



MKS PAMP
GROUP

Outlook for Precious Metals

Macro outlook and precious metals forecasts for 2021-2022

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New York, September 2021

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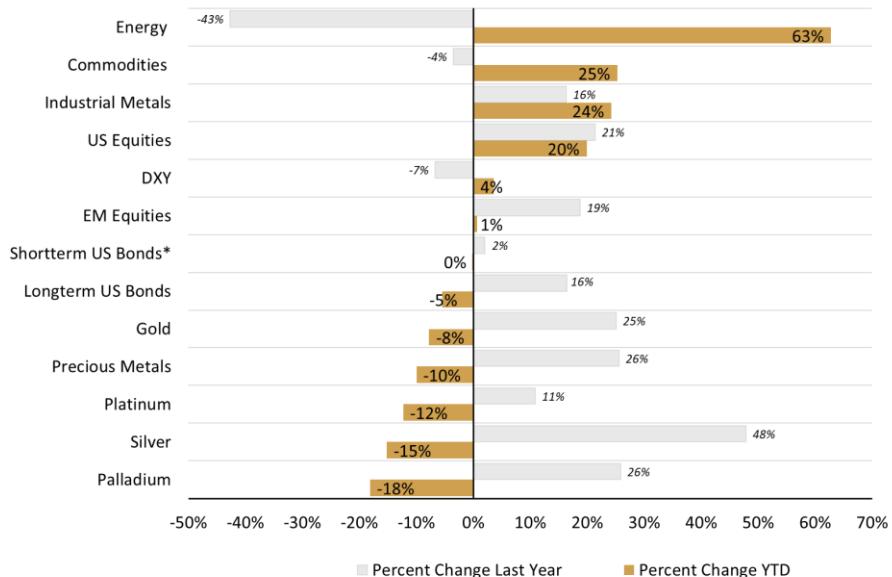
1. MACRO BACKDROP, KEY ASSUMPTIONS & 2021-22 THEMES
2. COMMODITIES REVIEW
3. GOLD UPDATE & OUTLOOK
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The macro backdrop & expectations for 2021/22

Macro trends then, now and looking ahead

- **2020 – Fear hedges**
 - High volatility, uncertain regime
 - Precious & safehavens outperforms
 - Reflation trade takes hold 2H '2020
- **2021 – Reflation-on**
 - Outsized repricing in equities
 - Inflation surges to decades+ high
 - Growth-sensitive commodities put in bull mkt returns
- **2022 – Struggle between reflation & stagflation**
 - Shift away from peak growth; persistent Delta risks
 - Peak stimulus behind us with CB collectively (attempting) to taper
 - Reflation trades under question if inflation isn't transitory, growth rolls over
 - Supply chain risks persist (decarbonization & deglobalization)

Macro Asset Performances 2020 vs 2021



*Prices as of September 15 2021

MKS PAMP Group, Bloomberg

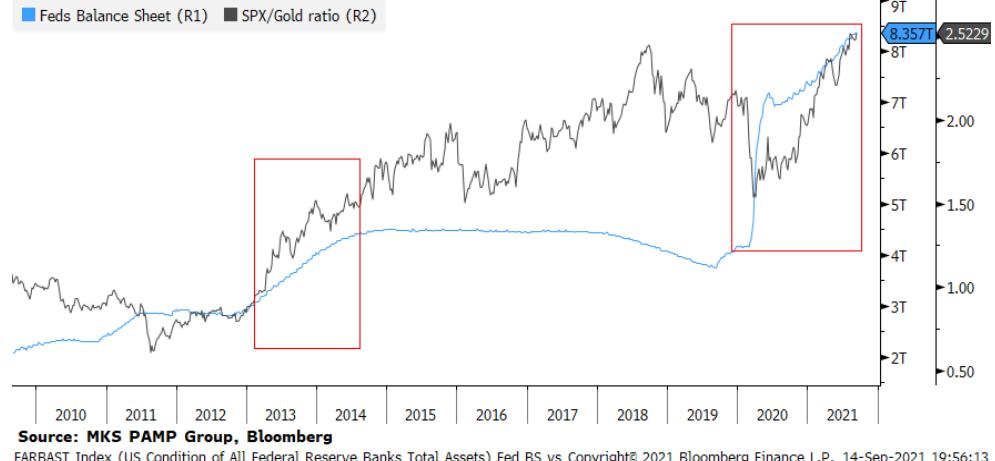
Summary of 10 macroeconomic expectations & assumptions for 2021/22

Cycling through reflation (liquidity-on + growth) and stagflation (liquidity-off + peak growth)

1. COVID & Policies – a stagflationary force
2. Growth & recession risk: Slowing of global GDP from 2021 peaks, led by the US, to more sustainable levels.
3. The Fed & global CBs – diverging strategies between DM & EM CBs given different vaccination rates
4. Inflation: elevated with risks higher
5. Risk Sentiment: enormous amounts of sidelined liquidity, risk for a melt-up in equities
6. Geopolitics: messy - the frequency of “off-calendar” geopolitical events/risks rising
7. US politics: more polarized but a bigger Gov
8. FX trends: mixed US\$ outlook
9. Supply-chain risks: higher until there's global herd immunity
10. Climate: large “transition risks” as capital reallocated

The Feds Balance Sheet vs SPX/Gold Ratio

risk/reflation assets outperform havens following known liquidity injections



Full description of macroeconomic expectations/assumptions for 2021/22

Cycling through reflation (liquidity-on + growth) and stagflation (liquidity-off + peak growth)

1. **COVID & Policies – a stagflationary force:** Delta (and other variants) expected to sap growth less drastically than in 2020, but simultaneously is an inflationary force due to its interference with supply/flow of goods. 1) Persistently high delta cases globally & slower rollout of vaccines, 2) the rollback of RTO (Return To Office & School) & targeted policy restrictions in the US, 3) "Zero-COVID" policies in APAC region and 4) larger lockdowns in emerging / unvaccinated countries, all inject consumer anxiety, reduces mobility and are a threat to global growth & sustained US momentum. Focus should be on hospitalizations/deaths and not cases, but the latter is still driving policy and consumer decisions globally. World economy is to live with an endemic virus for foreseeable future
2. **Growth & recession risk: Slowing of global GDP from 2021 peaks, led by the US, to more sustainable levels.** That's despite persistent Delta risks & COVID policies/restrictions as it hinges on 1) extraordinary accommodation / a dovish Fed *when need be*, 2) higher global vaccination rates with room for further reopening, 3) COVID fatigue and 4) ongoing (but slower) fiscal support. Markets should be careful to make the distinction that slower US growth is not weak growth, which is driven by headwinds of a slower service- sector recovery and fading fiscal stimulus. In contrast, less advanced-world countries with lower vaccination rates are contending with manufacturing and tourism slowdowns while China will deal with headwinds from recent delta restrictions and the effect of ongoing regulatory tightening.
3. **The Fed & global CBs – diverging strategies between DM & EM CBs given different vaccination rates, despite similar (rising) inflation trends:** The "transitory" inflation view will be tested by advanced economies Central Banks especially as the Fed provided a hawkish greenlight at the June FOMC to begin tapering bond purchases this year (some G-10 CBs have begun to taper); that's likely to start at the November FOMC. The market is not as fearful as it was in 2013 and a repeat of largescale taper tantrum is still very unlikely. A Fed taper has been delinked from a hiking cycle, but rate sensitive markets are impacted by Fed rhetoric in the short-term, with the Fed split on a 2022 rate hike. Overall, the Fed will likely keep rates (the terminal rate -- the end-point of the rate hike cycle) historically implying lower real & nominal rates for longer. The largest risk is that US yields rise drastically (i.e.: gradual than all at once in response to inflation). Some EM CBs have already begun to hike, with China monetary policy remaining prudent.
4. **Inflation: elevated with risks higher:** Inflation risks are rising (although it won't be linear) and underappreciated given the Feds stance stubbornly hinging on it being "transitory". The markets have inflation because the Fed targeted (thus actually wanted) inflation and has 'targeted' inflation for over a decade. Real rates have aggressively shifted more negative providing a cornerstone foundation for precious metals exposure. The Fed will more likely than not wrongfoot the exit ('policy mistake') and will need to do a lot more than taper at yearend given 4x CPI prints of > 5%. Wage growth & persistent labor shortages, bottlenecks that aren't alleviating, commodity/raw material inflation with businesses passing on costs, expansionary global fiscal policies, potential social unrest, unsustainable US debt/fiscal path with swelling twin deficits, cost push from ESG, continued protectionist trade policies, rising transportation costs & increasing supply-chain risk all indicate structural & stickier inflation. There's a growing risk that markets shift more quickly from financial/equity inflation into real asset inflation as a hedge.

