May 5, 2022

Mid-cycle slowdown or recession?

> **With the Fed's May meeting behind us, our bond and equity roadmaps remain: wait for evidence that CPI has peaked before adding duration, and additionally wait for our China LEI to turn higher before turning more bullish on equities.**

> **Global liquidity and growth indicators are still deteriorating. We think the set up is most consistent with previous mid-cycle slowdowns seen in 2012, 2015 and 2018.** Liquidity indicators have continued to worsen and point to low and volatile equity returns. (Page 2)

> **US leading indicators are rolling over, but still at relatively high levels thanks to surprising US consumer resilience.** Banks are reporting healthy data from low-income households as inflation shows signs of peaking. VP's US recession models remain muted. (Page 3-5)

> **In China, the wait for a meaningful upturn in our China LEI continues as zero Covid supremacy prevents policy traction. The authorities are not blind to the risks, and are stepping up rhetoric and easing (e.g. RMB deval, RRR cut in April).** (Page 6-7)

> **Our eurozone LEI has now fallen into negative territory, indicating we are on the verge of a recession.** Eurozone inflation indicators remain very strong, putting the ECB in a stagflation quagmire. (Page 8-9)

> **Our commodity supercycle thesis could be due for an intermission similar to 4Q04, or 2H06 when commodities traded sideways with a lot of volatility. The one area we still like is energy.** (Page 10)

Contact us: info@variantperception.com

GLOBAL LEADING INDICATORS

- **We are in a mid-cycle slowdown with liquidity indicators tightening and growth indicators rolling over, but not yet at recessionary levels.**

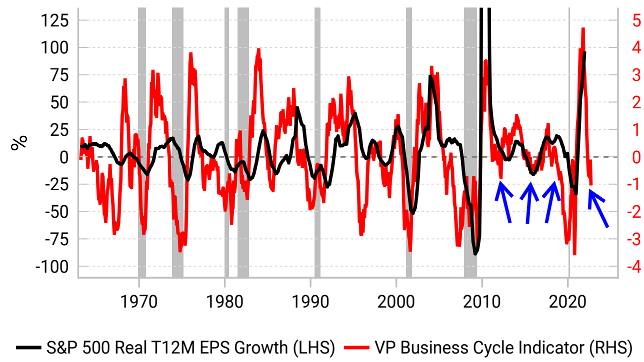
- Today's outlook is comparable to previous mid-cycle slowdowns seen in 2012, 2015 and 2018. The top chart shows a PCA of the key inputs we've found to be critical to lead the business cycle (see [The Variant Perception Cookbook Part 3: Asset Allocation]).

- Our US leading indicator continues to roll over, but remains at a relatively high level. Our eurozone LEI and China LEI are both in negative territory. And our China LEI is still yet to turn meaningfully higher despite aggressive policy rhetoric.

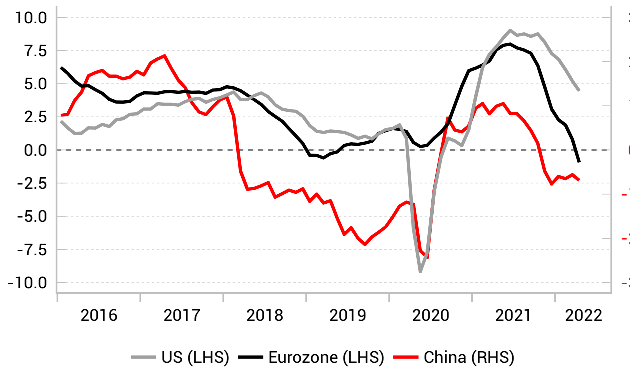
- Liquidity conditions are poor. Global excess liquidity is negative (third chart) and our Business Cycle Financing Index (BCFI) that tracks G20 central bank policies continues to head lower (last chart). Our forward BCFI plunged last month owing to more hikes being priced in Denmark and Norway.

- The current liquidity environment is consistent with weak equity index returns. With our US recession models muted, we continue to favor structural equity themes (with energy our most favored sector). Our roadmap to turn more bullish remains: wait for 1) China reflation and 2) US CPI rolling over.

