Update and 2020 Outlook for Precious Metals

Nicky Shiels, Metals Strategist

January 2020

Table of Contents

The macro backdrop & expectations for 2020

A summary of key macroeconomic expectations and assumptions for 2020

… that will thus help frame our outlook and thinking in both base and precious

Growth & recession risk: A tepid and gradual recovery is expected in 2020, and markets should be careful to make the distinction that slow and low global growth is not recessionary; this (fragile) “goldilocks” outlook hinges on supportive central bank policy, stabilizing data with diminished economic and trade risks BUT higher geopolitical & election risk. (Page 12)

Interest rates & liquidity: the coordinated dovish Developed Market CB pivot that drove risk markets in 2H’2019 is behind us.; peak negative yielding debt ($17tn) is also behind us given the pushback and rethink around negative interest rates (ultimately undermining their safe haven appeal). However, liquidity comes in various forms and while the Fed is largely expected to be on a sustained hold throughout 2020 (reinforcing our low for longer US interest rate profile), they have indicated that they're OK with letting the economy run a little hot while the (NY) Fed is likely to continue buying short duration Treasuries in 1H’2020; that should lead to a boost in inflation expectations. (Page 7-8)

Inflation: Inflation risks are underappreciated given the Feds stance, potential expansionary fiscal policies due to social unrest, and the cost push from ESG & protectionist trade policies. There’s a growing risk that markets shift from financial/equity inflation into real asset inflation (page 7-8)

Risk Sentiment: Continue to expect volatile shifts in sentiment, driven by trade and (geo)political themes creating large divergences between sentiment beliefs (positioning) and reality (data). (Page 5)

FX trends and the US$: Our core $ house call through 2021 implies the DXY weakening ~8%, from current levels of around ~97 while currency market volatility is overdue an awakening, already witnessed in global bonds, most commodities & equities (page 10).

Trade: Expect a series of 'mini-wins' and positive rhetoric within a broader framework of global protectionism; little aggressive trade escalation is expected into the 2020 US elections, but there should be no respite either, given the ‘need’ to keep US growth and risk assets buoyed. (page 11)

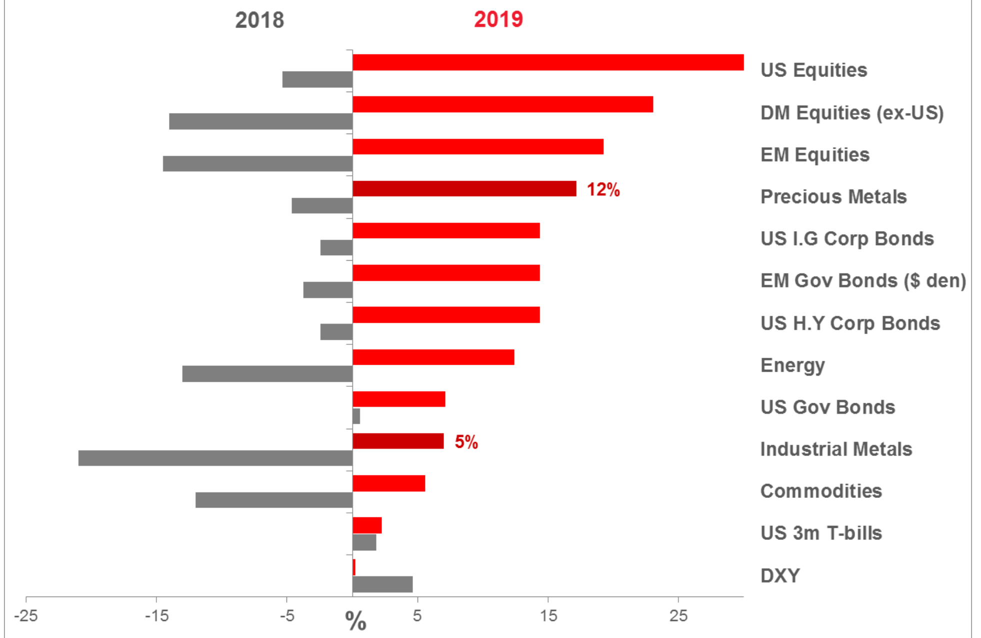
US politics: US election risk remains underpriced with little premium being factored in, on a progressive Democratic nominee; it will become a tradeable theme after Super Tuesday in which the path toward and into November will likely become messy and disorderly keeping election sensitive assets / macro vol bid. (Page 13).

Geopolitics: the frequency of off-calendar geopolitical risks and events are rising, driving the need for more tactical tailrisk hedging. (Page 13-14)

2019: volatile shifts in sentiment; strong performances across risk assets

- **1H 2019 – risks contained**
  - Low volatility, complacent regime
  - Sustained Fed pause after the January FOMC
  - **Risk assets trend**
- **Summer 2019 – peak Geopolitical uncertainty, trade & recession fears**
  - Trade, geopolitics & Fed change course
  - Outsized repricing in global bonds; $17tn of global debt demand negative yields
  - Global manufacturing collectively really rolls over
- **4Q 2019 -- trade hopes & liquidity injections**
  - Shift from trade escalation to de-escalation
  - Low volatility, complacent regime
  - Macro fear trumped by liquidity, led by the Fed
  - Reflation trades re-emerge
  - **Reduced need for recession hedges/havens**

Macro assets performances, then (2018) vs now (2019) - losers back then are winners today

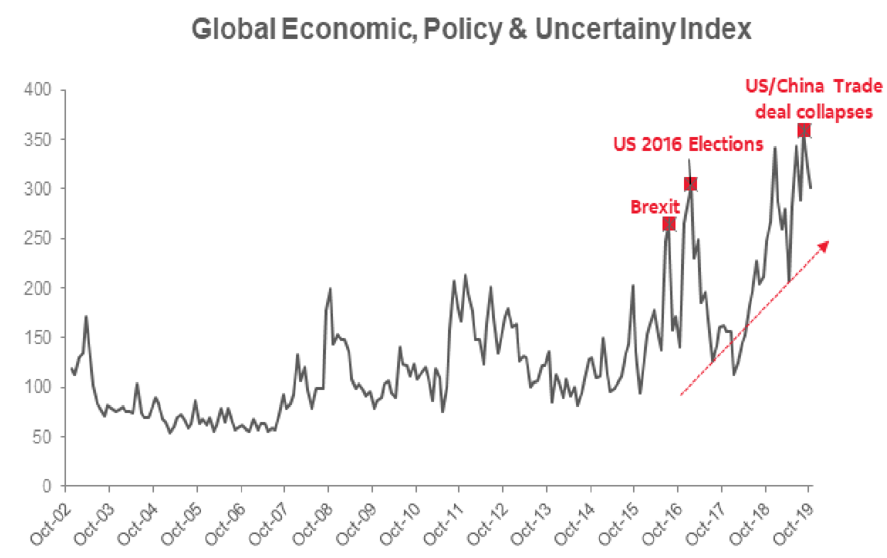


Source: Scotiabank Commodities Strategy, Bloomberg, ICE BofA ML

It going to be very tough to repeat the above-average, double digit returns of 2019 seen in most sectors except Commodities and EM FX. Historically, sharp risk-asset are followed by more modest growth

Geopolitical, trade & Fed risk peaked in 2019; remain vigilant in 2020

- **2019 will be known as the year of relentless cheap money (unleashed by the Feds U-turn from hikes to cuts and re-expansion of their Balance Sheet), US/China trade policy U-turns and a major global manufacturing growth slowdown, that altogether drove negative yields through the financial system and led to peak recession fears**
- **The hot summer of 2019 marked several major turning points in trade, geopolitics/politics & monetary policy injecting broad-based macro fear and volatility. But in Q4'19, trade de-escalation & CB easing led to a dramatic shift in narrative; markets debated between "no recession vs cyclical upturn" instead of "recession vs no recession"**
- **Current volatility is relatively low, the macroeconomic regime is ultra complacent and theres a *reduced* need for recession hedges or havens. However, volatility flare-ups are underpriced into 2020 with political and geopolitical developments still a large 'unknown' creating a key risk for overly optimistic sentiment.**



*quantifies the GDP_weighted average of national Economic, Policy & Uncertainty (EPU) Indices for 20 countries. Each EPU reflects reflects the relative frequency of own-country newspaper articles that contain a trio of terms pertaining to the economy (E), policy (P) and uncertainty (U)

Source: Scotiabank Commodities Strategy, Bloomberg, Economic Policy Uncertainty

The largest macro moments of 2019:

- Flash crash in the Yen (January)
- The January to July U-turn in Fed policy and switch from autopilot QT to Balance Sheet increases (QE)
- Reemergence of currency wars (summer 2019) and the renminbi 'cracked 7'
- US repo markets stress (September)
- US/China Trade - tariffs or deals - delivered by tweet (all year)
- Brexit shenanigans (all year)
- High profile IPOs or attempts to IPO (WeWork, BeyondMeat, Uber, Lyft) mostly disappointed
- Geopolitical and Middle East tensions became more frequent and underpinned oil markets and other havens
- Anarchism returned with large and violent protests in Chile, Lebanon, Spain, Iraq, Hong Kong, India, France and Russia (all year)

Interest Rates & The Fed: liquidity in various forms

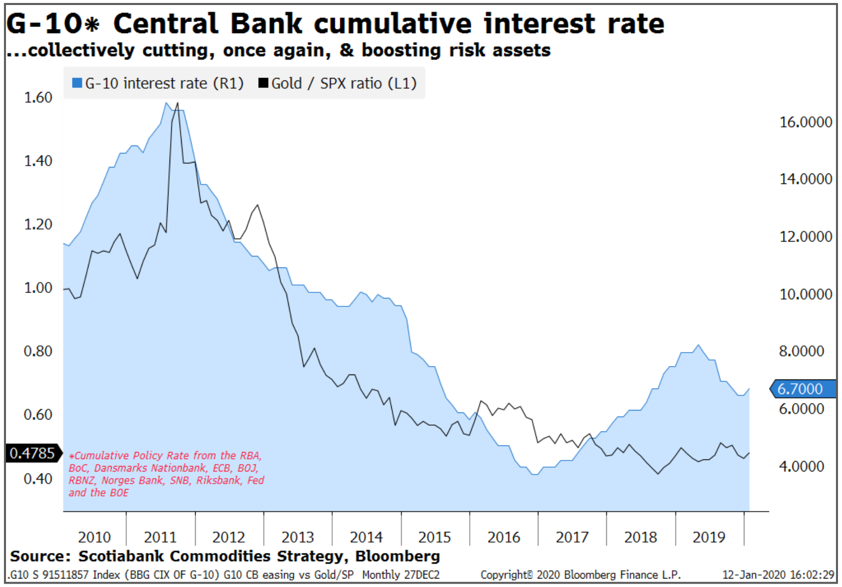
- Macro fear was trumped by liquidity, led by the Feds 3 "midcycle" rate cuts in 2H'19. Global G-10 Central Banks have cumulatively cuts rates by 175bps while the Fed has pumped over $400bn worth of liquidity since the repo markets seized up in September.

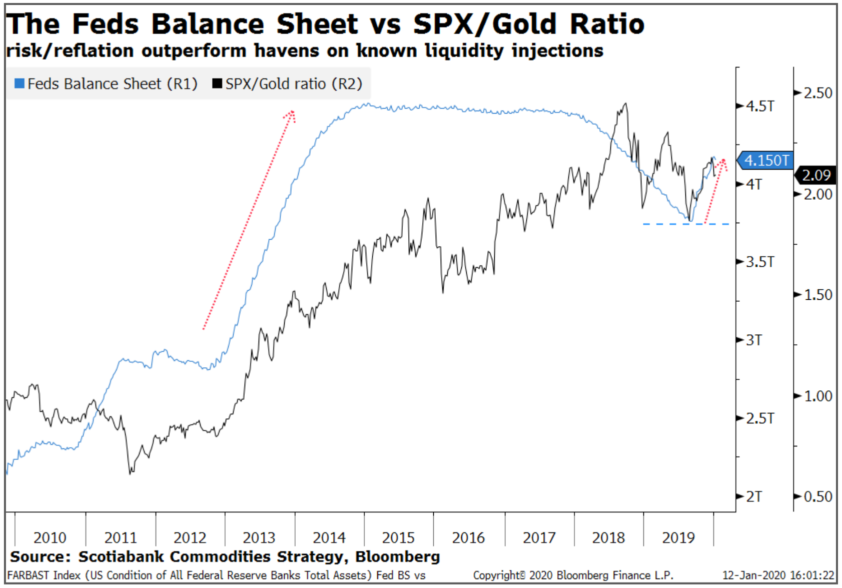
- The Fed is largely expected to be on a sustained hold throughout 2020, with the NY Fed likely to continue buying short duration Treasuries in 1H'2020; the Fed has hinted that they're OK with letting the economy run a little hot which should lead to a further boost in inflation expectations. That supports "all-boats rise" in which Gold and havens can perform, but Golds unlikely to outperform risk assets (IF geopolitical / trade risks remain contained). Overall, the coordinated dovish DM CB pivot that drove risk markets in 2H'2019 is behind us.

- The consensual outlook from 'the street' is for US Treasuries (10years) to remain below 2%, which isn't wrong in light of relative pricing vs other G-10 countries and expectations for growth, inflation and monetary policy. Havens such as US Government bonds and Gold still have a role to play as insurance (despite low yields and recent gains).

- Inflation risks are underappreciated given:
  - The Feds past action and stance - U-turn on both rates (from hikes to cuts) and Balance Sheet trends (from Quantitative Tightening to 'QE') with "sustained inflation" required before they act
  - Expansionary fiscal policies (eg: higher wages) to appease large scale social unrest globally
  - The cost push from ESG, decarbonization policies and protectionist policies/tariffs.