Full description of macroeconomic expectations/assumptions for 2021/22

Cycling through reflation (liquidity-on + growth) and stagflation (liquidity-off + peak growth)

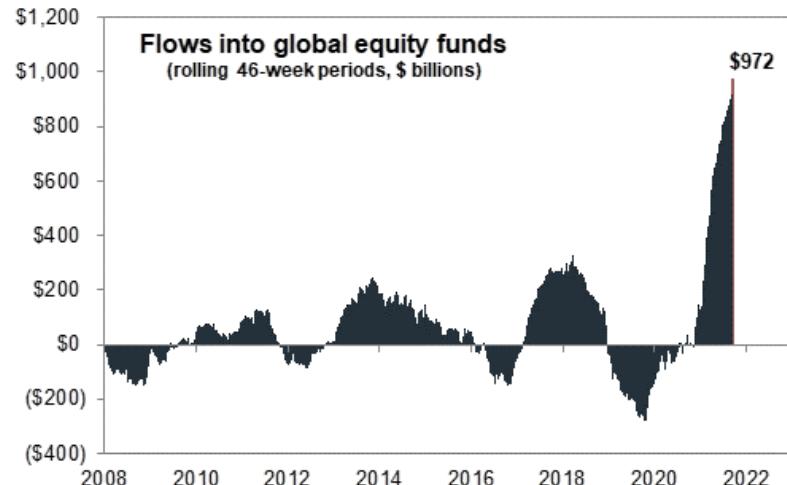
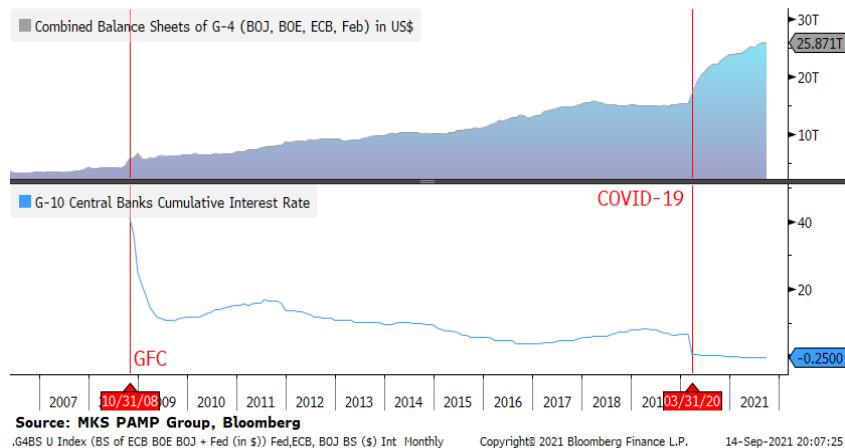
5. **Risk Sentiment: enormous amounts of sidelined liquidity, risk is a melt-up in equities:** Continue to expect volatile shifts in macro sentiment into the advertised Fed taper/transition period, but there are limited catalysts to expect that “this time is different” (i.e.: equity dips will not be bought as has been the play over the past 10+ years). Risk sentiment will be driven by COVID, key economic data (labor & inflation metrics) and Fed speak but also exacerbated by the extraordinary amount of systematic liquidity which will continue to create large divergences between sentiment/beliefs (positioning) and reality (data).
6. **Geopolitics – messy:** the frequency of “off-calendar” geopolitical events/risks (Iran/Middle East/North Korea) is rising after a chaotic Afghanistan withdrawal causing US humiliation; US counted on to NOT intervene in potential future geopolitical skirmishes (Russia / Ukraine, China / Taiwan, etc.), driving the need for more tactical tailrisk hedging. The threat of social unrest / protests is also on the rise (Thailand, Brazil, S.A, France have already seen protests) especially in Middle Income countries given vaccination disparities and a mishandling of COVID crises/waves.
7. **US politics – more polarized but a bigger Gov:** the current fading fiscal stimulus (emergency UE stimulus checks/benefits) is offset by proposed large \$3.5tn budget plan (including \$500bn for infrastructure) cementing Bidens economic agenda. But it comes with controversial tax reform in order to fund the chunky bill, and the current elevated levels of US debt will swell even further if the Biden admin fails to secure funding through contentious tax increases. Structural themes like unsustainable fiscal paths, another debt ceiling cliff (October), swelling twin deficits, tax reform, has taken a backseat to the Feds recent actions. US midterm election risk a tradeable theme in 2022 keeping election sensitive assets / macro vol bid.
8. **FX trends - mixed US\$ outlook:** whether it continues into structural weakness (debt/fiscal path, questions over US hegemony) or whether there's another leg up (on taper program), is uncertain. Given its reserve currency status & historical resilience into typical 'macro uncertainties' (the Feds transition period is expected to ramp up volatility), its still cheap. Technically it remains very contained and is somewhat fairly priced vs interest rate differentials.
9. **Supply-chain risks – higher until theres global herd immunity:** completely dependent on pervasive COVID/virus. Transportation & supply chains were deigned for predictable demand, as globalization dominated the past 20+ years, but that is no longer the case given 1) government policies and outbreaks in low vaccination regions / manufacturing hubs causing bottlenecks & supply disruptions, 2) unsynchronized and shorter COVID cycles (not business cycles) with unpredictable – stop/start - demand trends, 3) relentless V-shaped US demand for goods.
10. **Climate: large “transition risks”** associated with decarbonizing the world as exposed vs unexposed assets become repriced over decades. These arise if governments pursue tougher climate policies forcing the economy to restructure and for capital to move (potentially carelessly) away from ‘dirty’ towards ‘cleaner’ sectors. But it – the commitment to ESG, energy transition etc – is an overall cost push and underpins structural higher inflation.

Global Central Banks & the Fed: liquidity in various forms

- Strong & synchronized lowering of rates and ramping up of Balance Sheets
- The “Big 4” (Fed, BOJ, ECB + BOE) have ~\$26tn in assets on their Balance Sheet, 4x the post GFC peak
- Recent inflows into Global Equity funds (since vaccine) is ~\$970bn, more the previous 25yrs (COMBINED!)
- Top 25 PE firms sitting on ~\$510bn of uninvested cash

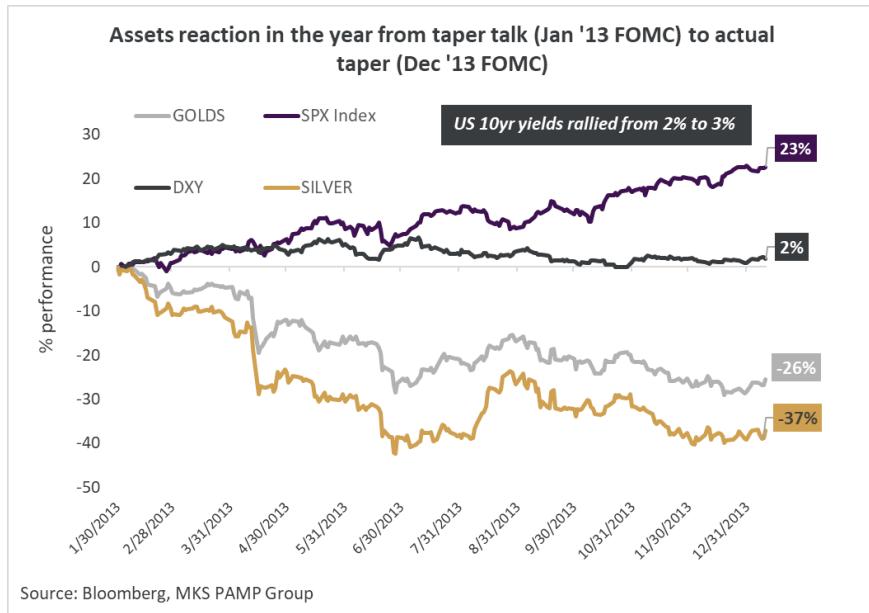
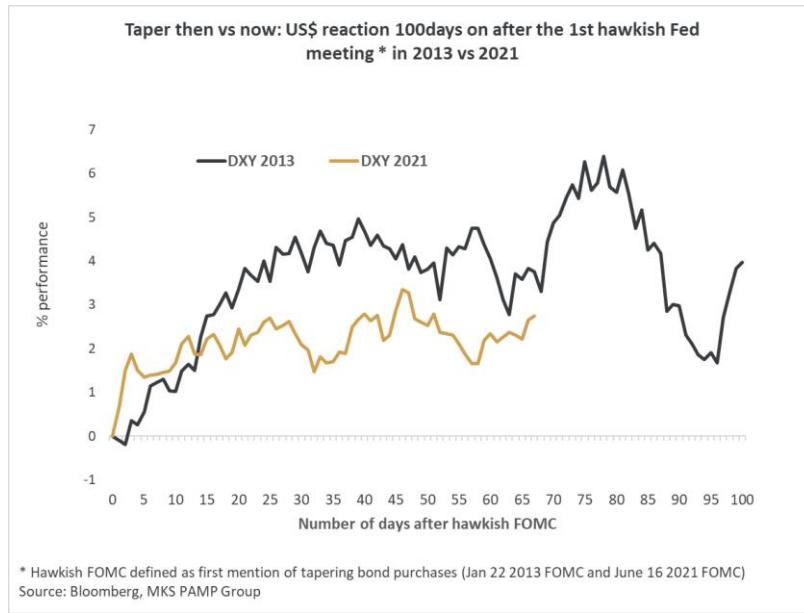
Central Banks' Balance Sheets

dovish interest rate policies AND combined assets remain lofty (in \$terms)