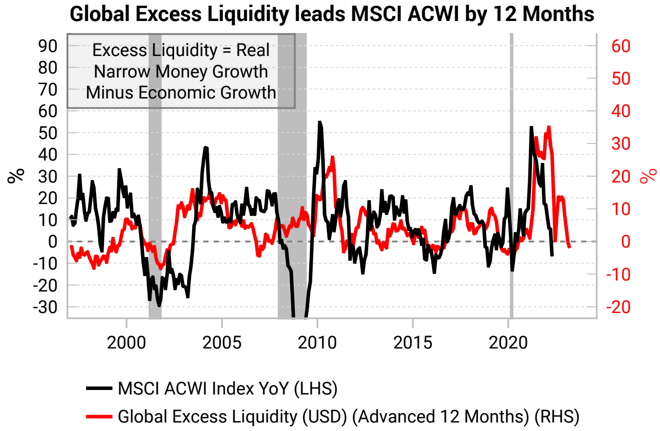
VP Business Cycle Indicator
(PCA of leading growth and liquidity inputs)



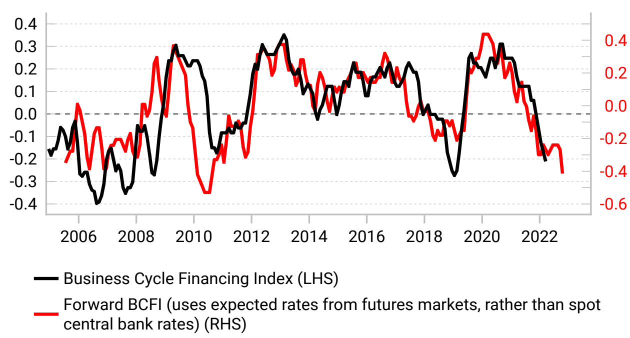
VP Country LEIs



Global Excess Liquidity leads MSCI ACWI by 12 Months



VP Business Cycle Financing Index
vs Forward Business Cycle Financing Index (Advanced 6 Months)



US (1)

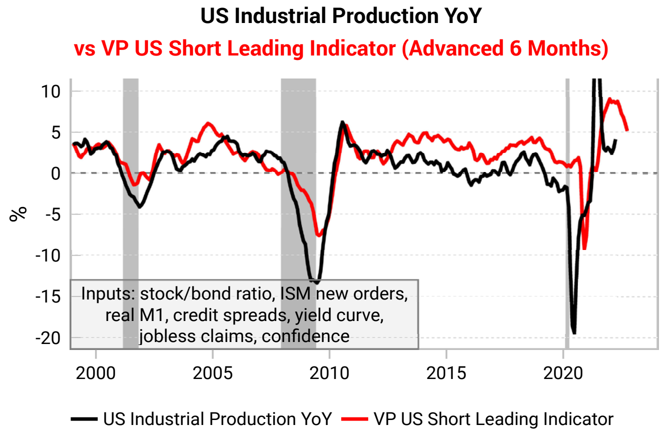
- **Our US growth LEI (top chart) is rolling over but remains at a high absolute level due to strength in labor market and housing data.**

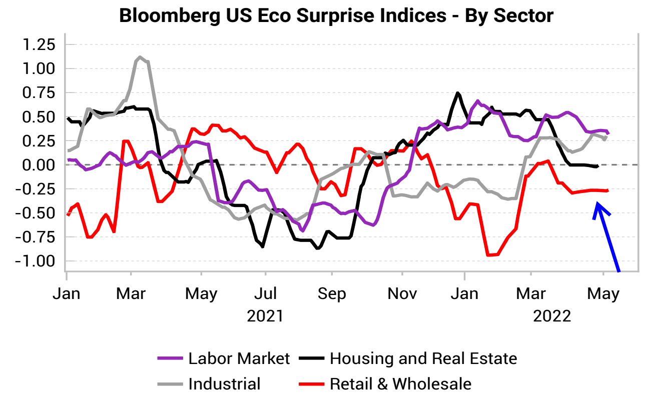
- The US consumer is surprisingly resilient in spite of inflationary pressures. Retail economic surprises have stabilized and are well above January lows (second chart).