  → There is a growing risk that markets shift from financial/equity inflation into real asset inflation



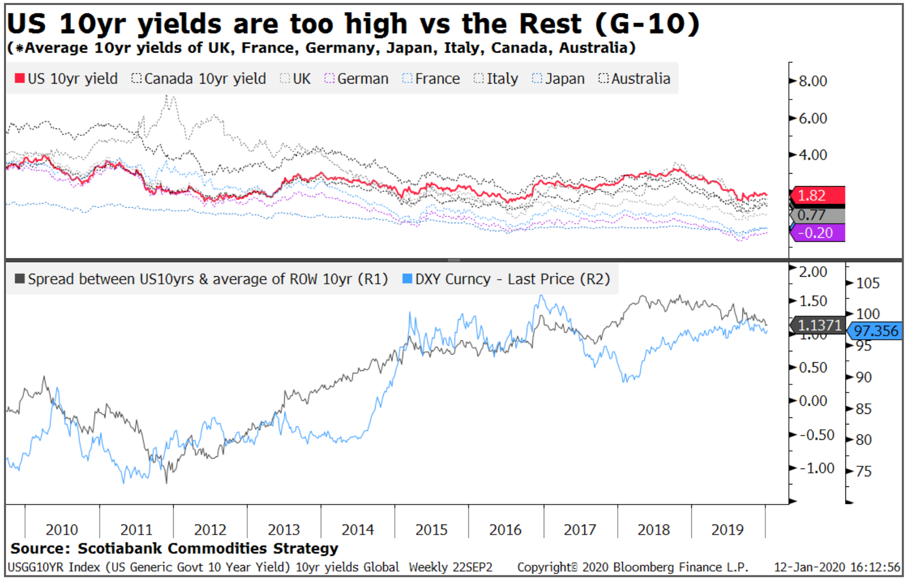


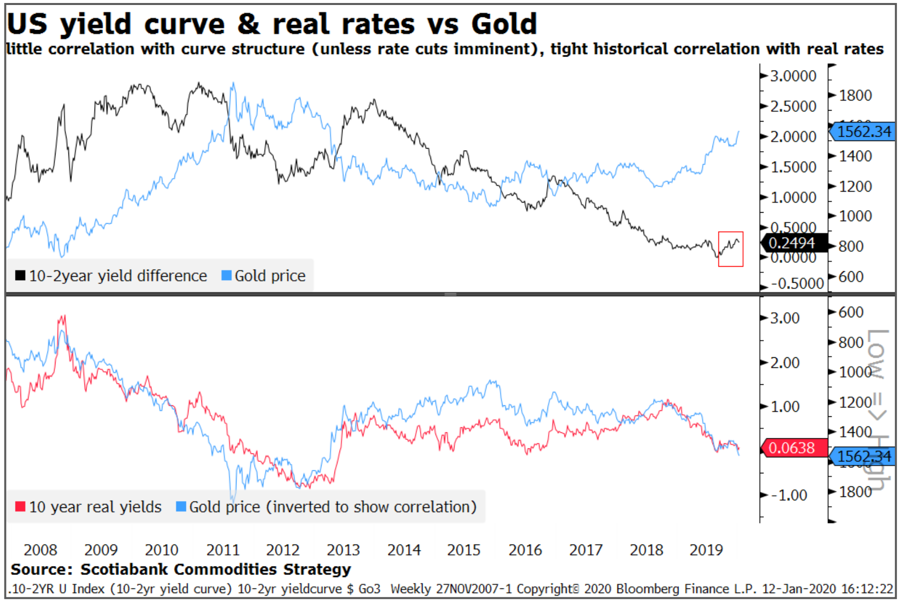
Interest Rates & The Fed: liquidity in various forms

- Negative interest rates remain despite the the pile of negative yielding debt falling from a peak of $17tn in Q3'19 to ~$12tn currently. That pile is likely to have peaked in 2019 (given the pushback and rethink around negatively yielding European debt ultimately undermining their safe haven appeal) but the amount of negative yielding debt should still remain sizeable. That's because weak inflation, structural long-term demand for government debt and expectations for ECB rates to stay below 0%, remain in place.

- However, the full (and perverse) implications from negative debt has yet to be felt (or known) thereore its highly unlikely the Fed targets a negative range into the next recession (upheaval in money markets, essentially a tax on banks lending to the Fed which only Congress can technically do). That implies the Fed will be forced to get creative given that its room to maneuver on interest rates remains very limited.

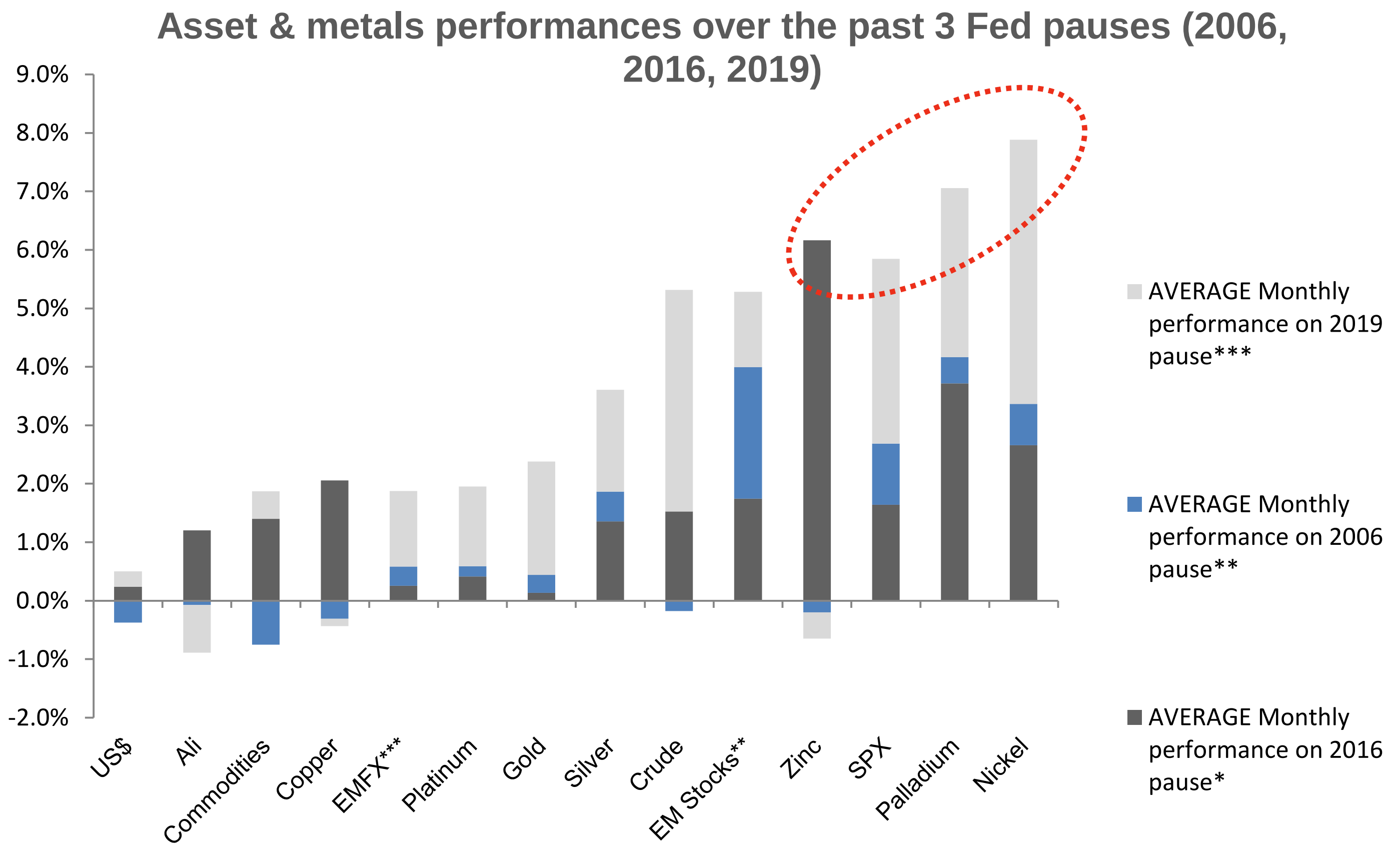
- For now, and into 1H'2020, further US yield curve steepening (away from the recessionary "inverted levels") is possible if global growth and inflation expectations continue to run. There is little correlation between a steeper yield curve and Gold prices (unless rate cuts are imminent and real rates remain flat or negative).





A Fed pause: what happened during past pauses

A Fed rate pause which is usually associated with "Goldilocks" growth (or a recovery that's rather fragile), is most favourable to both US and EM equities, AND high beta illiquid metals like Nickel, Palladium & Zinc



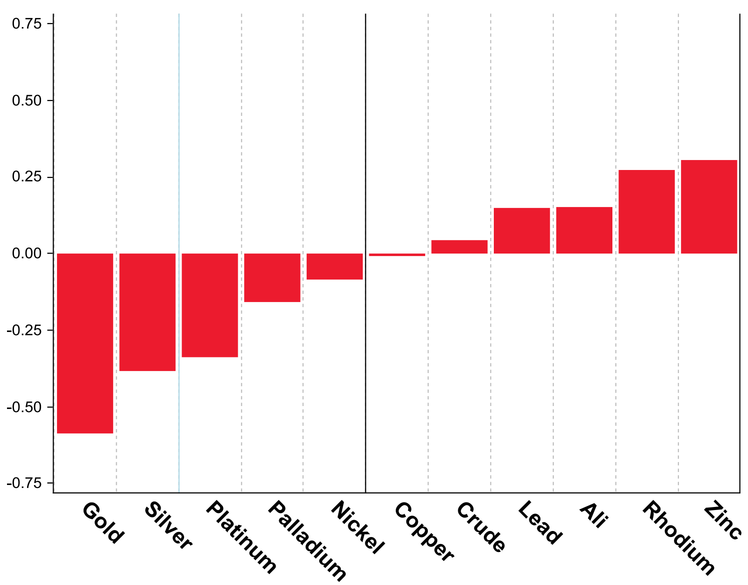
** 2016 Fed pause: Dec '15 hike - Dec '16 hike*
**** 2019 Fed pause: Dec '18 hike to July '19 cut*
*** 2006 Fed pause: June '06 hike to Sept '07 cut*

Source: Scotiabank Commodities Strategy, Bloomberg

The US$ Outlook: Tirelessly resilient but 2020 looking increasingly different

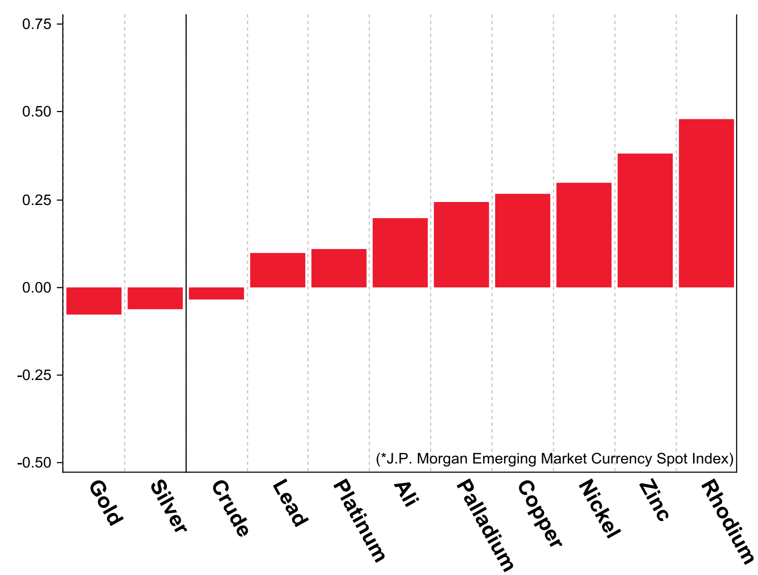
- Our core $ house call through 2021 implies DXY weakening ~8%, from current levels of around ~97. Persistent USD$ strength is probably peaking as interest rate differentials are generally tilted against it while the China-US de-escalation will induce an unwind of typical haven currencies specifically the US$.
- Additional US$ headwinds also stem from, 1) further stalling of US growth or "US exceptionalism" as fiscal stimulus (2018) and monetary policy (2019) fade, 2) renewed pressure as markets refocus on the unsustainable US fiscal path/debt levels, and 3) added uncertainty around the US presidential election
- Currency market volatility is also overdue an awakening (already witnessed in global bonds, most commodities & equities)
- Metals most likely to benefit from broad-based USD strength (vs DM currencies) are Gold, Silver, & Platinum. On the contrary, Nickel, Rhodium and Zinc are the historical benefactors on any EMFX strength

Rolling 1 month correlations with the US$ (DXY)



Source: Macrobond, Scotiabank Commodities Strategy

Rolling 1 month correlations with the EMFX*



Source: Macrobond, Scotiabank Commodities Strategy, J.P Morgan

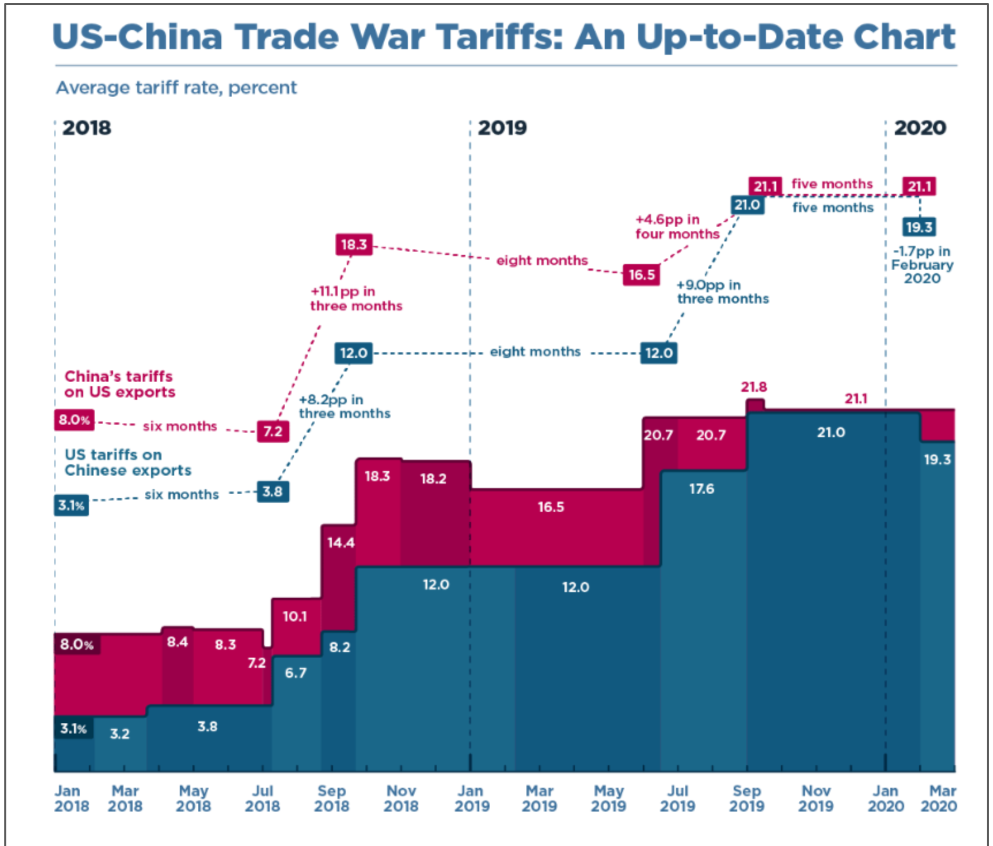
US/China Trade: Expect a series of 'mini-wins' within protectionism

- Expect a series of 'mini-wins' and positive rhetoric within a broader framework of global protectionism; little aggressive trade escalation is expected into the 2020 US elections, but there should be no respite either, given the 'need' to keep US growth and risk assets buoyed.