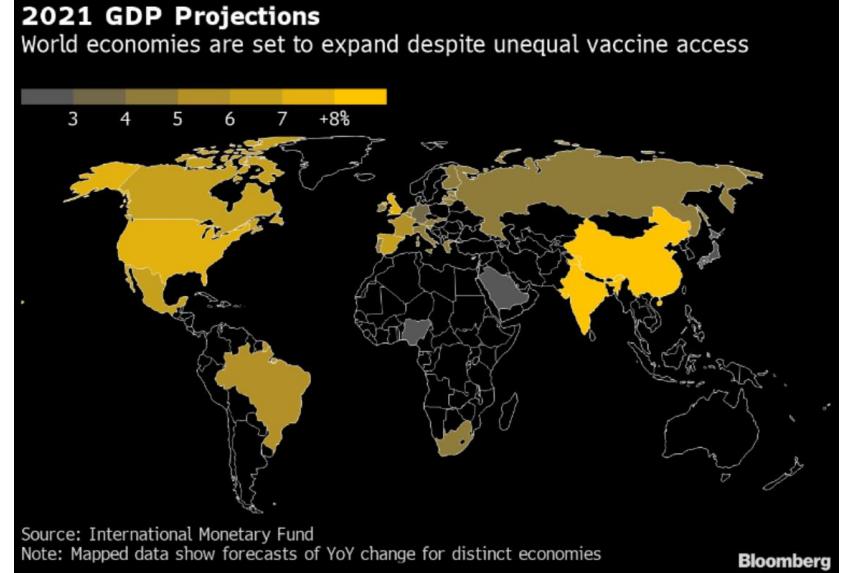
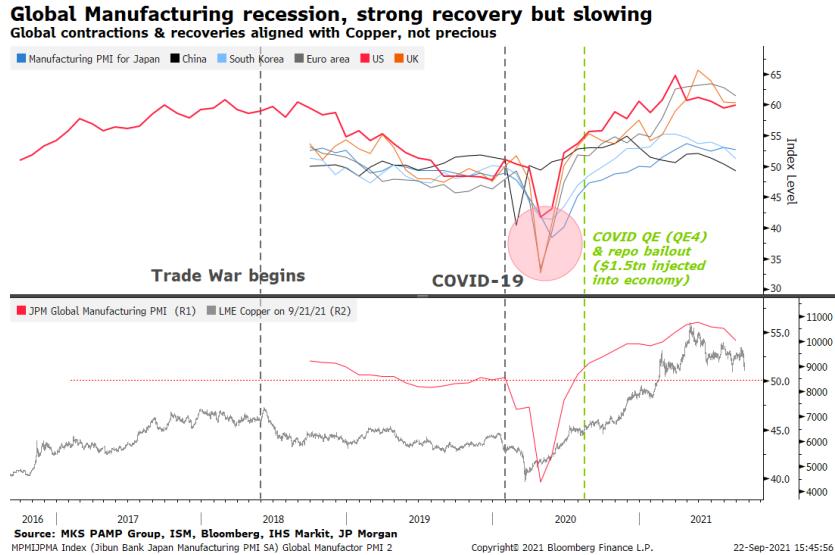
A Fed taper: what happened during the past taper

- Precious metals were large underperformers falling into a bear market
- Risk assets – SPX – outperformed strongly, while the US\$ strengthened somewhat



Post-COVID recovery running out of steam; slowER not slow global growth

- For 2022, the IMF sees global growth of 4.9% YoY (revised up from 4.4%), vs 6% in 2021 and -3.2% (2020)
- GDP growth estimates for 2022: US 4.9%, Europe 4.3%, UK 4.8%, China 5.7%
- Global recovery gap will widen on unequal vaccine access, with more upside growth in economies with significant/continued room for reopening.
- Growth to slow in 2022 (vs 2021) due to diminishing tailwinds from reopening efforts and fiscal stimulus

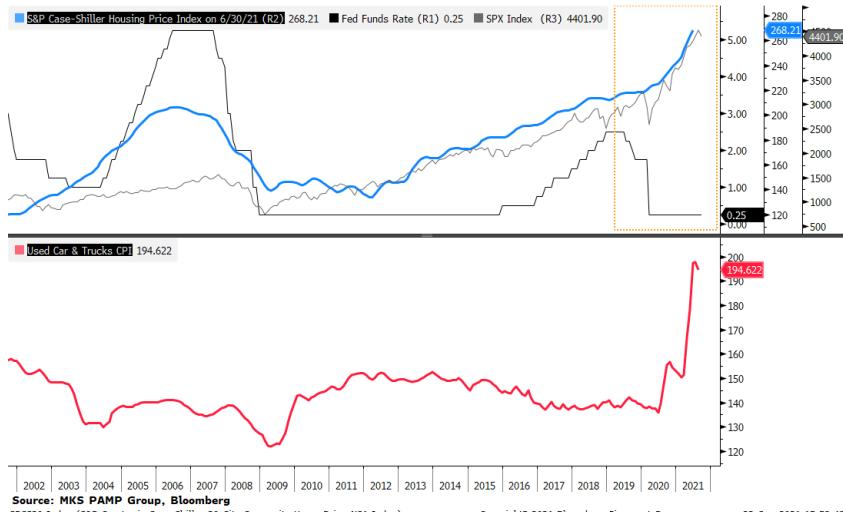


Higher, not lower inflation floors due to...

- Supply bottlenecks (contingent on global herd immunity or faster adaption), commodity/raw material inflation with businesses passing on costs
- Wage growth & persistent labor shortages
- Expansionary / extraordinary policy accommodation
- Cost push from ESG/energy transition, continued protectionist trade policies, & rising transportation costs

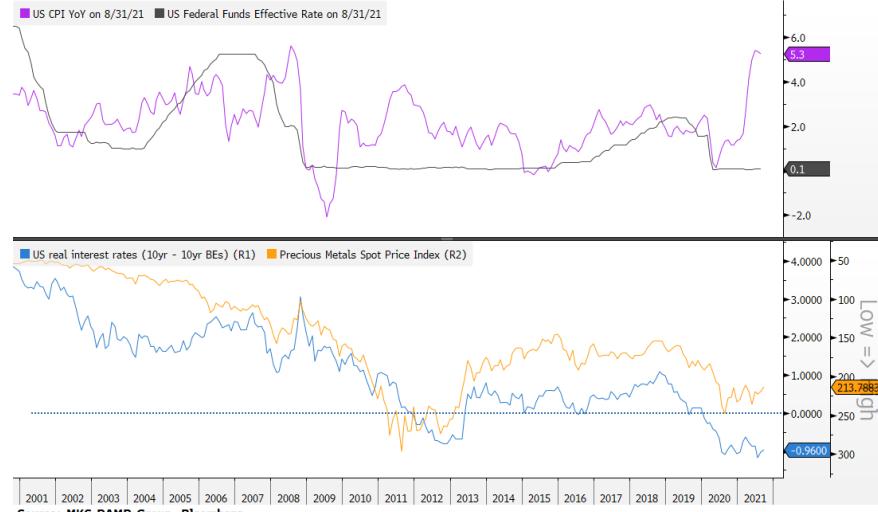
US Housing & Used car prices: soaring...