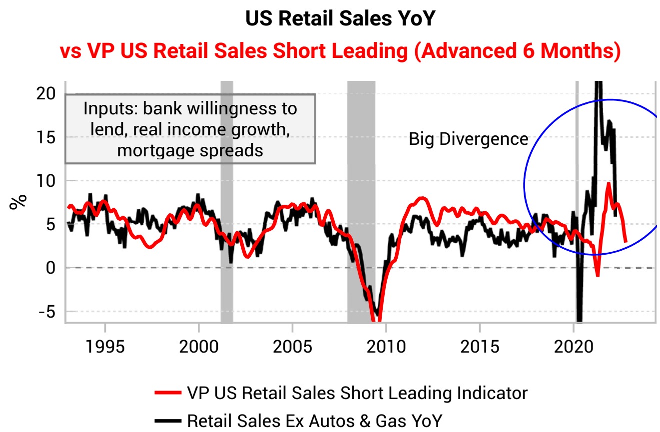
- Surprisingly banks have reported that low income households are holding up well. In response to a question about the drawdown of consumer deposits, Bank of America CEO Bryan Moynihan said: *"It's actually the opposite; they grew faster from February to March. That [jump is] probably because of tax refunds, but … beginning around May of last year, they pretty consistently grew 1-2% per month, [with the most growth in] lower-end balances. It grew [every] month this quarter and March had the strongest growth."*

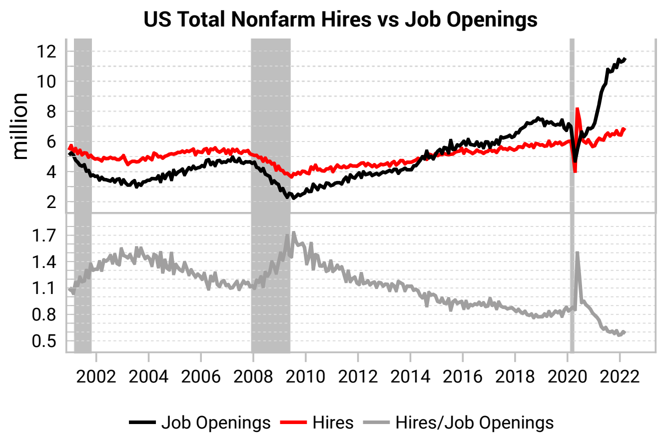
- Our retail sales indicator is rolling over, but remains positive in absolute terms, supported by easier consumer lending conditions (third chart). Retail sales has now closed the gap to our LEI ,but is still showing growth.

- Labor market strength continues to support consumption, with almost 2 job vacancies for every hire (last chart).









US (2)

- **Our US recession models remain muted, assigning a very low probability to a US recession over the next 3-4 months. There is little evidence of hard data stress.**

- Our recession models are built to capture stress in different parts of the economy and markets. We view recessions as regime shifts that can happen very quickly owing to the negative feedback loop between the economy and markets.

- While the yield curve has a good anecdotal track record on its own as a recession predictor, due to the long and variable lead times, it is not an actionable investment signal on its own (see here).

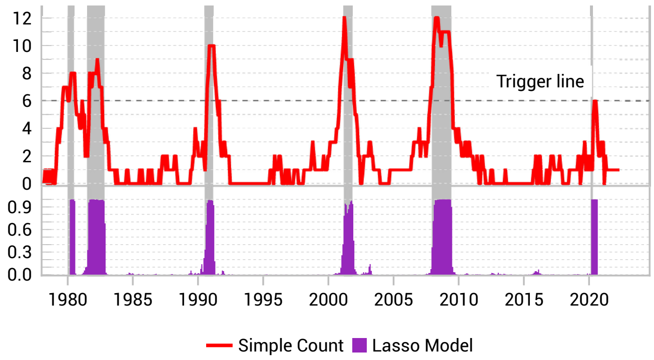
- Soft data stress has picked up (second chart) owing to rising credit spreads, equity market drawdowns and deteriorating survey data like ISM manufacturing, which should continue to weaken with bad liquidity (third chart).

- Critically hard economic data stress is muted. Building permits are holding up well and initial jobless claims are low.