- 2019s trade wars have been somewhat of a distraction to the major rift in the US / China relationship over technological competition. The likelihood over any comprehensive trade agreement including national security, IP/tech and human rights issues, in 2020 is very small.

- The Phase One trade deal (note documents remain sealed) agreed upon in mid December in reality does little for manufacturers by keeping the 25% tariffs on most imported Chinese goods; it has a relatively larger impact on sentiment (which has drastically improved) vs actual activity

- "Phase one" seems to lock in a new normal of higher tariffs (vs a year ago). And while Phase Two may provide further improvement, that is 1) only expected after the November US elections, and 2) depends on who is in the White House where Democratic rivals are likely to be as protectionist as Trump



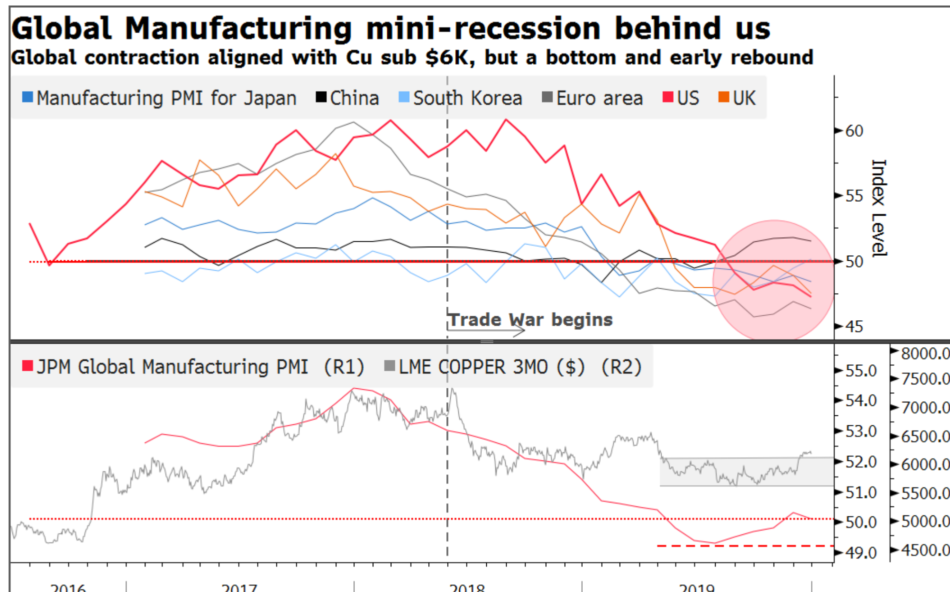
Source: The Peterson Institute

2020: Slowest global growth since 2016 but the bottom is in

- Recession risk has receded dramatically due to the de-escalation of two key event risks for the global markets (US China trade war and a no-deal Brexit) and coordinated CB easing.
- A tepid and gradual recovery is expected in 2020, and markets should be careful to make the distinction that slow and low global growth is not recessionary; this (fragile) "goldilocks" outlook hinges on supportive central bank policy, stabilizing data with diminished economic and trade risks BUT higher geopolitical and US election risk.
- Raw commodities can be a leading indicator in recoveries with the following lessons from the CRB Rind Index evident:
  - Commodities were not at recessionary levels in 2019, despite sentiment calls and other recessionary indicators (inverted yield curve).
  - Dips in raw commodities are historically shallower (vs the 2008 and 2016 commodities nadir) and upturns are historically sharp.
  - There is a bottom in raw commodity prices and early signs of a reflationary rebound in Q4'19. However, its tough to expect this upcoming 3rd manufacturing bounce (since the GFC) into 2020 to mimic the reflationary bounce in commodities in 2016, due to limited Chinese growth with little appetite for a repeat of their large-scale stimulus of the past.

Evaluating 'real demand' and growth trends through RAW* Commodity prices

Source: Macrobond, Scotiabank Commodities Strategy



Source: Scotiabank Commodities Strategy, ISM, Bloomberg, IHS Markit, JP Morgan

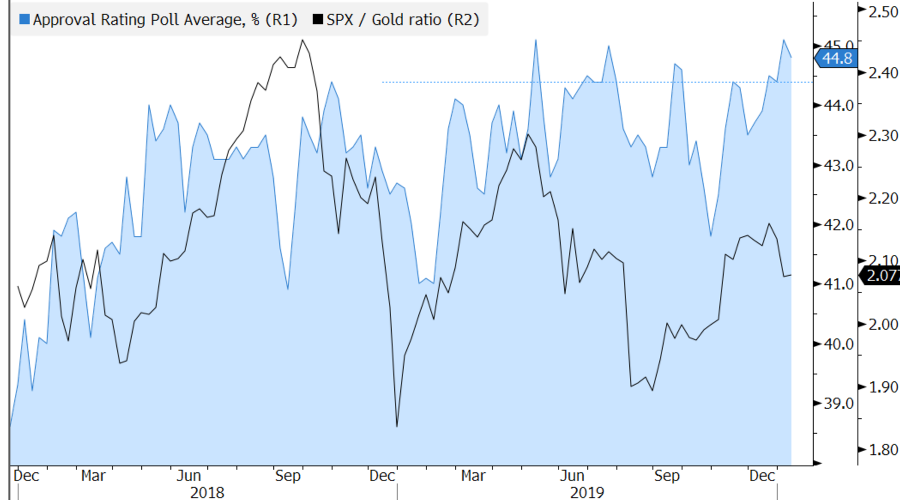
MPMIJPMA Index (Jibun Bank Japan Manufacturing PMI SA) Global Manufactor PMI 2 Copyright© 2020 Bloomberg Finance L.P. 12-Jan-2020 16:28:29

2020 Politics: Modern Politics makes surprises the norm

- With currently 13 major candidates, the Democratic 2020 presidential field is one of the largest, competitive, and arguably unpredictable in modern history.
- Markets usually struggle to fairly price in election risks (due to innate binary outcomes) after analyzing the two competing agendas relating to trade & tax policy, regulation & fiscal spending. This is further complicated given the unpredictability of Trump - will he campaign as Trump 1.0 (the market-friendly, deregulating, tax cutting person seen in the 2 years post 2016 election) or Trump 2.0 (the protectionist tariff man the market feared in 2016 but who only 'emerged' in 2018)?
- There's plenty of historical analysis outlining how risk markets react to a Democratic or Republican White House win, whether one party controls Congress or not, or whether stock markets have any predictive powers (strong equity returns in the lead up to elections have an uncanny ability to ensure the incumbent party wins). That could be a useful exercise after the Democratic nominee is known (after Q1'20). However it's the path toward and into November that will likely become messy and disorderly, characterized by polarized and angry rhetoric and one in which markets will need to price in the fact that political surprises have become the norm; that should keep election sensitive assets / macro vol bid
- Overall, the US election will be a highly tradeable theme in 2020 especially after Super Tuesday (March 3rd) in which we'll likely know the Democratic candidate. The most likely outcome is a Trump re-election, given current financial and economic conditions; that's the best case for risk assets as it extends the status quo and especially if Republican also control Congress, which could usher in a 2nd round of tax cuts driving equities higher but also deficits (positive Gold). The best case for Gold (worst case for equities) is if either progressive (Elizabeth Warren or Bernie Sanders) is elected, especially if the Democrats also gain full control of Congress – the market friendly Trump policies are then likely to be unwound.

Trumps approval rating

...at higher end of range post phase one trade deal



Source: Real Clear Politics, Bloomberg, Scotiabank Commodities Strategy

RCPPTAPP Index (Real Clear Politics Trump Job Approval Poll Average) trump appro Copyright© 2020 Bloomberg Finance L.P. 12-Jan-2020 16:31:12

US election risk remains underpriced with little premium being factored in on a progressive Democratic nominee.

A list of macro uncertainties to monitor in 2020

Potential catalysts for renewed recession fears and/or the end of decade long bull market in US risk

3 known core macro uncertainties:

- Shaky Banks in Europe
- Debt mountain in China
- Corporate Leverage in the U.S

Potential lesser known macro uncertainties:

- Global growth falters further **(✓)**
- A Central Bank policy mistake
- Escalating geopolitical or trade tensions **(✓)**
- Official currency intervention
- Major selloff in credit markets and/or interest rates
- A dollar-yuan break through 7-handle **(✓)**
- 2020 U.S. election: an elected progressive Democrat
- Impeachment risk
- Inflation gradually, then suddenly accelerates
- A global (not Chinese) 'carmageddon'
- Threat of a US debt default
- Problems sourcing market liquidity **(✓)**
- European or other recession risk

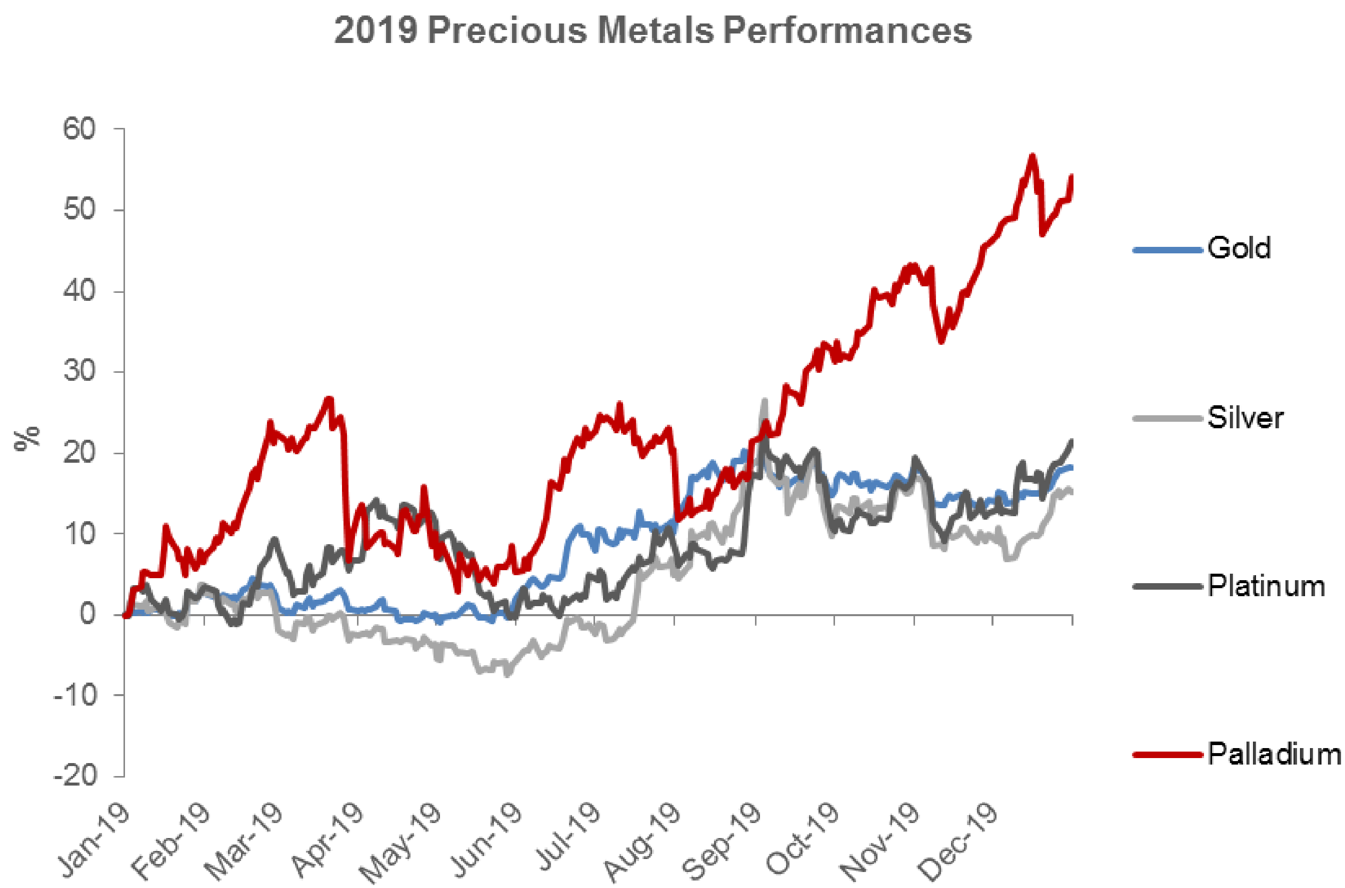
(✓) Achieved. (-) Undecided; TBD. (x) Not achieved in 2019