but Fed funds remain low and 'underpriced' vs these inflation influencers



US CPI outrunning Fed funds target rate

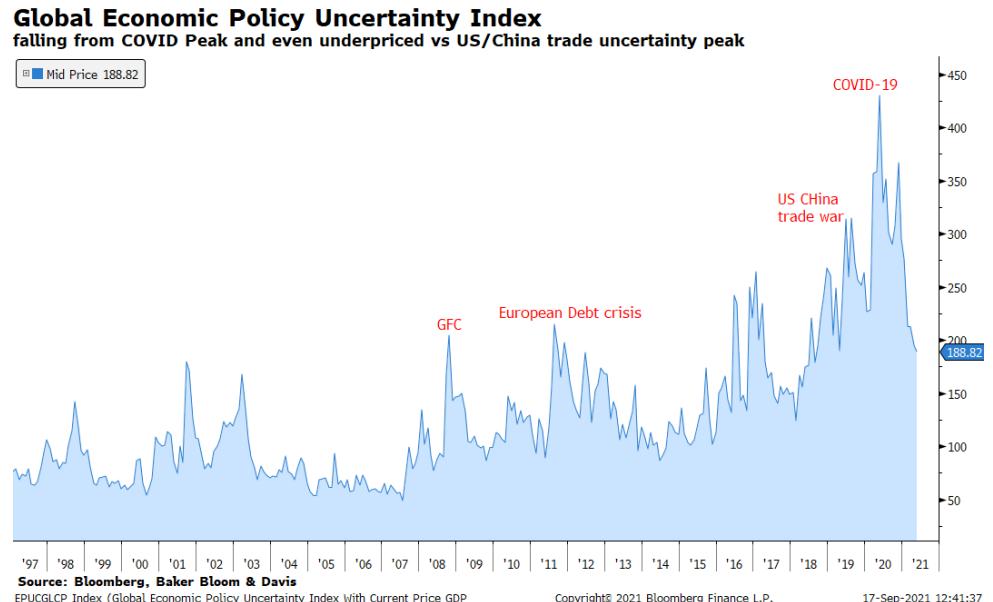
Negative real interest rates & looser Fed policy supportive for precious



Macro uncertainties & event risk to monitor in 2021/22

Potential macro uncertainties:

- Inflation suddenly accelerates from higher base
- Global growth rolls over faster
- New COVID variant and/or slow rollout of vaccines to EM
- A Central Bank policy mistake
- A government COVID policy mistake
- Escalating geopolitical, trade tensions or terrorist attack
- Supply chain risks accelerate
- Commodity shock
- Significant corporate tax policy change
- Social upheaval / protests
- Official currency intervention
- Major spike in interest rates and/or US\$
- China (slowdown, regulatory reform, debt issues, PBOC policies)
- 2022 midterm U.S. election risk
- Threat of a US debt default
- Problems sourcing market liquidity
- DeFi, Crypto reform
- Cybersecurity failure / hack
- Extreme weather event
- Asset bubble burst



Macro uncertainties & event risk to monitor in 2021/22

Macro Data Event Risk	Macro Other	Key holidays (liquidity gaps)	Other
FOMC (Sept 22) – taper decision?	Canada Election (September 20)	Japanese & Chinese Natl Holidays (September 19-23)	LBMA Precious Conference (September 21-22)
US NFP (Oct 8) & US CPI (Oct 15)	German Election (September 26)	Golden Week / Chinese Holiday (October 1-7)	Quarter & Yearend: producer & consumer budget, inventory & hedging plans (Nov-Dec)
US Q3 earnings (mid Oct-mid Nov)	Japan Election (September 29)	Indian Festivals - Dhanteras & Diwali (November 2-4)	
FOMC (November 3)	US Fiscal Deadline (Sept 30)	Thanksgiving (November 25)	
US NFP (November 5)	COP26/UN Climate Summit in Glasgow (Nov 1-12)		
FOMC (December 15) & ECB (December 16) – taper decision?	G20 agreement on global minimum tax (November 22)		
Source: MKS PAMP Group			

2.

Commodities Charts

Commodities Returns the Past Two decades

- Best year overall for commodities is 2009 with average performances (*of this commodity group!**) of 60.1%; that is 3x the returns seen during the 2021 COVID recovery, jumpstarted by the late 2020 vaccinations.
- Best annual performer: Palladium. Was ranked top annual performer, in 5 out of 20 years (years 2010, 2014, 2017, 2018, 2019)
- Worst annual performer: Nat Gas. Put in the worst annual performances 6 out of 20 years (years 2001, 2006, 2010, 2011, 2017, 2019)
- Gold & Silver are best performers during crises (2008, 2011)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 YTD*	KEY
↑ -- Worst Performances / Top performances ↑	7.0%	86.3%	133.1%	67.6%	82.6%	154.5%	93.0%	5.8%	153.1%	96.6%	10.1%	19.2%	26.2%	11.4%	-2.5%	103.7%	56.3%	18.6%	54.2%	47.9%	118.8%	Palladium
	3.4%	57.3%	75.4%	42.8%	50.8%	126.2%	76.7%	-10.7%	152.4%	83.2%	8.2%	15.2%	7.2%	6.9%	-9.6%	60.6%	32.4%	17.9%	34.5%	26.0%	80.2%	Gold
	2.5%	25.6%	51.1%	41.3%	40.5%	80.9%	57.2%	-23.0%	129.4%	51.8%	5.8%	12.2%	1.7%	3.9%	-10.4%	59.4%	31.2%	6.9%	31.6%	25.9%	45.5%	Silver
	2.4%	24.8%	35.6%	33.6%	39.8%	61.4%	42.7%	-24.7%	118.1%	46.7%	2.8%	12.1%	0.2%	3.8%	-10.7%	45.0%	30.5%	-0.4%	21.5%	25.1%	43.4%	Platinum
	0.4%	21.5%	34.6%	26.0%	36.5%	47.7%	34.3%	-24.9%	77.9%	31.5%	-9.9%	9.9%	-1.0%	-1.7%	-11.8%	21.0%	30.5%	-1.6%	18.3%	24.8%	17.1%	Nat Gas
	-9.8%	12.8%	34.5%	23.5%	29.2%	46.4%	31.0%	-31.0%	58.9%	31.4%	-17.8%	9.0%	-5.4%	-2.2%	-17.8%	17.4%	27.5%	-8.5%	15.2%	19.7%	26.2%	Oil/WTI
	-14.6%	12.5%	29.2%	14.9%	17.9%	37.2%	18.8%	-36.1%	56.8%	30.0%	-18.3%	8.0%	-6.7%	-5.5%	-19.1%	14.9%	24.3%	-14.5%	11.0%	18.7%	8.0%	Coal
	-17.6%	5.1%	24.3%	5.9%	16.2%	31.2%	16.7%	-38.8%	48.7%	29.5%	-19.0%	7.5%	-11.0%	-11.8%	-20.3%	13.6%	13.1%	-16.5%	3.4%	16.0%	15.3%	Copper
	-19.2%	3.5%	19.4%	5.4%	12.7%	24.2%	14.6%	-49.3%	45.7%	20.8%	-20.9%	7.1%	-14.0%	-14.0%	-26.1%	13.5%	12.5%	-17.4%	3.4%	14.6%	21.5%	Aluminum
	-22.0%	0.5%	18.0%	-0.6%	10.3%	23.2%	10.4%	-51.1%	24.4%	15.2%	-21.4%	4.2%	-18.6%	-15.5%	-26.1%	11.3%	6.4%	-17.5%	-4.4%	10.9%	11.8%	Zinc
	-24.8%	-2.4%	16.0%	-3.6%	5.4%	17.1%	6.1%	-53.5%	1.8%	11.3%	-21.6%	2.3%	-22.2%	-16.0%	-26.5%	8.6%	4.7%	-19.2%	-4.7%	10.8%	-12.6%	Nickel
	-26.0%	-12.7%	4.4%	-10.3%	4.2%	0.0%	-16.7%	-55.4%	-0.9%	5.2%	-24.2%	-7.1%	-28.0%	-19.3%	-29.4%	1.2%	3.0%	-22.2%	-9.5%	3.3%	-5.6%	Lead
	-54.1%	-16.4%	4.2%	-17.0%	-7.3%	-25.2%	-23.6%	-56.5%	-11.4%	-5.2%	-25.2%	-9.2%	-35.8%	-31.2%	-30.5%	-1.9%	-0.4%	-24.5%	-18.0%	-1.3%	-10.2%	Corn
↓	-73.1%	-45.9%	-18.7%	-18.4%	-10.1%	-43.8%	-47.1%	-62.5%	-13.4%	-21.2%	-32.2%	-16.8%	-39.6%	-45.6%	-41.8%	-13.2%	-20.7%	-24.8%	-25.5%	-20.5%	-9.7%	Wheat
AVERAGE	-17.5%	12.3%	32.9%	15.1%	23.5%	41.5%	22.4%	-36.6%	60.1%	30.5%	-13.1%	5.3%	-10.5%	-9.8%	-20.2%	25.3%	17.9%	-8.8%	9.4%	15.8%	25.0%	