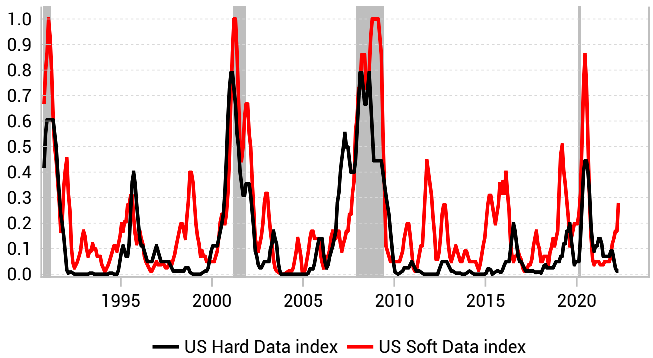
- Consumption of durable goods is still very high (last chart), which is supporting an extended industrial peak via the bullwhip effect (more manufacturing new orders and inventory rebuilding).

- With our US recession models still muted, we wait for CPI to peak and Chinese reflation gaining traction before turning more bullish on equities.

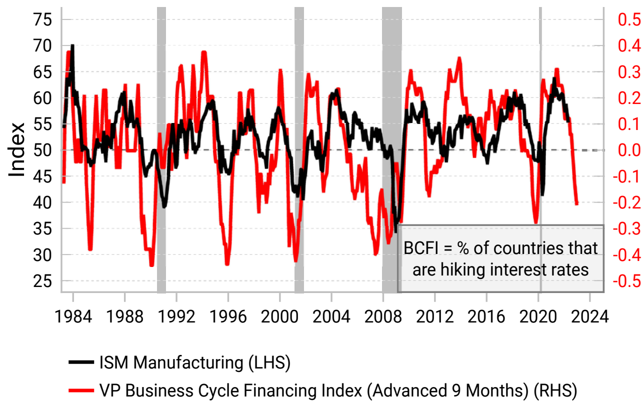
Diffusion of VP Recession Signal Submodels
(Grey bars = NBER US Recessions)



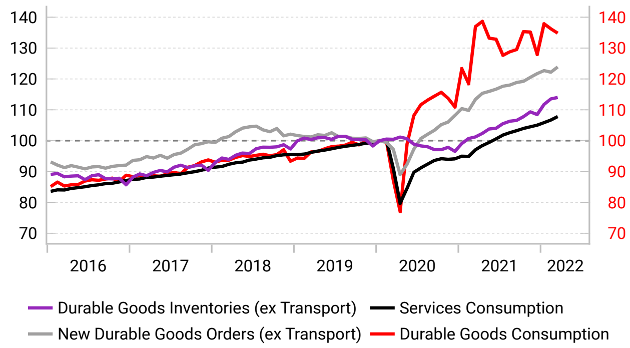
US Recessions (Monthly): "Hard" Real Economy Inputs vs "Soft" Survey/Market Inputs



VP Business Cycle Financing Index leads ISM by 9 Months



US Durable Goods Consumption vs New Orders vs Inventories (Jan 2020 = 100)



US (3)

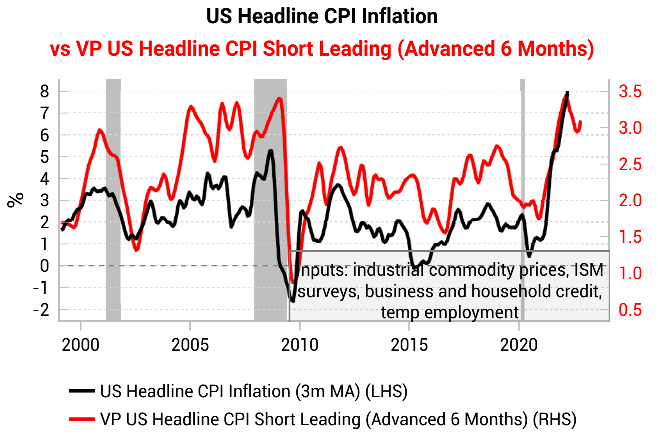
- **Our inflation leading indicator ticked up again this month, but the overall message that US inflation is set to peak imminently remains. Critical CPI components show signs of peaking (used car prices, wages, housing).**