Macro Investment themes to consider for 2020

"Investment idea"	*Thinking*	*Metals Trade Expression*
Short $ *(tactical)*	• De-escalating US/China trade war • Swelling twin deficits • US growth "exceptionalism" behind us • Trump & modern politics: 2020 US election campaign	• **Tactically long higher beta Gold proxies / $ hedges (Platinum, Silver, Copper)**
Long Volatility *(structural)*	• Trade policy remains highly unpredictable • (Fake) new cycles driving whippy intraday price action & unpredictability • Skepticism growing around power of CBs to pump up asset prices • Inherent & unexplained lack of market/screen liquidity • Growing number of late cycle macro wobbles	• **Long low volatility, safe-haven currencies (e.g.: Gold, CHF, JPY)**
Short Politics & Geopolitics *(structural)*	• Trade policy remains highly unpredictable & complicated by climate change policies ("carbon tariffs") • Increasing frequency of "off-calendar" geopolitical events/risks • Rise of protectionism globally - "Globalism" vs "nationalism" • Partisan polarization and 2020 US election campaign • Low/slow growth, income inequality fueling further political uprisings and protests	• **Long Gold as a political hedge**
Long inflation *(structural)*	• Fed U-turn on both rates (from hikes to cuts) and Balance Sheet expansion (QT to 'QE'): "sustained inflation" required before they act • Expansionary fiscal policies (higher wages) to appease large scale social unrest • ESG: cost inflationary supply constraints, tighter future commodity supply. • Political pressure due to climate change unlikely to dissipate • Protectionist trade policies / tariffs	• **Long Commodities**

Precious metals update & outlook

Precious Performances



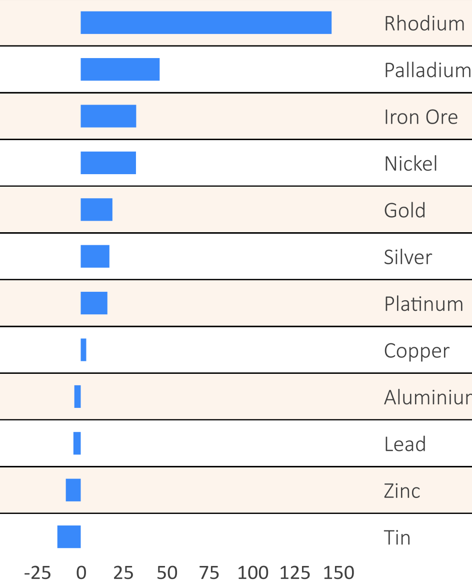
Source: Scotiabank Commodities Strategy, Bloomberg

Metals performances over the decade

Annual returns of most metals

2010	2011	2012	2013	2014	2015	2016	2017	2018	Average return since 2010	stddev
Palladium 102.80%	Gold 8.93%	Tin 24.01%	Iron Ore 5.63%	Rhodium 27.69%	Lead -2.75%	Iron Ore 101.49%	Rhodium 122.73%	Rhodium 43.44%	Rhodium 23.24%	Rhodium 62.09%
Silver 80.28%	Silver -8.00%	Lead 18.18%	Zinc 2.51%	Palladium 13.27%	Gold -12.11%	Zinc 60.19%	Palladium 54.18%	Palladium 22.94%	Palladium 20.87%	Iron Ore 42.32%
Tin 61.11%	Iron Ore -18.92%	Platinum 12.78%	Palladium 1.70%	Nickel 6.91%	Silver -13.46%	Tin 44.52%	Aluminium 30.81%	Gold -0.93%	Gold 4.48%	Palladium 36.89%
Nickel 35.06%	Aluminium -19.93%	Palladium 11.75%	Tin -4.04%	Zinc 3.91%	Aluminium -17.69%	Palladium 20.72%	Copper 30.10%	Tin -1.89%	Silver 4.00%	Silver 29.62%
Copper 32.58%	Palladium -20.95%	Zinc 11.30%	Lead -5.73%	Aluminium 3.80%	Tin -25.13%	Silver 17.51%	Zinc 29.11%	Iron Ore -2.92%	Tin 3.29%	Tin 28.47%
Gold 29.24%	Copper -22.44%	Gold 8.26%	Copper -6.58%	Gold 0.12%	Copper -26.06%	Copper 16.99%	Lead 25.69%	Silver -8.30%	Zinc 1.79%	Zinc 25.64%
Platinum 20.12%	Platinum -22.85%	Silver 6.28%	Rhodium -9.72%	Platinum -11.13%	Zinc -26.17%	Rhodium 16.67%	Nickel 22.48%	Platinum -13.52%	Iron Ore 1.17%	Nickel 24.69%
Aluminium 11.46%	Lead -23.46%	Copper 4.78%	Platinum -11.13%	Tin -13.53%	Platinum -28.03%	Nickel 15.52%	Gold 12.66%	Nickel -13.58%	Nickel 0.32%	Copper 19.97%
Lead 8.02%	Zinc -24.85%	Aluminium 3.53%	Aluminium -13.50%	Copper -14.00%	Palladium -31.57%	Aluminium 13.67%	Silver 3.85%	Aluminium -16.60%	Copper 0.09%	Platinum 16.00%
Rhodium -3.00%	Nickel -26.76%	Iron Ore -5.80%	Nickel -18.23%	Lead -16.00%	Nickel -41.98%	Lead 10.16%	Platinum 2.12%	Copper -16.66%	Aluminium -0.79%	Aluminium 15.72%
Zinc -5.35%	Tin -29.67%	Nickel -6.54%	Gold -27.33%	Silver -18.10%	Iron Ore -42.57%	Gold 8.10%	Tin -5.81%	Lead -19.48%	Lead -0.99%	Lead 15.47%
Iron Ore n/a%	Rhodium -42.27%	Rhodium -22.86%	Silver -34.89%	Iron Ore -49.25%	Rhodium -46.99%	Platinum 3.46%	Iron Ore -10.62%	Zinc -24.13%	Platinum -2.31%	Gold 15.03%

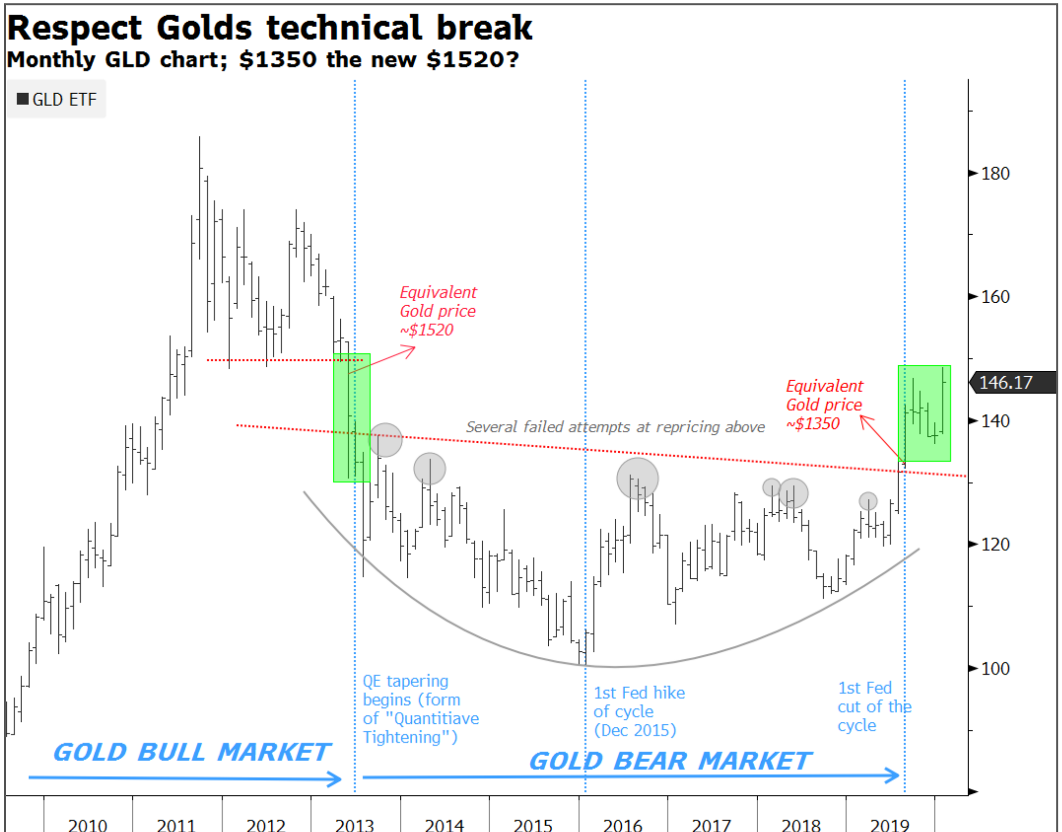
2019 % performance



Scotiabank Commodities Strategy, Macrobond

Gold… was smart in 2019 & hit record highs in 73 currencies

Gold Outperformance Requirements → Only 2 out of 4 drivers "on" in 2019	
1. *Sustained* equity market volatility **(×)**	3. Lower yields for longer **(✓)**
2. A negative U.S$ catalyst **(×)**	4. A dovish leaning Fed **(✓)**
(✓) Achieved. (-) Undecided; TBD. (x) Not achieved	



Source: Scotiabank Commodities Strategy, Bloomberg

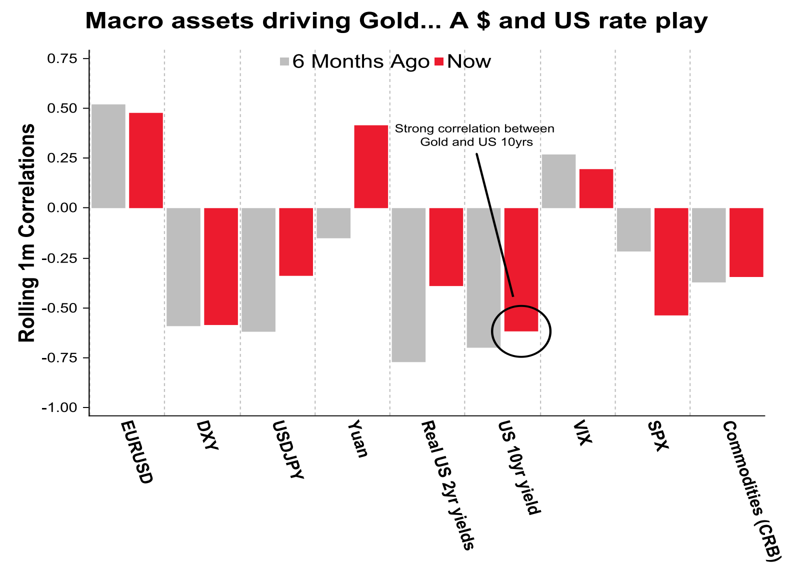
GLD US Equity (SPDR Gold Shares) GLD tech4 Monthly 07JUL2009-09JAN2020 Copyright© 2020 Bloomberg Finance L.P. 09-Jan-2020 15:12:35

- **DESPITE a resiliently strong & compressed US$ and a lack of (sustained) US equity volatility, Gold made a statement breakout in summer 2019**
- **It became sensitive to geopolitical and trade risk and the repricing was (smartly) aligned with a shift in Fed policy.**
- **There are technical similarities between the repricing higer in 2019 (into a bull market) versus repricing in 2013 (into a bear market), which should be respected.**
- **Gold has entered a new bull market and begun to internalize geopolitical, political, trade & growth risks, which is a constructive new development, compared to its responsiveness over the previous 6 year bear market**

Gold is a rate cut hedge and more…. Analysis of Golds "Fear Premium"

- While Gold pricing was aligned with a shift in the Fed in 2019, its NOT only a hedge to potential Fed cuts. Pricing also incorporates the threat of fear drivers such as trade, political/geopolitical & growth re-emerging.
- Correlation chart shows that real US yields and the US$ are both reliably strong current and past core drivers of Gold.
- Golds current 'fear premium'* of ~$200 is somewhat overpriced vs equity market volatility in the short-term.
- However, the historical highs ranged from $400-$600, suggesting that political/geopolitical & trade risk remains underpriced; that especially important into 2020, as election risk rises, the business cycle matures and the frequency of off-calendar geopolitical events likely remains high.