Source: MKS PAMP Group, Bloomberg, U.S. Global Investors Research. Returns are based on historical spot prices or most active futures prices (LME or CME)

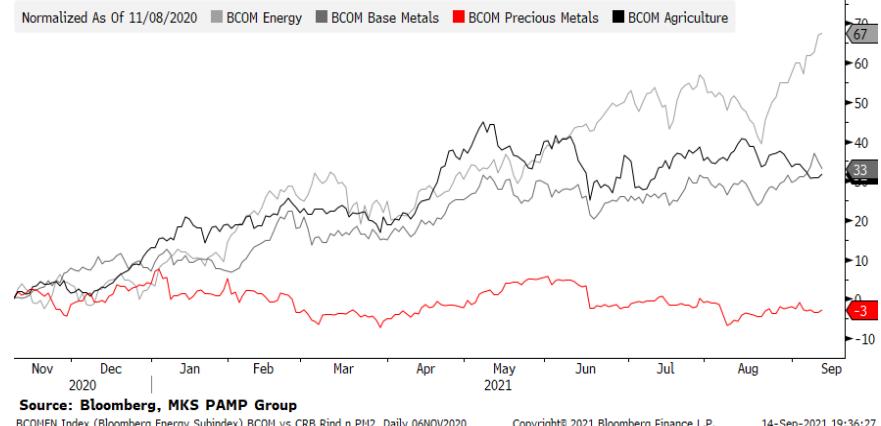
Commodities Returns Post COVID: most are winners

- Strong synchronized rally in Raw Materials and Commodities
- Post COVID recovery and the reflation trade asymmetrically benefits most commodities, excluding the havens like precious metals

Real commodities demand vs paper demand synced takeoff - its not all about investor demand

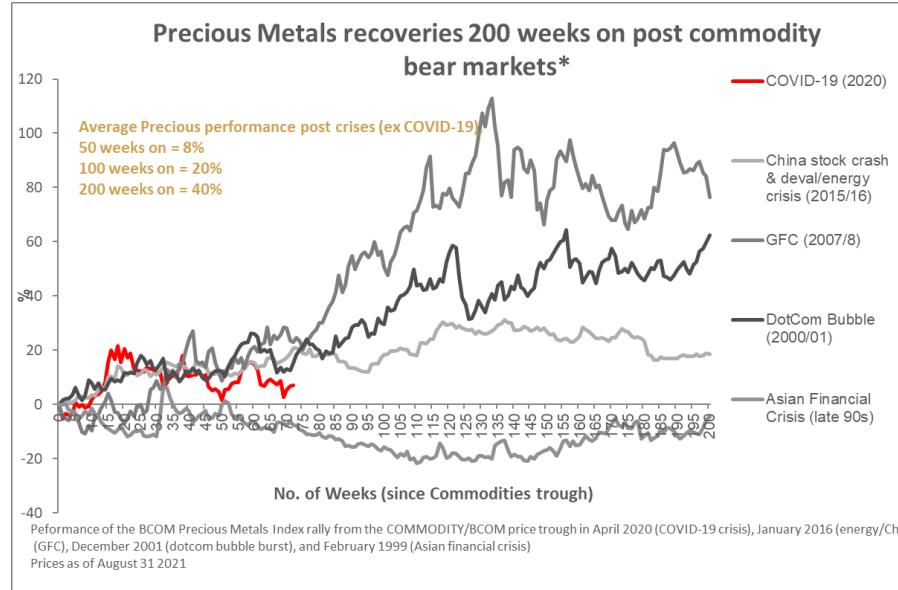
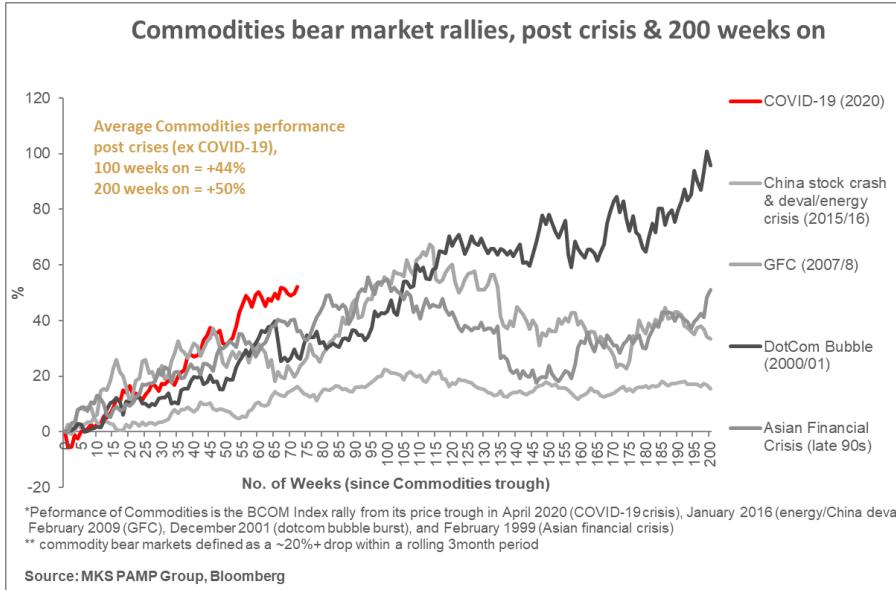


Commodities subsector performances since COVID Vaccination its all about the reflation commodities

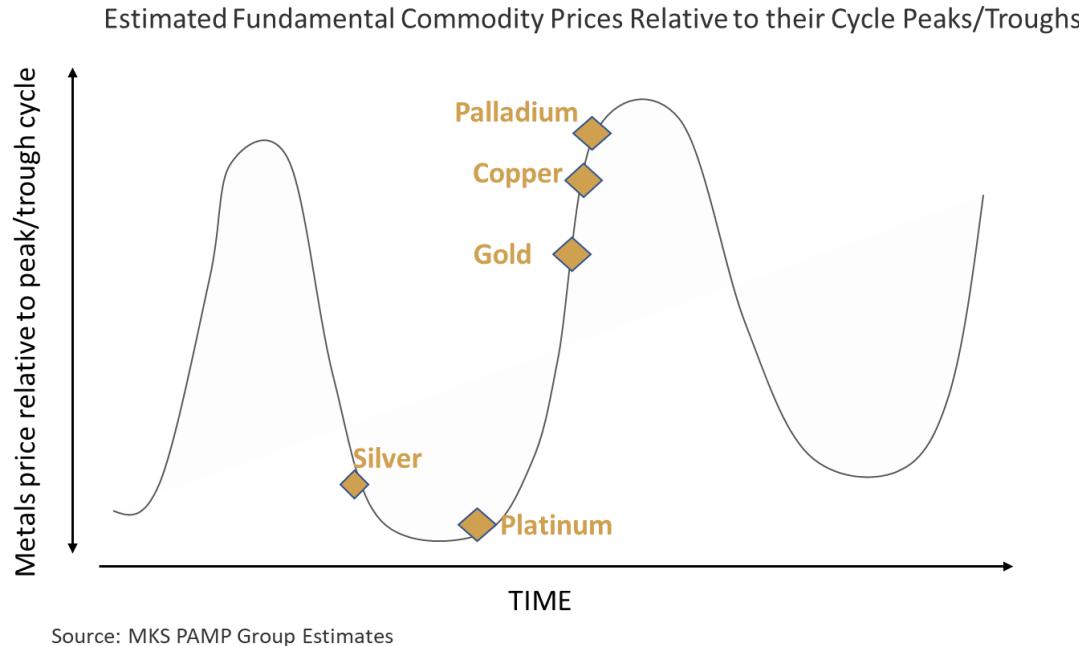


Post-COVID commodities recovery to outperform previous bear market rallies

- due to supply bottlenecks, and extraordinary fiscal & monetary responses globally



But where are Precious Metals in their fundamental cycle?