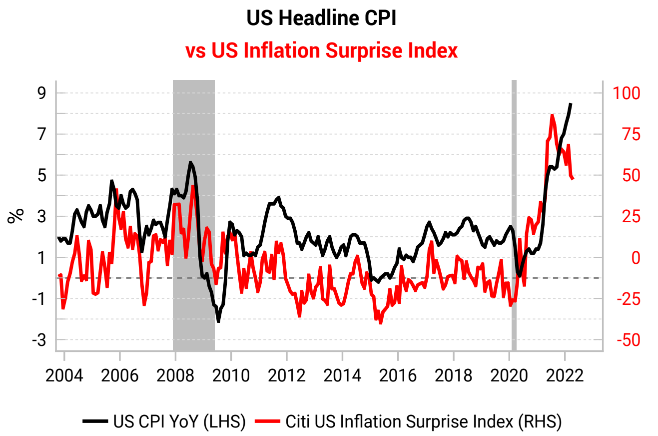
- Inflation surprises have been trending lower, which is consistent with peak inflationary pressures (second chart). The Manheim used car vehicle index is rolling over sharply, while energy prices remain in flux with the Russia-Ukraine war.

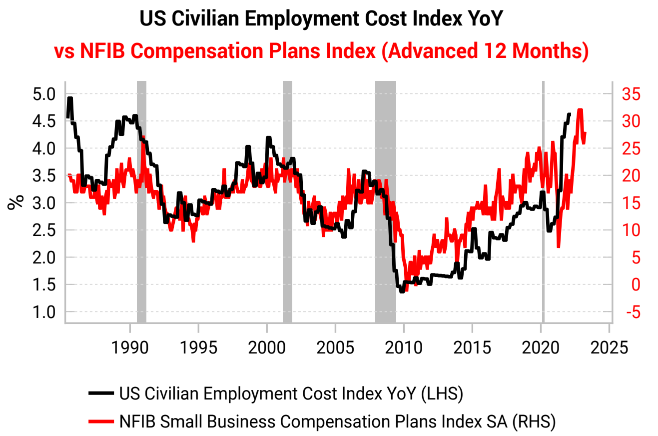
- NFIB compensation plans have also peaked, suggesting wage growth should start to normalize (third chart). Manpower Group CEO Jonas Prising confirms the message: "*...we believe that we're at peak or have passed the peak of wage inflation in the U.S. It's still high, but when we look at some of our most recent trends, we can see some easing off in the growth rates, which we believe is positive overall.*"

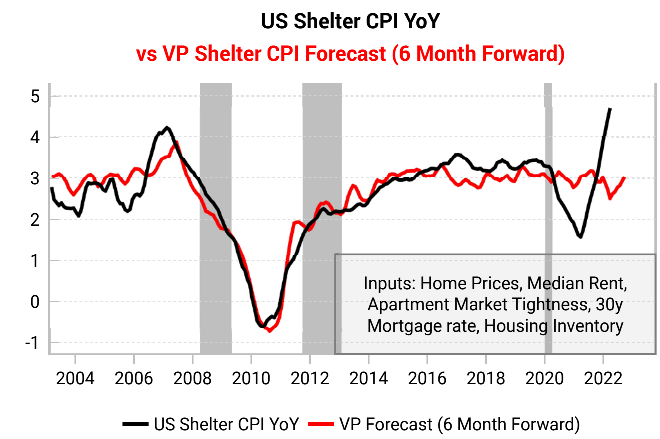
- Our shelter CPI model is stabilizing, and suggests that further rent inflation upside is limited (last chart). The current overshoot is likely due to distortions in data collection and eviction moratoriums. Apartment List's national rent report points to rent growth cooling from highs last summer, but will remain well above its pre-pandemic trend owing to tight inventories.

- We are waiting for confirmation of US CPI peaking before we can turn positive on duration (see our fixed income roadmap here).









CHINA (1)

- **The wait for a meaningful upturn in our China LEI continues as zero Covid supremacy prevents policy traction. The authorities are not blind to the risks, and are stepping up rhetoric and easing.**

- Our China LEI is tracing out a L-shaped bottom (top chart) and China remains in an industrial recession (second chart).