** Utilizing a multiple regression model to establish the implied Gold fair price given current US$ and real yields.*



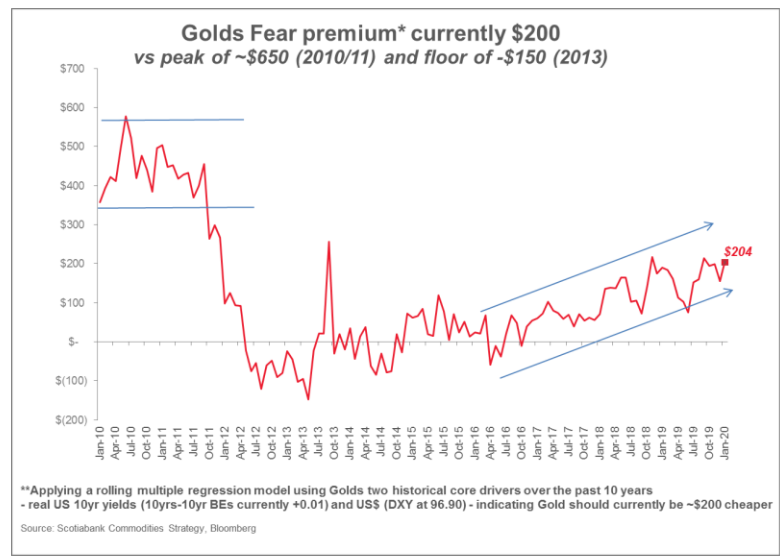
* Real 2 year yields = 2 Treasury yields- 2yr Breakevens

Source: Macrobond, Scotiabank Commodities Strategy

2009 - 2019 (current)			
	Real US 10 Yields*	DXY	Nominal Yields
10year monthly Correlation with Gold	-0.71	-0.45	-0.43
Gold with current real 10yr yields (+0.14)	$ 1,397		
Gold with current DXY (96.40)	$ 1,227		
Weights	0.61	0.39	
Gold with DXY/10yr weighted (40% DXY, 60% real)	$ 1,329		
Fear premium*	$ 200		
Current Gold price	$ 1,529		

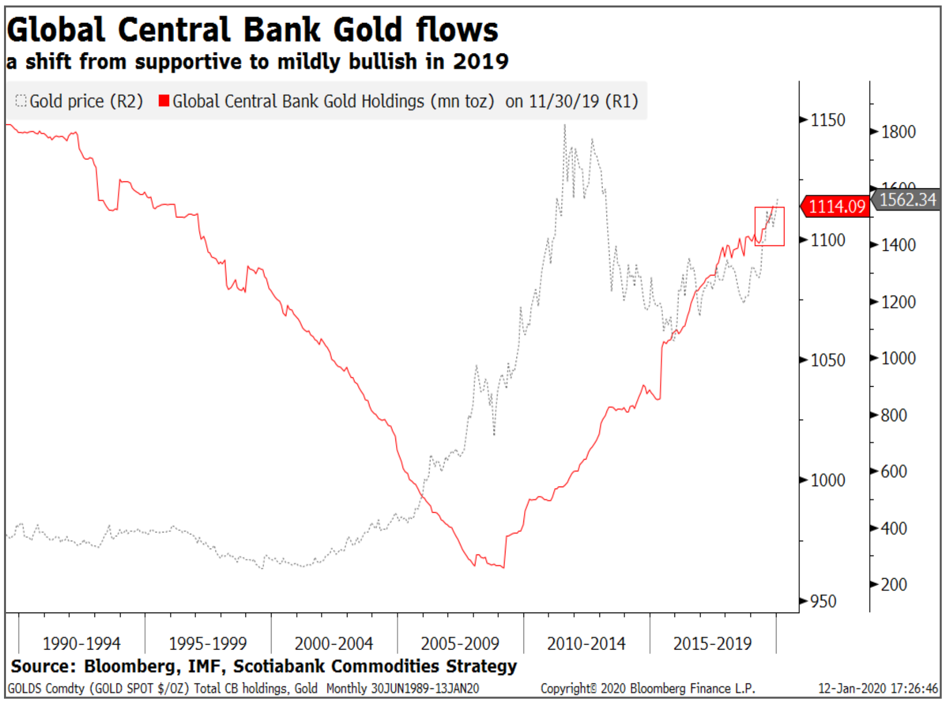
*10yr US Treasuries - 10yr Breakevens

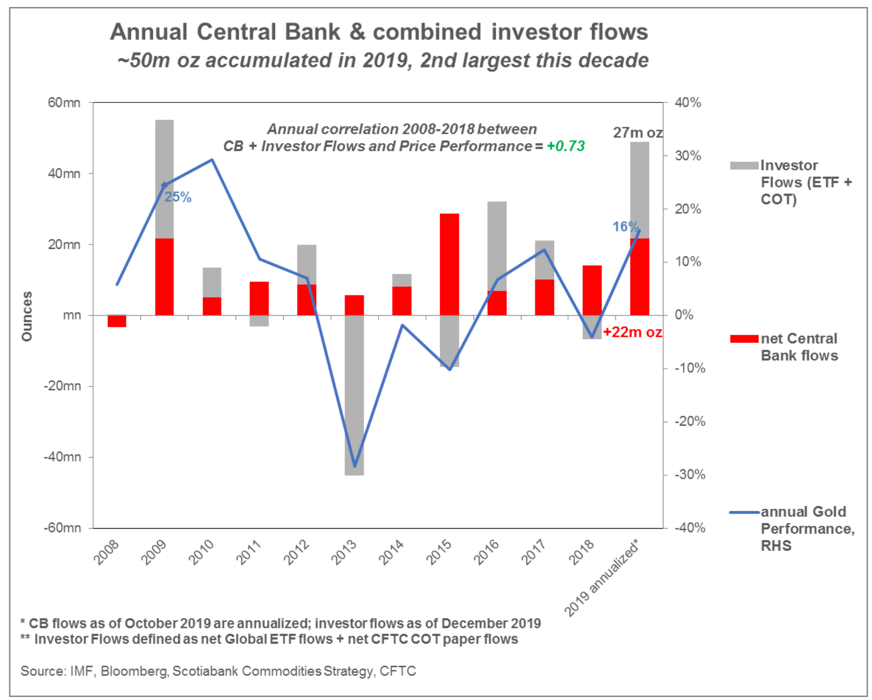
Source: Scotiabank Commodities Strategy



Official Sector demand: becoming more active & lifting floors

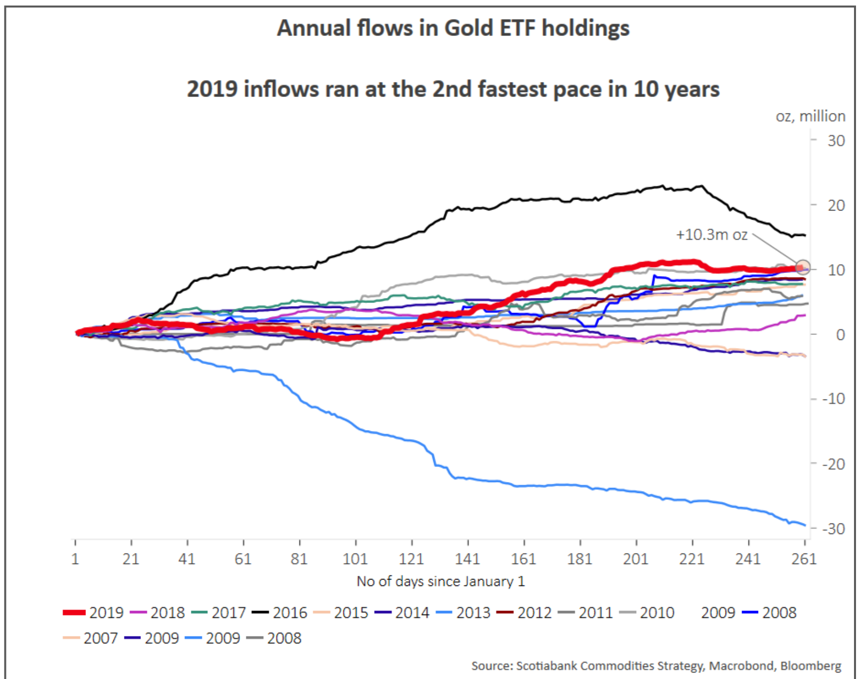
- Very strong Central Bank inflows totaled 22m oz on an annualized basis in 2019, making it the 2nd largest year of purchases this decade. This was somewhat highlighted by BOE gold trading at an historical premium vs unallocated London Gold
- Emerging Markets were avid Gold purchasers this year led by China, Turkey, Russia, India and Kazakhstan. Poland was also a large purchaser of Gold.
- This trend - especially amongst Emerging Market CBs- is expected to continue in 2020 but probably at a slightly slower pace given lofty Gold prices in local currency terms; new & atypical CBs will also continue to “de-dollarize” into the current mature business cycle and increasingly more fraught geopolitical and trade regime
- Overall, Central Banks have recouped 80% of what was ‘lost’ since 1990 under the various CBGA agreements; there is still some capacity to accumulate from a historical perspective, and even more capacity due to the fact that EM CBs traditionally hold a much smaller share of FX reserves in Gold vs their DM counterparts.

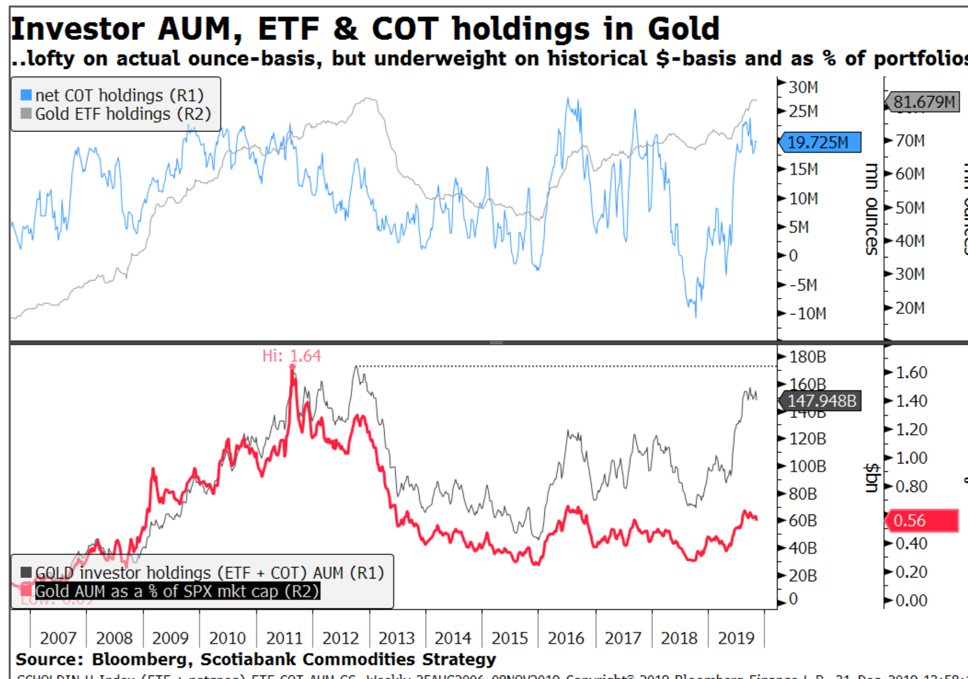




Investor interest: phenomenal signs of interest and inflows from the West

- Largely US & European investors turned net bullish in 2019 where sentiment improved from an underweight base after years of running net short positioning (COT). That was driven by the technical statement repricing in summer 2019 as the market scouted for havens to hedge out trade war, currency war, geopolitical and recession risks with global interest rates negative.
- Investors (net COT and global ETF holders) own a combined ~103m oz of Gold after accumulating ~27m oz in 2019, their 2nd largest year of Gold buying (after 2009s net purchase of 33m oz). That was driven by a combination of ETFs (+10.3m oz) and COT (17m oz). This peak length does provide some short-term downside risk for prices.
- However, without US equity market volatility and an unwind of the sustained bull run, the larger equity or generalist investor is still underweight Gold → Gold investor holdings represent only 0.6% of the market cap of SPX, vs a peak of >1.6% seen in 2011. That provides longer-term upside risk as Gold has shown to adapt to being both 1) a real asset hedge against equity inflation and 2) a safe haven / late-cycle hedge against the possibility of sustained equity volatility or weakness.

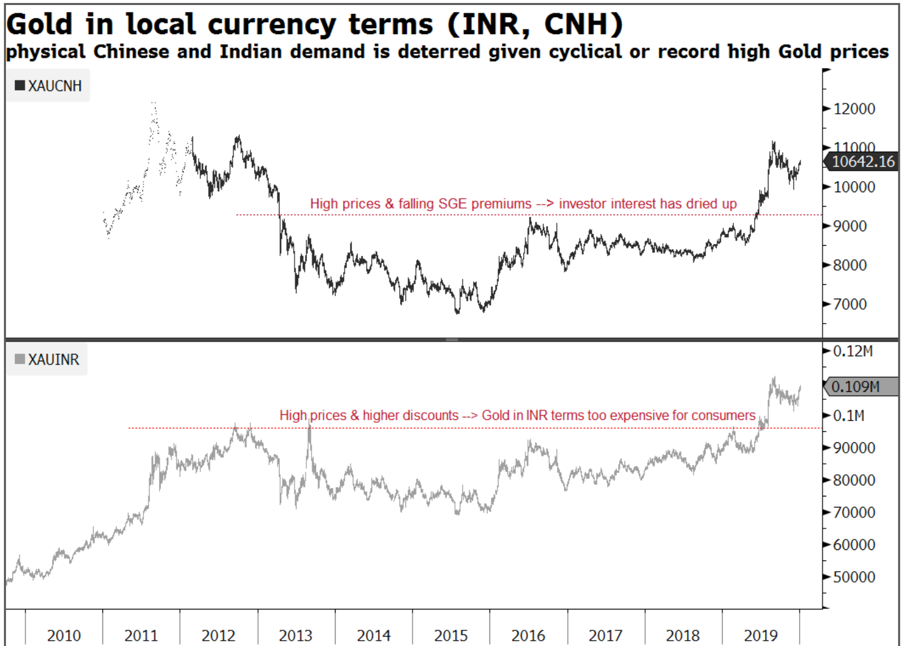




Physical demand: muted purchases with Asia dehoarding

- Physical demand in 2019 remained subdued with strong physical dishoarding also notable from Asian Gold hubs. Indian demand lost significant momentum in Q3, and while there was a revival in Q4 due to the traditional wedding and festival season, fears over a potential GST(Good & Services Tax) from 3% to 5%, together with higher prices in local currency terms dented demand; overall FY demand is expected to be at the lower end of 700-750 tonnes
- Chinese physical investor (gold bar sales) interest has also suffered large losses in 2H'2019 due to concerns over further yuan depreciation moderating given trade de-escalation and the phase one deal; theres also a preference to hoard cash or other alternative currencies instead, during the current trade and macroeconomic uncertainty.
- CB & Investors have bought a combined ~50m oz on an annualized basis in 2019; a simple regression model implies Gold should have gained 24% (vs ~18% in 2019), indicating that strong OTC physical dishoarding has managed to cap potential gains. Overall, Gold remains an investment story (driven by Western flows) not a commodity story (driven by Eastern flows); through a commodity lens, Gold is overvalued, a headwind for any potential gains in 2020.