Gold – stimulus peak in, inflation peak not yet in

Gold... down from COVID stimulus peak, but not out

- Gold made a statement breakout in summer 2021
- It became sensitive to stimulus risk and the repricing was (smartly) aligned with a shift in Fed policy.
- There are technical similarities between the repricing higher in 2019 on Fed cuts (into a bull market) & repricing in 2020 on COVID QE
- There are differences vs 2013 taper sell off (into a bear market), which should be respected.

Respect Golds technical breaks; they're aligned with major Fed pivots
GLD chart with Gold equivalent levels



Gold is a liquidity hedge and more – a bet on Feds ability to control inflation

- QE winners include almost all global equity with no pullback from US or World equities into any taper talk (currently near ATHs)
- Gold trails but doesn't outperform equities since known Fed liquidity gets channeled into higher performing assets; liquidity neuters "macro fear" as indicated by a persistently low VIX
- Gold rallies on the *expectation* of additional stimulus in the short-term (sensitive to taper talk); aggregate actual liquidity matters in the longer run

The Feds Balance Sheet vs Gold

QT and QE periods: s/t correlation not clear, l/t relationship positive



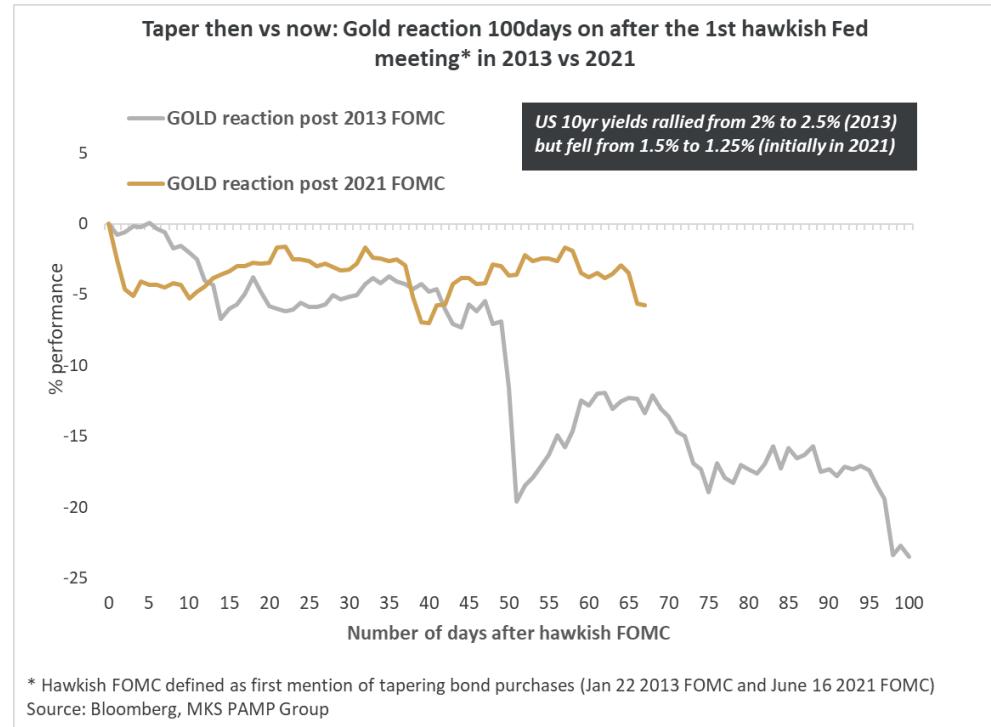
Gold is a liquidity hedge and more – a bet on Feds ability to control inflation

- Lower REAL rates for longer will continue to ensure precious metals remain supported



Gold... taper is less of a threat this time around

- Lower REAL rates for longer will continue to ensure precious metals remain supported
- Markets acceptance that tapering is *not* tightening (Powell delinked taper liftoff with rate hike liftoff)
- Gold remained between 0-5% lower vs the hawkish June '21 FOMC, and relatively much more resilient to its performance in 2013

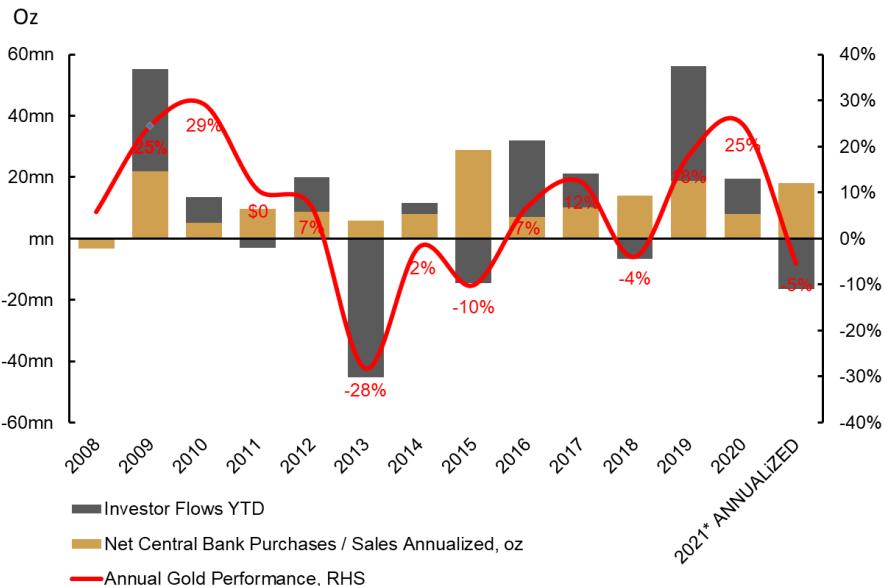


Official Sector: more active & lifting floors; investors less active

- Central Banks have added 10.6mn oz of Gold to holdings YTD in 2021; the ~3rd fastest pace of purchases since 2008
- By contrast, investors (ETF + COT) have sold of 11.4mn oz, with investors outflows > CB inflows for the first time since 2013
- Prices have fallen ~5-6% YTD indicating some OTC/physical demand but not enough; the model-implied Gold price for combined CB + Investor flows (-800K oz) is -2%

Known Gold Flows: Annual Central Bank vs Investor Flows

Annual correlation 2008-2018 between CB + Investor Flows & Price Performance is +0.71



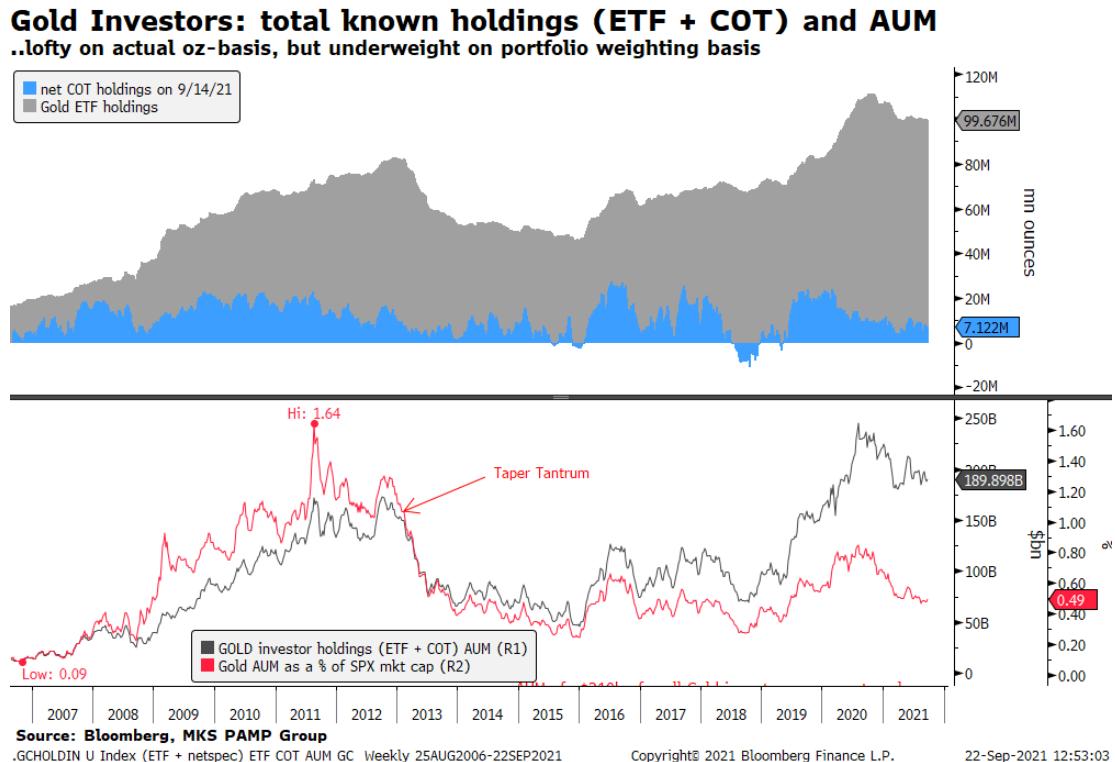
Note:

