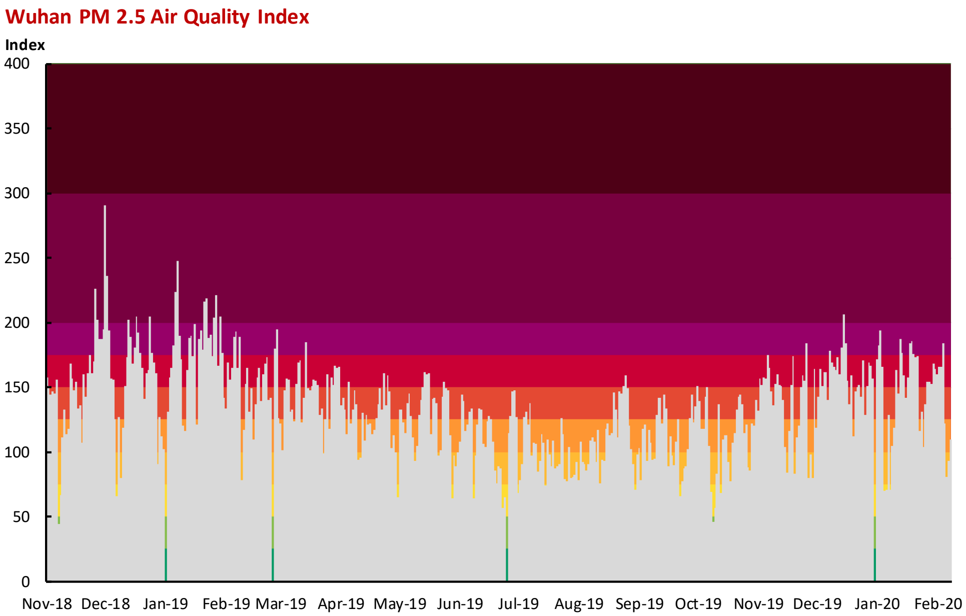
Chart 2: AUD and Commodity Price Prediction Table

	Current Price	Model Prediction: Base at 0.67 AUD/USD	Model Prediction: Bull at 0.8 AUD/USD	Model Prediction: Bear at 0.6 AUD/USD	% Change from Current: Bull Case	% Change from Current: Bear Case
Platinum	$ 967	$ 808	$ 1,114	$ 638	38%	-21%
Silver	$ 18	$ 12	$ 19	$ 9	49%	-27%
Brent	$ 57	$ 48	$ 70	$ 35	48%	-26%
WTI	$ 52	$ 45	$ 64	$ 35	41%	-23%
Copper	$ 5,790	$ 5,260	$ 6,312	$ 4,679	20%	-11%

Prices as of February 14th, 2020

Source: Scotiabank Commodities (Metal) Strategy

Chart 3: Wuhan Air Quality Index



Note: Air pollution index level between 0 - 50 is good, 51 - 100 is moderate, 101 - 150 is unhealthy for sensitive groups, 151 - 200 is unhealthy for everyone, 201 - 300 is very unhealthy, 300+ is hazardous.