Source: Scotiabank Commodities Strategy, Bloomberg, SGE



Source: Scotiabank Commodities Strategy, Bloomberg

XAUCNH Curncy (XAU-CNH Cross Rate) Gold CNH vs INR Daily 30SEP2009-02JAN2020 Copyright© 2020 Bloomberg Finance L.P. 02-Jan-2020 16:43:01

Summary: Current Bullish vs Bearish Drivers for Gold

Tailwinds	Neutral	Headwinds
Increasing frequency of **'macro wobbles'** and derisking episodes; extreme and fast shifts in risk sentiment (from recession fears to exuberance) indicative of **late business cycle**	**Fed** reluctantly cut rates and now pausing, downplaying QE-lite/expansion of BS. Some **global central bank** policies putting the onus on fiscal policy and highlighting monetary policy limits	**Positioning and sentiment:** fast money (COT + ETF & perhaps OTC) is well ITM, with positioning saturation leading to downsizing; however the generalist (FI, Equities) investor remains largely underweight
Underlying **growth** fears persists, especially the fragile recovery in global **manufacturing**	**Trade, Geopolitics**: de-escalation in the US/China trade with Phase 1 deal. Any formal comprehensive US/China trade deal or Phase 2 unlikely before US 2020 elections. However, increasing frequency of "off-calendar" geopolitical events/risks	Lack of ***sustained*** **macro fear/equity volatility** (VIX <20) given the inbred resilience of US equities to bounce. Super complacent risk regime into 2020
US election risk remains underpriced with little premium being priced on a progressive Democratic nominee	A stubbornly perky **US$.** Outlook on whether the $ extends into cyclical weakness is mixed, given its reserve currency status & historical resilience	**2020 reflation risk or fear** of sustained US data outperformance and / or trade deal promoting a more hawkish Fed into 2020
Fiat currencies politicized with markets in a **cold currency war**; growing risk of US currency intervention to weaken the $ and reduce the dollar dominance (and dependence on it) in financial system	Higher pace of **Central Bank** gold buying, diversifying against fiat/US$ and slower global growth in 2019; small risk of CB demand slowing in 2020 due to significantly higher prices and renewed trade optimism	**Muted physical support** from India & China as higher prices in local terms defer purchases; XAUINR near record highs & XAUCNH at 6 year highs deterring jewelry consumption
Growing talk around **alternative CB tools** more relevant as monetary policy reaches its limits	Gold Producer consolidation / M&A driving **"peak gold"** supply calls	Large **dishoarding** from traditional physical Gold countries given price surge
The **independence of CB**s increasingly under threat from populist governments; skepticism growing around power of CBs s to remove volatility & pump up asset prices amidst trade tensions	Pushback on negative yielding debt securities (peak level of $17tn likely in), but lower for longer **global bond yields** remain	Higher yielding Gold 'detractors' like **alternative currencies or assets** compete for similar flows, especially in EM markets where currencies are depreciating
Unsustainable US **debt/fiscal** path with swelling twin deficits. A structural theme, and one which has taken a backseat to trade/politics		
A pickup in **socialist** rhetoric and policies with social pendulum swinging left in US and abroad		

<----- LESS BULLISH -------> MORE BULLISH

<----- LESS BEARISH -------> MORE BEARISH

2020 Short-Term Outlook & factors required for upside/downside pricing

Base case: $1600/oz Average Price ***(50%)***
Gold range: $1500/oz (new cyclical floor) - $1700/oz (soft ceiling into U.S elections).

Despite a resiliently strong & compressed US$ in 2019, Gold made a statement breakout out of its 6-year bear trend in the summer, as it became sensitive to geopolitical & trade risk with a repricing that was (smartly) aligned with a shift in Fed policy. Technically it has entered a new bull market without the 'help' from potentially two other bullish drivers (*sustained* equity market volatility and systematic US$ weakness).

Gold remains an investment story (driven by Western investment flows of ~30m oz and Central Bank buying of 22m oz), and less so a commodity story (driven by Eastern physical flows); we don't see this participation mix and rate changing much in 2020 as Central Banks & Eurasia continue to "de-dollarize" into the current mature business cycle and increasingly more fraught geopolitical and trade regime.

Gold prices in 2020 will be driven by 1) the US election cycle (a highly tradeable theme especially after Super Tuesday), 2) trade & geopolitics (expect a series of 'mini-wins' and positive trade rhetoric within a broader framework of global protectionism, ultimately eroding the appeal of safehaven US$, less so Gold), and 3) the US$ and a Fed on a dovish hold (continuing to provide a liquidity backstop throughout 1H'2020).

Super bullish gold drivers (resilient repricing above $1600) could emerge from sustained macro fear/equity volatility and inflation risks. Overweight (BUT increasing) Gold investor positioning showcases that its earning some respect across broader markets given the rethink around negatively yielding debt which ultimately undermines their safe haven appeal; contrary to consensus, Gold positioning is underweight (on the basis of its share in equity portfolios). 2020 will be another defining year for Gold, as the increasing frequency of "off-calendar" geopolitical events, US politics and slower growth simply lifts the Gold floor.

- **Bullish case & upside risk (~$1800/oz):** dependent on 1) equity market volatility*, 2) inflation risks**, 3) the limited effectiveness of CBs to control global growth slowdown, new risks (trade) and equity market volatility, upping the appeal of real/hard assets as a source to either hedge share price inflation (on liquidity injections) or volatile paper assets ***(30%)***

- **Bearish case & downside risk (~$1400/oz):** emergence of sustained reflation risk – improved US data, rebound in global mfg PMIs, and comprehensive trade deal leading to the Fed hikes & thus large-scale positioning deleveraging in both Bonds and Gold ***(20%)***

Probability

*theres an inbred resilience for US equities to bounce, regardless of negative news cycle/developments

** due to the Fed seeking "sustained inflation", expansionary fiscal policies to appease large scale social unrest globally and the cost push from ESG, decarbonization policies & protectionist policies/tariffs

Outlook for Silver

Silver Outlook: Fundamentally oversupplied but attractive as a cheap high beta Gold proxy

- Silver remains very inexpensive vs Gold, despite putting in 15% gains in 2019 as geopolitical uncertainty, growth fears and a dovish Fed pause boosted the appeal of precious as an asset class. Silvers 2019 gains, despite weak fundamentals, confirms that it is still a precious metal, and can play a role as a currency hedge or quality asset, as well as provide relatively cheap optionality on further Gold upside

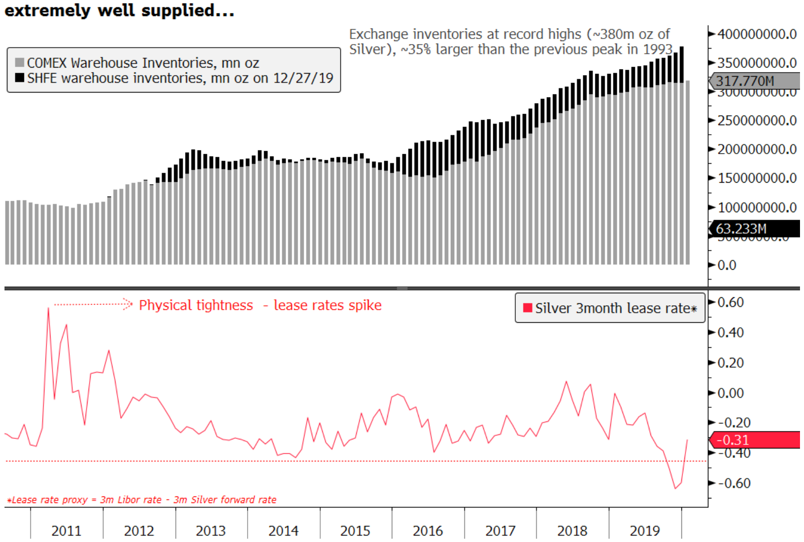
- Structurally, Silver remains oversupplied due both to a mix of primary & by-product production and a buildup of known (to record highs of 380m oz) and unknown inventories. Thus despite the recent shrinking in fundamental surpluses since 2014, this has not materially tightened the market (rather the contrary).

- After 4 years of consecutive production losses, supply will continue to fall in 2019 (declines in South America and Oceania were offset by European and North American production increases). But Silvers inherent by-product nature – the difficulty in timely self-regulating supply – is expected to play out and hamper any major price improvements in 2020. Primary production is expected to begin improving in 2020 from Australia, the US & Mexico, driven by an increase in *by-product* output from gold and zinc/lead operations; the higher Gold climbs, the more the Silver fundamental picture softens.

- Industrial demand should increase modestly aligned with the mini recovery expected in global growth, but this wont be sufficient to offset supply increases with another (fundamental) surplus expected in 2020.

Exchange Silver inventories & forward rates

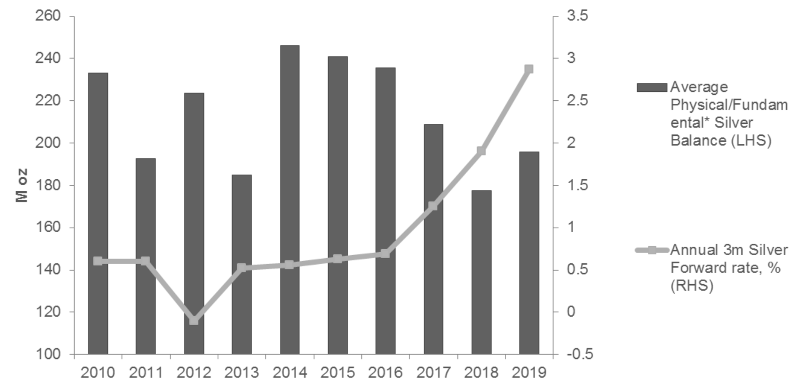
extremely well supplied...



Source: Scotiabank Commodities Strategy, Bloomberg

COMXSILV Index (Comex Silver Inventory Data) comex shfe silv stocks2 Monthly 05 Copyright© 2020 Bloomberg Finance L.P. 02-Jan-2020 17:04:08

Silvers fundamental balance* vs forward curve: Counterintuitively, recent shrinking surpluses have NOT tightened the market...



* The average published market deficit from GFMS & Metals Focus, adjusting for investment demand (i.e.: excluding physical coin/bar & ETF and COT flows

Source: Bloomberg, Scotiabank Commodities Strategy, Metals Focus, GFMS

Investor demand: strong inflows that can extend on EM outperformance

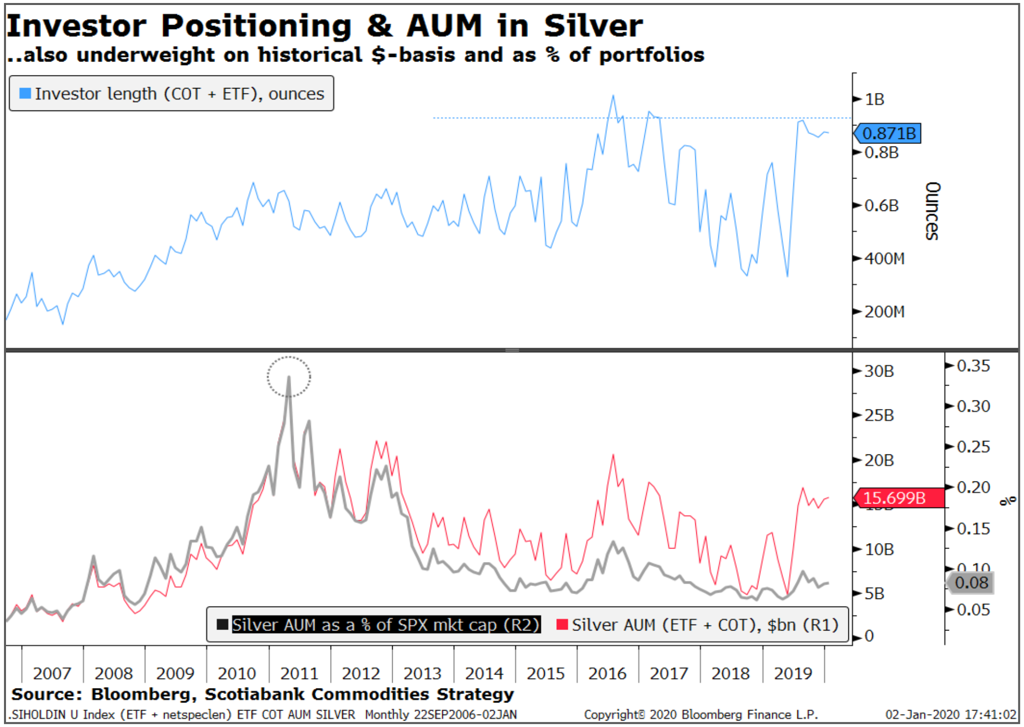
- Silver investors added a chunky 543m oz of silver to either ETFs or COT since the US/China trade deal collapsed in the early summer, bringing total investor holdings to ~870m oz, near historical highs. The total accumulation of Silver in FY 2019 (200m oz) matched record inflows seen in 2016, a year in which performances were similar.

- This peak length does provide short-term downside risk for prices, especially on muted Silver rallies. But similar to the thinking in Gold, Silver investor holdings represent only <0.1% of the SPX market cap, vs peak of >0.34% seen in 2011. That argues for some upside risk in Silver if theres continued cyclical repricing in risk assets and/or EM outperformance where investors scout for cheap and underperforming precious exposure/Gold proxies.

- Retail interest (coin sales) in the US remain muted, and unless December posts strong gains of over 20%, 2019 will be the 4th consecutive year of declining demand. However, this trend could reverse into election year; historically, retail/coin demand for Silver (especially) over Gold is given a boost in the election cycle.