- 2021* numbers are annualized as of September 10 2021
- CB flows as of May 2021 (Jan-July 2021); investor flows as September 7 (CFTC) & September 10 2021 (ETF)
- Investor Flows defined as net Global ETF flows + net CFTC COT paper flows

Source: IMF, Bloomberg, MKS PAMP Group Metals Strategy, CFTC

Official Sector: more active & lifting floors; investors less active

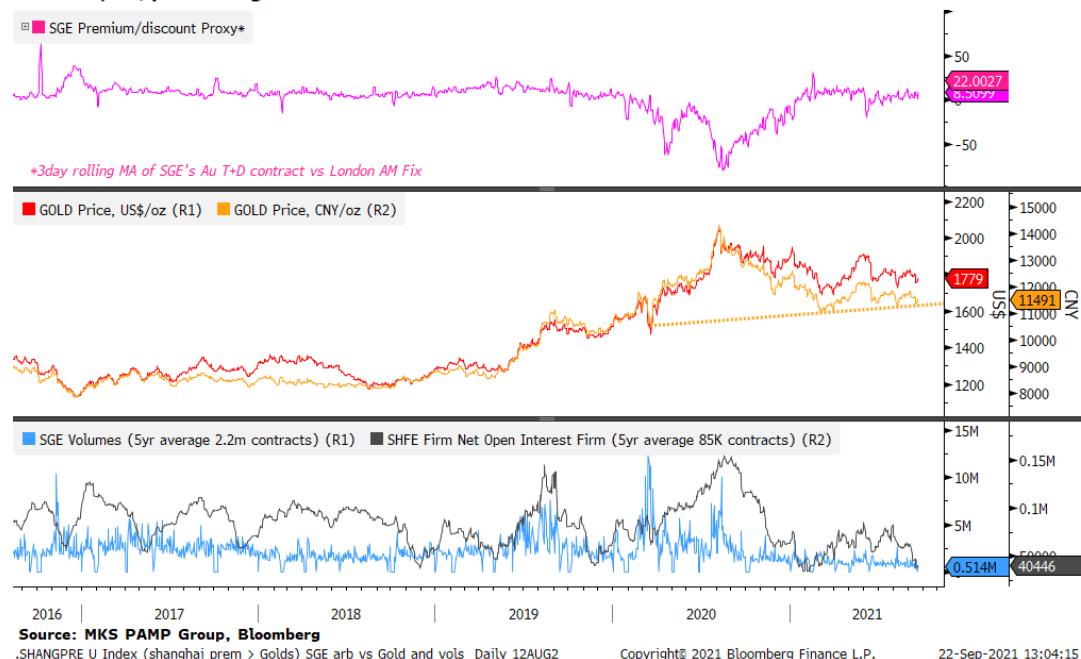
- Investors (ETF + COT) still hold ~106mn oz of Gold, largely sitting in ETF holdings.
- Despite positioning being lofty on an historical basis (peak holdings were ~120mn oz), it is very underweight vs the aggregate liquidity in the system (on portfolio weighting basis)
- Gold AUM is 1/3rd of its market share peak seen in 2011; Gold investors holdings only represent ~0.5% of the SPX market cap vs a peak of 1.64% in 2011



Physical demand: recovery but not strong with some Asian dehoarding

- Return of some physical support; prices \$100 more expensive vs Q1'21, with China/London arb ranging \$5-10 due to RMB strength & intermittent physical demand
- India and SE Asia demand reemerging, Singapore businesses are reopening post Delta lockdowns
- Still dishoarding evident from traditional physical Gold countries given price surge in local currency terms and COVID lockdowns forcing a need to shore up cash
- Exodus of the (retail) China player; very unlikely this investor returns due to ongoing regulatory constraints, creating a structural headwind

Chinese Gold participation - lower. SGE premiums contained
Volumes, OI/positioning & stocks all lower.



2021/22 Short-Term Outlook & Upside/Downside risks

→ stimulus peak in, inflation peak not in

Golds stimulus peak in; inflation peak TBD & likely higher

Drawdowns are sharp (limited physical demand), but its trending sideways awaiting a catalyst



Base case: \$1800/oz Average Price for 2021: limited investor subscription, limited physical interest, Feds taper largely priced in.

2022: \$1850/oz: The threat of faster inflation and/or rotation from reflation to stagflation (bullish) and Feds hiking cycle (bearish) not fully priced

Golds 2021/22 high-low range: \$1675/oz (new cyclical floor post COVID QE) - \$1965/oz (soft ceiling into inflation overshoots).

Bullish case & upside risk (~\$2200/oz): dependent on 1) stagflation narrative accelerates > reflation driving commodities rotation into precious, 2) sustained inflation risks & fears, 3) CB / Fed policy mistake (inability to control inflation/growth slowdown), 4) new “off-calendar” risks (e.g.: trade, geopolitics) injecting equity market volatility. **(60% probability)**

Bearish case & downside risk (~\$1400/oz): 1) Fed taper & ability to contain inflation into midcycle, 2) sustained reflation risk – improved global growth data & higher global vaccination rates, leading to a faster Fed hiking cycle (higher interest rates & US\$, inducing large-scale positioning deleveraging in Gold) **(40% probability)**

4.

Silver - unlike Gold, stimulus & inflation peak
both not in

Fundamentally oversupplied, but attractive as a cheap high beta Gold proxy with energy transition 'booster'

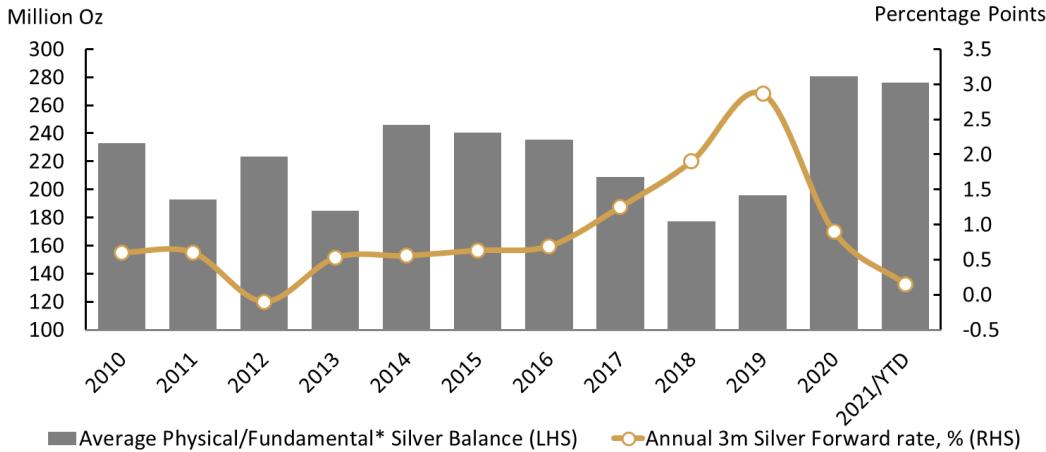
- A notable lagger to Gold most of the summer; the Gold/Silver ratio shifting up from 67 to 77.
- Still fairly priced vs long-term Gold/Silver ratio average of 68.50
- Missed the reflation trade and has lagged the strong repricing in base metals/Copper due to physical overhang
- Silver still remains 20% below 2021 price peak of \$30/oz and 50% below 2011 peak of \$50/oz



Fundamentally oversupplied but attractive as a cheap high beta Gold proxy

- Structurally, remains oversupplied due both to a mix of primary & by-product production (strong base metals pricing)
- Fundamental surpluses (ex investment demand) have grown since 2018
- A buildup of known & unknown inventories remaining “sticky”, supply chain disruptions, & strong regional industrial demand for high grade Silver has ensured physical prices remain tight

Silvers Fundamental Balance* vs Forward Curve Recent Surpluses YET the Physical Market has Tightened