Scotiabank Commodity (Metals) Strategy and The World Air Quality Project

Chart 4: Share of Gold in Equity Portfolios

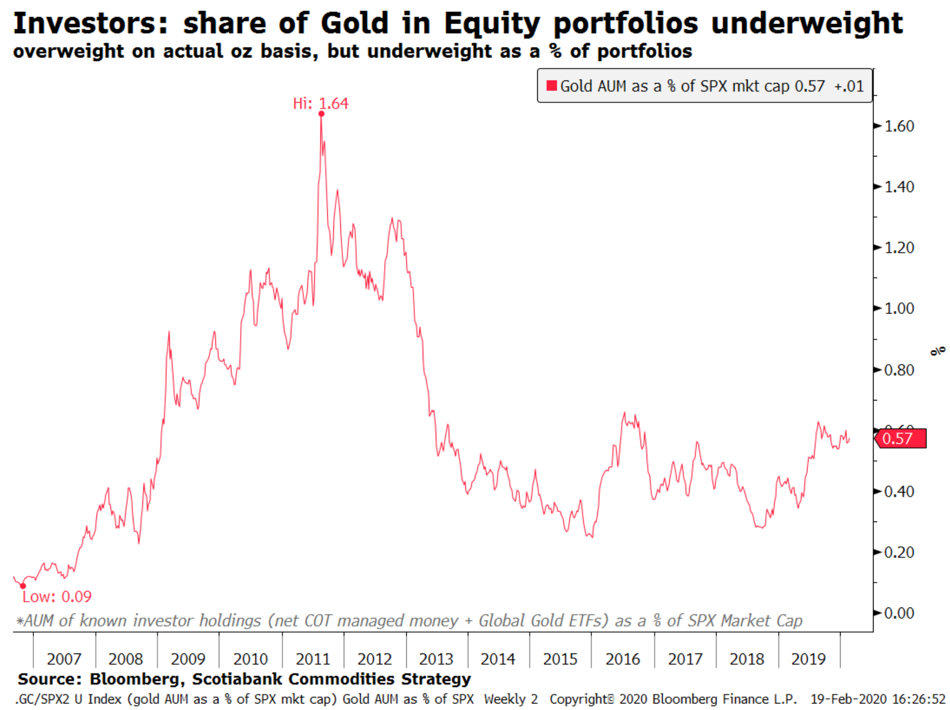
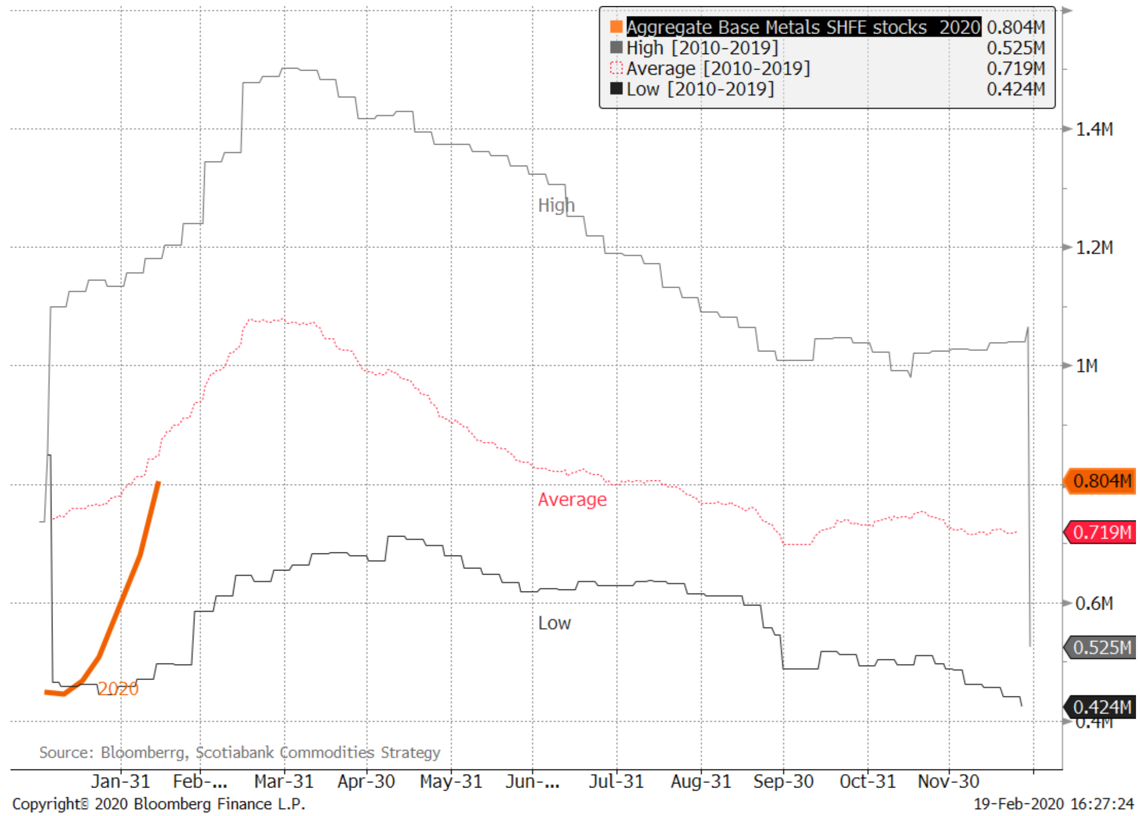


Chart 5: 2020 Aggregate Base Metals SHFE Stocks



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