HEAT MAP: Net investor monthly flows (net Global ETFs + net COT length), mn oz					
	2019	2018	2017	2016	2015
December	18	141	-253	-16	2
November	-8	-5	4	-3	-206
October	-10	70	-9	-136	193
September	-46	-14	22	32	23
August	6	-129	167	-46	57
July	262	-117	-93	70	-45
June	322	63	-107	101	-195
May	-113	19	-162	-70	127
April	-127	123	33	118	-74
March	-157	-30	-34	4	32
February	31	-159	94	146	-92
January	155	125	71	69	115

Source: Scotiabank Commodities Strategy, CFTC



2020 Short-Term Outlook & factors required for upside/downside pricing

Availability risk: low   Price risk: high (contingent on Gold)

Base case: Average price: $19 ***(50%)***

Silver range: $17.50 - $21 /oz is the new fair & more "aligned" range (vs Gold above $1500/oz).

Silver remains very inexpensive vs Gold, despite 15% gains in 2019 as geopolitical uncertainty, growth fears and a dovish Fed pause boosted the appeal of ALL precious metals. The structurally large physical overhang, and a mini- manufacturing-recession ensured any Silver outperformance (vs Gold) remained short-lived; that performance trend should continue into 2020 with another fundamental surplus expected.

While the bottoming out in manufacturing PMIs should provide tailwinds to industrial demand in 2020, multiple years of sustained fundamental deficits are required for record known inventories (~380m oz) to be drawn down and prices to outperform. Its inherent by-product nature (the difficulty in self-regulating supply) complicates that since the higher Gold climbs, the more the Silver fundamental picture softens.

Silvers attraction is, however, through a tactical lens – it's a cheap high beta Gold proxy for investors in the short-term, its still partly a precious metal that has proven itself as a currency, interest rate or equity inflation hedge. Its best friend is gold strength not fundamentals.

- **Bullish case & upside risk (~$23/oz)** dependent on 1) Gold outperformance, 2) inflation and reflation risks, 3) fresh real demand drivers in medium term* ***(30%)***

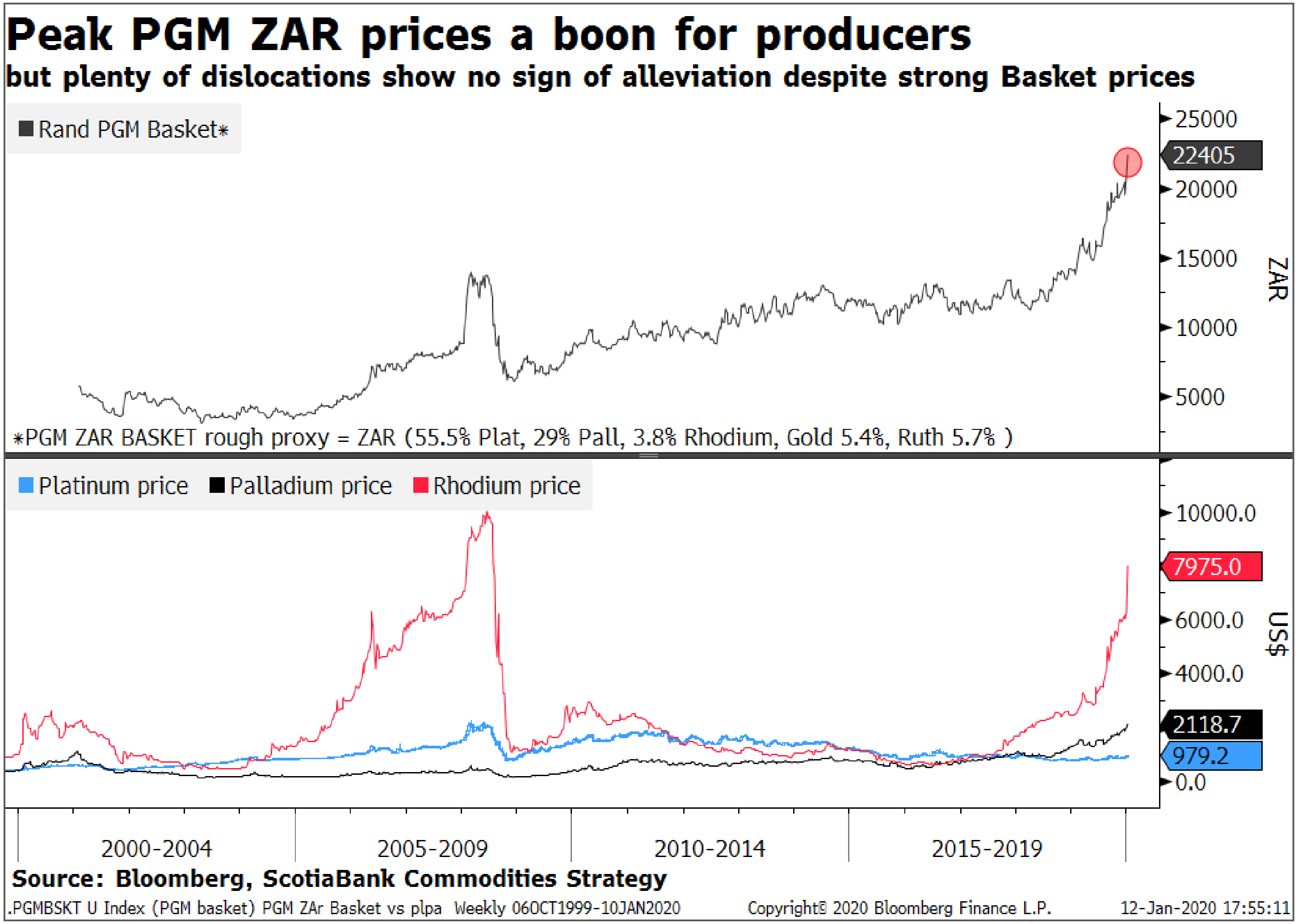
- **Bearish case & downside risk (~$15/oz):** The steady emergence of supply (due to higher gold prices), opportunistic hedging and growing fundamental surpluses in the face of weakening global demand ***(20%)***

Probability

*Potential demand drivers from known (PVs) and nascent (auto) industries: thrifting in the PV sector is slowing (more projects/capacity expansion driving increased silver consumption) and higher silver loadings in auto sector as vehicles become more sophisticated

Outlook for PGMs

PGM Outlook: Sister metals but not fundamentally similar

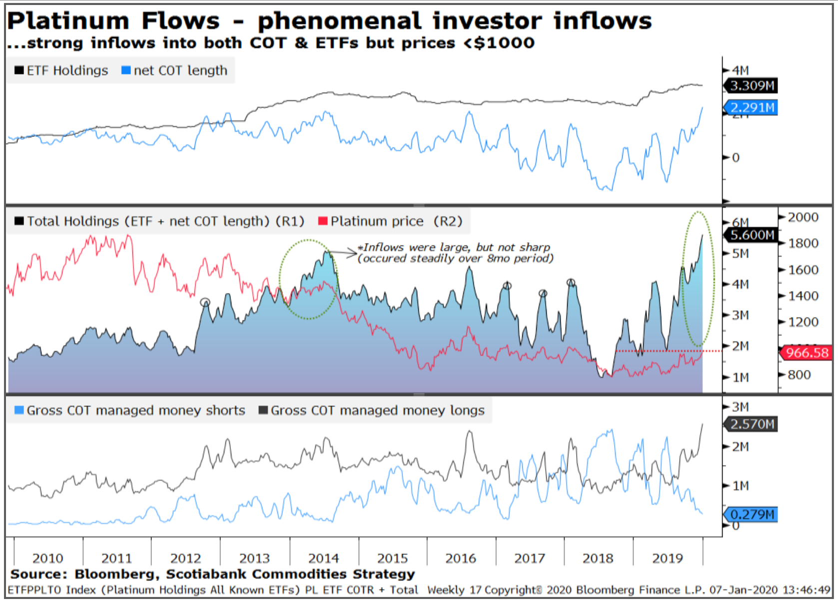


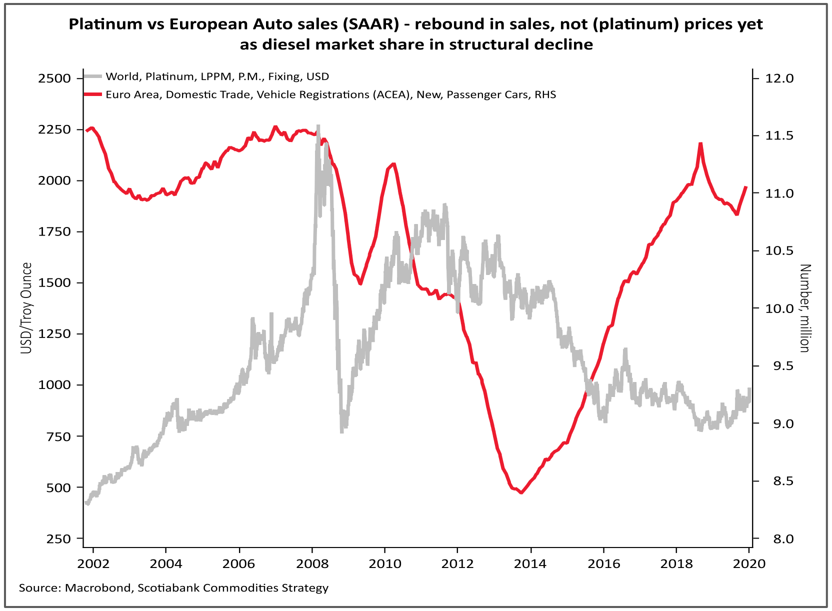
Platinum Outlook: fundamentally neutral but floors are in

- Platinum prices rose 21% in 2019 and performance slightly outpaced Gold for the first time since 2013, while continuing to underperform Palladium most notably through the widening of the Platinum-Palladium spread to -$1050 in 2019.

- Without the stellar investor inflows in 2019, which were contingent on the convincing Gold repricing (i.e..: a macro story not a platinum specific fundamental or demand growth one), Platinum prices would've underperformed even more so versus its sisters.

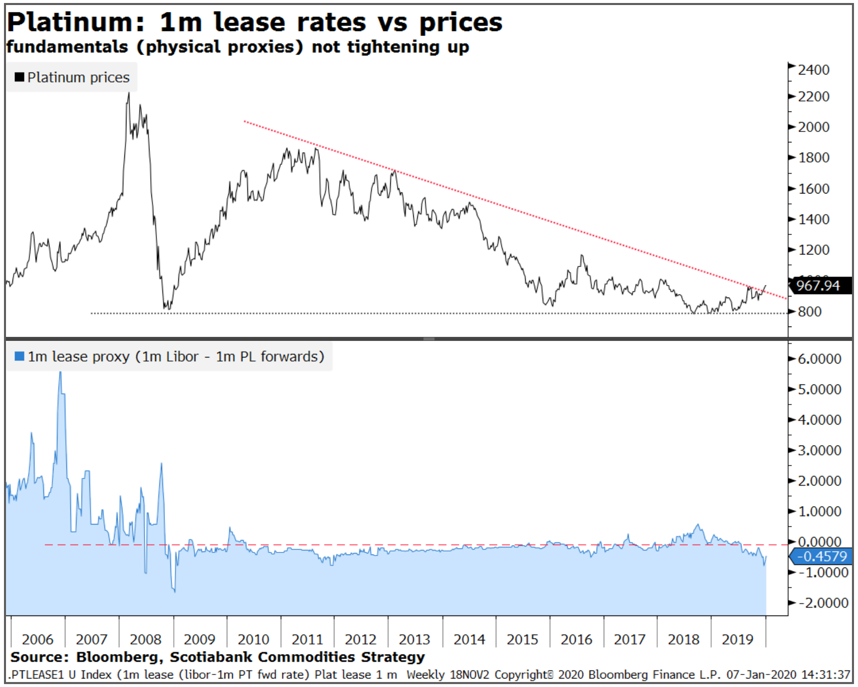
- Platinum's 2019 revival was due to Golds statement repricing on the escalating trade dispute and Fed entering a cycle of rate cuts. The combined 3.4m oz accumulated by investors (+2.5m oz of COT & +935K oz of ETFs), is its strongest year of inflows on record and should have been worth a larger price reaction. That clearly indicates a structurally oversupplied fundamental profile





Platinum Outlook: fundamentally neutral but floors are in

- Prices have remained historically low and dormant for 6 years and counting, as a number of factors drove relative weakness (vs other PGMs) in 2019 such as:
  - Falling-to-flat diesel market share in Europe (share has fallen to ~30% in 2019 from 45% in 2017) especially in LDD
  - Subdued Chinese jewelry demand falling for 5 consecutive years due to weakened consumer sentiment and trade war, with no bottom convincingly predicted
  - Some mild ZAR depreciation but more so stellar byproduct (Palladium & Rhodium) outperformance, which has bolstered S.A producer margins and delayed expected and warranted (Platinum) production cuts
  - S.A platinum exports surged in 2019, while a pay-deal between SA producers and AMCu (after 4 months of negotiations) was uncharacteristically stable and professional, lowering any future supply-side risk and premium from markets
  - The retreat in substitution talk in 2H'2019 (with markets demanding a some firm/official confirmation from an OEM) in lieu of auto rhetoric shifting to EV plans, potential auto tariffs and navigating a Chinese sales slowdown
  - The discredit caused by the lack of *sustained* price reaction (prices capped at $1000 throughout 2019) in light of exceptional investor inflows of +3.4m oz. As an example: In 2013-14, 2.4m oz was accumulated over a longer period which resulted in Platinum shifting from a $40 discount to Gold, to a $220 premium.