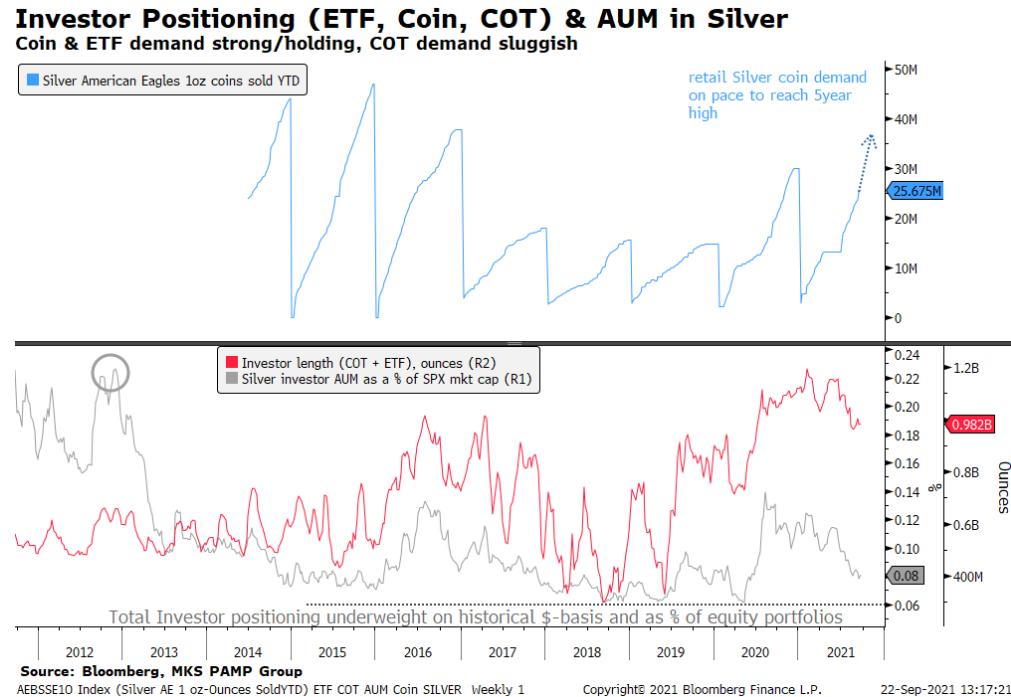


*The average published market deficit from GFMS, Metals Focus/Silver Institute, adjusting for investment demand (i.e.: *excluding* physical coin/bar, ETF and COT flows)

Source: Bloomberg, MKS PAMP Group Estimates, Metals Focus/Silver Institute, GFMS

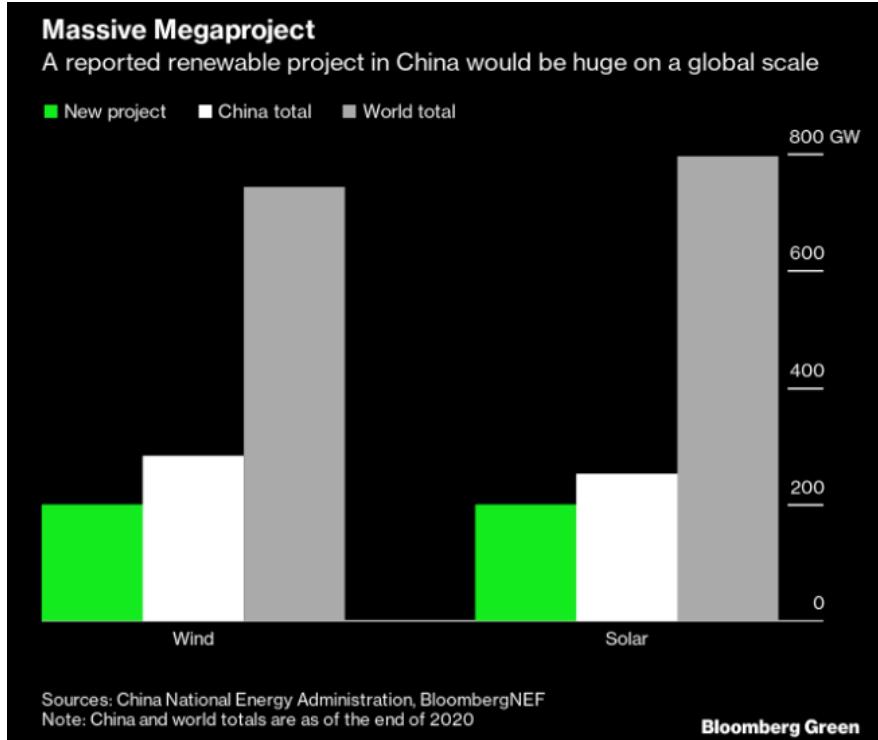
Retail investor demand strong while ETFs hold and COT sidelined

- Retail coin demand on track to reach a 5 year high
- By contrast, investors (ETF + COT) have sold of 120mn oz YTD, but together still own ~1bn oz of Silver
- Prices have fallen ~13% YTD indicating OTC/physical demand not sufficient to process supply overhang
- Investors still have room to ramp up exposure and can easily swing the market into a deficit



Longer-term industrial Silver demand: positive & supportive prices

- Unique properties imply Silver will have a vital role in enabling the clean energy transition, spanning generation, storage and consumption (e.g.: ranging from silver oxide batteries, solar panels, BEVs, to growth in 5G networks)
- Silvers use in PV proved resilient in 2020 (despite COVID), & surpassed 130GW (for the 1st time ever) equating to ~100m oz of Silver (+2% YoY). Solar/PV Silver use to rise to 15% of total demand (~160mn oz) by 2025 and ~20% of demand (~200m oz) by 2030, according to the Silver Institute.
- Similarly, the shift to BEVs (and AVs – autonomous vehicles) over the decade should increase Silver auto demand by 60-70% by 2025, toward 100mn oz.
- China planning a giant 400-gigawatt wind and solar “mega project” that would redraw the global energy map, adding as much renewable capacity as currently in all of Europe (essentially double China’s existing wind & solar installations).

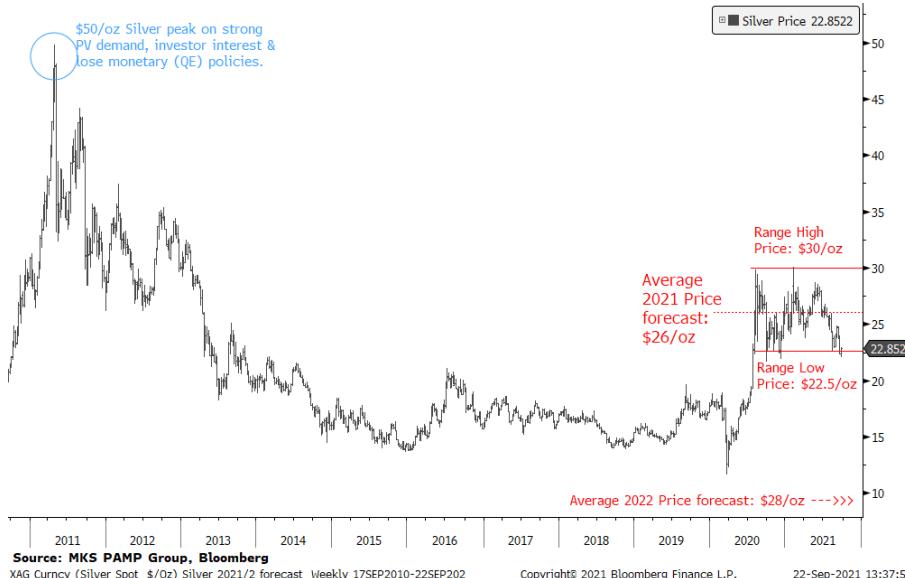


2021/22 Short-Term Outlook & Upside/Downside risks

→ unlike Gold, stimulus & inflation peak both not in

Silver stimulus & inflation peak not in

Rallies capped & its trending sideways like Gold, awaiting a catalyst



Base case: \$26/oz Average Price for 2021, \$28/oz for 2022: limited investor subscription, strong physical interest, taper priced in but threat of inflation and renewed electrification demand not.

Silvers 2021/2 high-low range: \$22.50/oz (new cyclical floor post COVID QE) - \$30/oz (WallStr Bets/retail demand peak).

Bullish case & upside risk (~\$35/oz): dependent on 1) Gold outperformance, 2) inflation and reflation risks, 3) ramped up real demand drivers (PVs, EVs) in medium term, 4) prolonged physical tightness & stockpiling due to persistent supply chain risks **(70% probability)**

Bearish case & downside risk (~\$15/oz): 1) faster Fed hiking cycle (higher interest rates & US\$ inducing large-scale positioning deleveraging in precious), 2) steady emergence of supply (due to higher base prices), 3) opportunistic hedging and growing fundamental surpluses **(30% probability)**



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Thank you

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