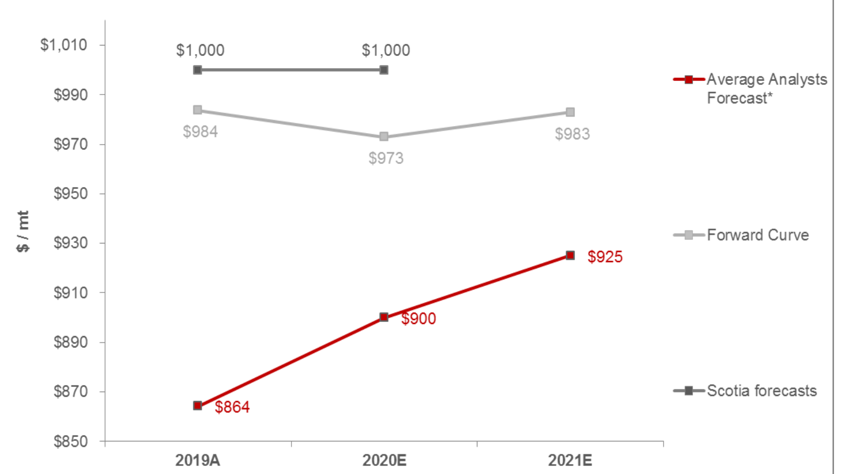
Platinum Outlook: fundamentally neutral but floors are in

- Platinum fundamental surplus (excluding investment demand!) likely peaked in 2019, with SA supply declines and rebound in auto demand likely in the next 2 years. SA supply is expected to decline due to a worsening Eskom crisis (with frequent loadshedding/outages) and the closures of loss-making shafts (as unit costs increase on power cuts and labor); a rebound in auto demand should be driven by LDD in China, developing nations & North America (barring a 'carmageddon' similar to the one witnessed in China), some 'substitution' in Europe and HDD demand globally.
- Tactical rallies — which are increasingly outsized given the disconnect between strong investor inflows versus market size, in large part due to continued availability of liquidity and lower rates— will continue to exist in 2020, especially on (expected) Gold rallies.
- However, above ground stocks, weak jewelry demand and producer-related flows (due to buoyant Rand PGM Basket prices) ensure these rallies remain structurally capped.
- Seasonal Q1 strength is an up-coming upside price risk, but the next bull run in the medium term is unlikely unless clues in physical indicators emerge and/or theres a demand-side catalyst (outside of being a cheap proxy for gold/precious exposure) from an OEM on substitution. Supply side risk (Eskom) will continue to have a relatively limited impact on Platinum unless physical indicators tighten.
- European diesel market share continued declines in in 2019, but in the leading & larger German market, the share has recently increased as manufacturers prepare for CO2 limits from 2021; that is a first early sign of demand emerging and is expected to provide critical support and tailwinds into 2021.
- Platinum is simply 'high-beta gold' with an opportunistic risk-reward profile on any upside European data & growth surprises; it should reset higher above $1000 somewhat reflective of parabolic rises in its peers prices

Availability risk: low
Price risk: medium (contingent on Gold)

2020 average price forecast: $1000/oz
High: $1120/oz
Low: $850/oz

Platinum: the streets forecast, the forward curve vs Scotia



* Average forecasts of all analysts contributing to Bloomberg Commodity price forecast
** Forward curve prices as of January 2020

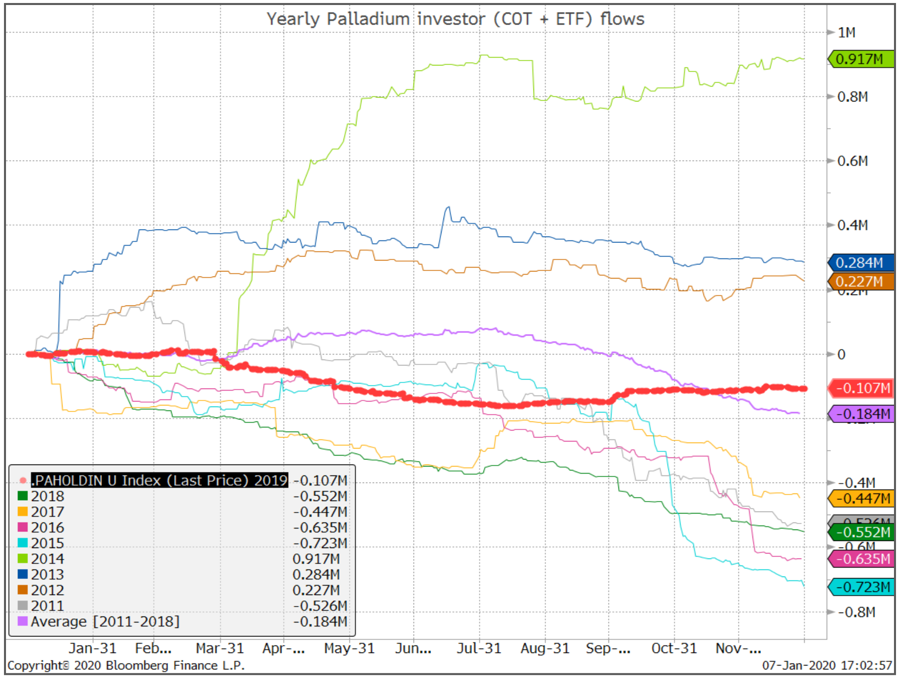
Source: Scotiabank Commodities Strategy, Bloomberg, Scotia Strategy estimates

Palladium Outlook: fundamentally bullish but less so vs 2019

- Palladium put in solid gains of 54% in 2019, matching its strong performance in 2017 (but still less than the >100% gains seen in 2010). This sustained strength in 2019, unquestionably the best performing (listed) metal since 2010, clearly highlights structural deficits and under hedged market participants, due to the complexity of catalyst technologies and emission regulations.

- The rise in auto loadings in 2019 due to stricter emission regulations (led by China 6 emissions standards driving an expected ~30% rise in metal loadings) has overwhelmed supply. Chinas “car crash” in 2019, while prices remained in tireless price uptrends, proved that the complexity of catalyst technologies and emission regulations is real, where changes are occurring faster than supply responses.

- Investor flows were ‘kind’ in 2019, by essentially delivering metal back to market, to supply the structural shortages; they sold a total of 110k oz, all driven by ETFs (whereas COT flows have remained rather range bound at 1.2m oz, ~50% of peak holdings seen in 2017/18). Speculators are not the main culprit driving upside price action where exchange limits and lack of liquidity are also a deterrent.



Palladium Outlook: fundamentally bullish but less so vs 2019

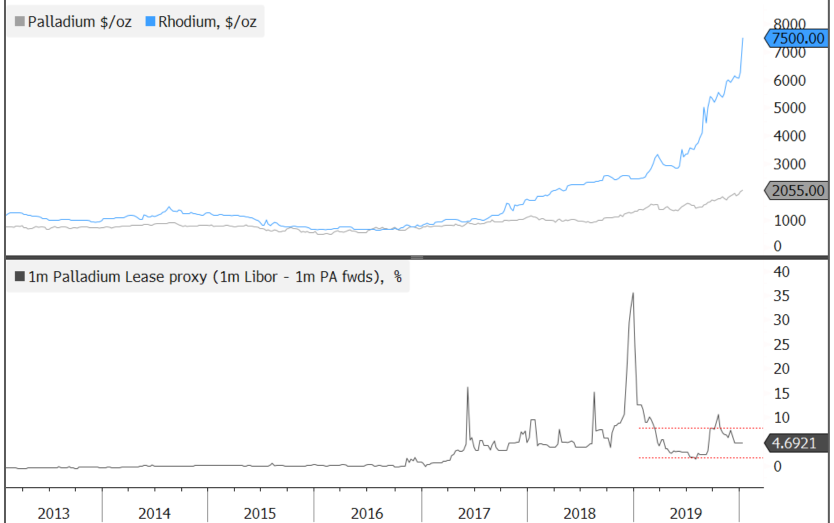
- These investor outflows, unlike instances across other precious metals, injected price rises, reaffirming beliefs that (unknown) above ground stocks are out (at least at current prices). Overall, despite the recent ETF accumulation of ~54K oz in 2H'19, known visible stocks (Comex + ETF holdings) of 664K oz could run out in ~88 days given the unwind rate the past 3years.

- The relatively fundamentally tighter PGMS – Rhodium and Palladium – showed that they were unusually more sensitive to any supply-side risk stemming from either wage negotiations (2H'19) or the ongoing power crisis (Eskom loadshedding Q4'19).

- While S.A labor risk is somewhat reduced in 2020 (given the 3 year pay deal struck between Amcu and producers in 2019), the unexpected, frequent and rather stringent (stage 6) power cuts in December –Jan 2019, is a clear and growing risk for 2020. The system continues to be vulnerable, where loadshedding could be implemented at short notice, which will upend consumer buying trends, impact production and thus prices.

Rhodium vs Palladium

1month lease rates have stabilized, but Rhodium & Palladium outright prices have not

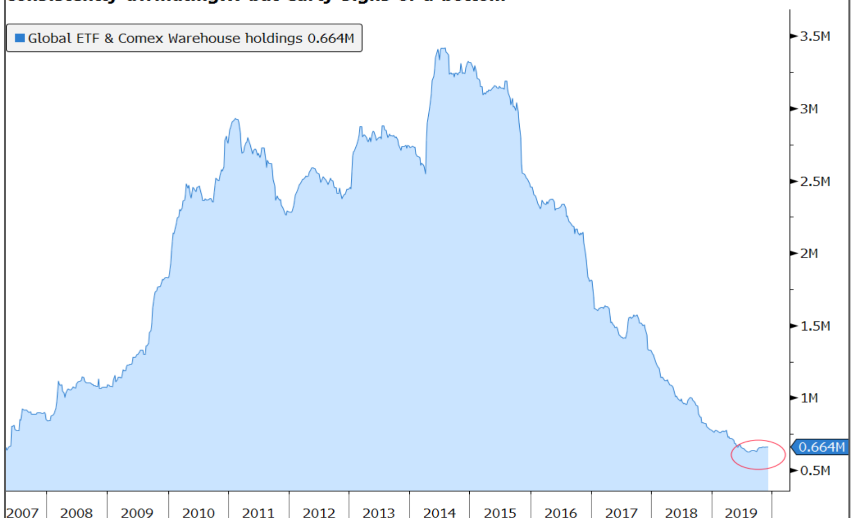


Source: Bloomberg, Scotiabank Commodities Strategy

PALL Comdty (PALLADIUM SPOT $/OZ) PGM lease vs Px 3 Weekly 05DEC2002-07JAN2020 Copyright© 2020 Bloomberg Finance L.P. 07-Jan-2020 17:24:05

Visible Palladium above ground stocks (COMEX + ETFs)

consistently dwindling... but early signs of a bottom



Source: Scotia Commodities Strategy, Bloomberg

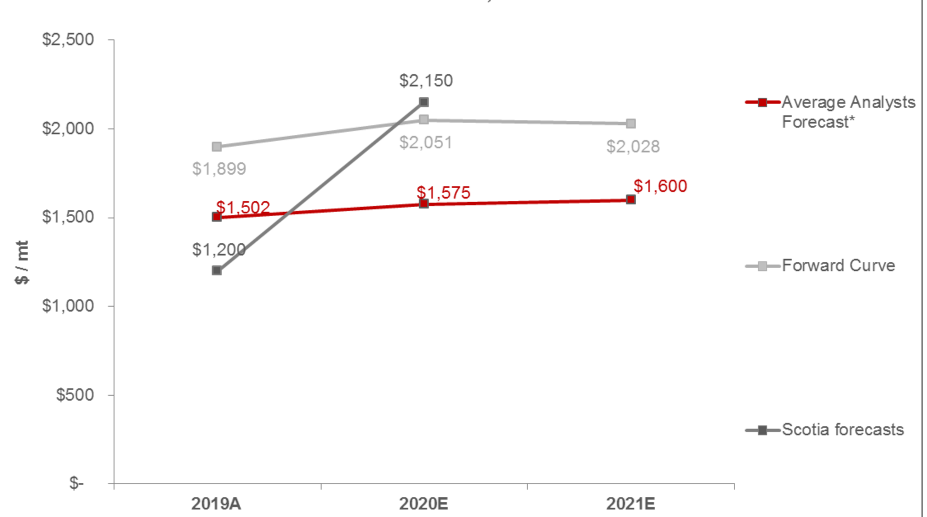
ETFPPDTO Index (Palladium Holdings All Known ETFs) pall etf + comex stocks Week Copyright© 2020 Bloomberg Finance L.P. 07-Jan-2020 17:14:43

Palladium Outlook: bullish but less so vs 2019

- The market balance is due to marginally shrink in 2020 but remains in a structural deficit for the foreseeable medium term at a time when above ground stocks are minimal.
- Supply-side adjustments (increases in primary supply and/or of scrap) is currently not occurring fast enough to offset the increase in auto demand, due to the rise in loadings. S.A supply *should* mildly contract over the next few years, while Russian production (due to new projects, improvements in efficiencies) only has a material impact in 2021; NA growth is strong but insufficient at current consumption rate. The risk for a larger response in scrap continues to grow given surging prices.
- Rhodium has broken up and out serving as a bullish reminder and could drive potential substitution (of 5-6x palladium for 1 part rhodium) in gasoline vehicles. There'll thus be a continued affinity for prices to bust into a new higher ranges, but major and painful intermittent price flush outs and unusually volatile forward rates still remain a key feature for 2020.
- Palladiums largest downside risk stems from the macroeconomic backdrop – the later the business cycle extends, the larger the subsequent risk to US auto sales (arguably the dominating tipping point for pricing). Palladium prices are very susceptible to risk asset trends and deficits simply can't persist in an (auto) recession across both major markets (the US and China).

Availability risk: high
Price risk: high

2020 average price forecast: $2150/oz
High: $2300/oz
Low: $1800/oz



* Average forecasts of all analysts contributing to Bloomberg Commodity price forecast
** Forward curve prices as of January 2020

Source: Scotiabank Commodities Strategy, Bloomberg, Scotia Strategy estimates

Legal Notices

Commodities Strategists are not research analysts, and this report was not reviewed by the Research Departments of Scotiabank, nor prepared in accordance with legal requirements designed to promote the independence of investment research. Commodities Strategist publications are not research reports and should be considered for regulatory purposes as marketing communications. The views expressed by Commodities Strategists in this and other reports may differ from the views expressed by other departments, including the Research Department, of Scotiabank.