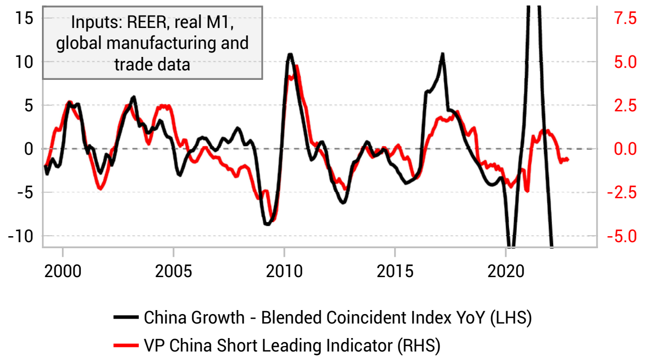
- In our April 5th LIW, we wrote: "*Easing of Covid restrictions remain a necessary condition for other forms of policy easing to gain traction.*" Not only have restrictions not been eased in the past month, we have seen the brutal consequences of Shanghai's lockdown, crushing sentiment.

- The Chinese authorities remain commited to zero Covid, with indications that the Shanghai lockdown will only be lifted once community transmission reaches zero (i.e. no change from previous policy even in the face of the Omicron variant).

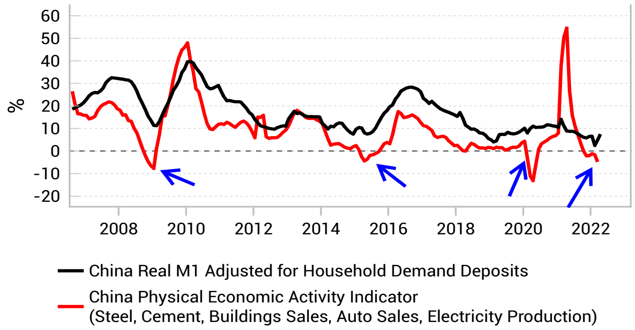
- The authorities are not blind to the economic risks. President Xi has called for China's GDP to outpace the US, despite lockdowns ([link]) and China's Politburo reiterated the full year 5.5% GDP target ([link]). The decision to devalue the RMB and the April RRR cut are also evidence of concerns about the economy.

- Despite all the rhetoric, there is not much evidence yet of reflation. Our favored shadow finance proxy (claims on non-bank FIs) has merely stabilized (third chart) and the policy impulse remains negative but is at least off the lows.

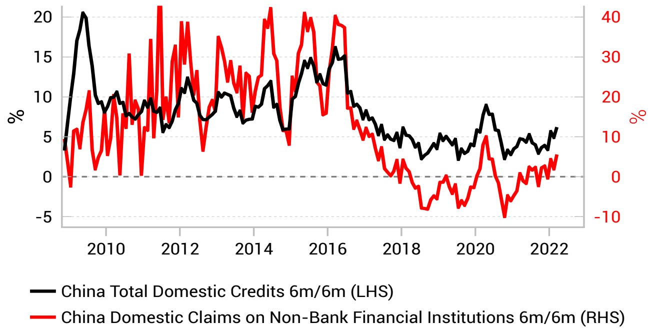
China Coincident Growth Index YoY
vs VP China Short Leading Indicator (Advanced 6 Months)



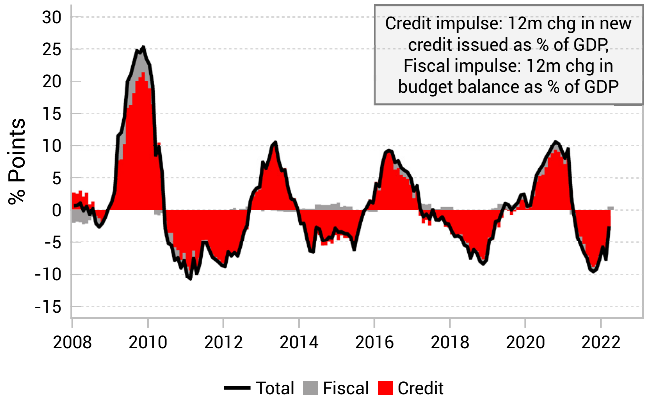
China Real M1 Adjusted for Household Demand Deposits
vs China Physical Economic Activity Indicators



China Total Domestic Credits Growth
vs China Claims on Non-Bank Financial Institutions



China Credit + Fiscal Impulse (as % of GDP)



CHINA (2)

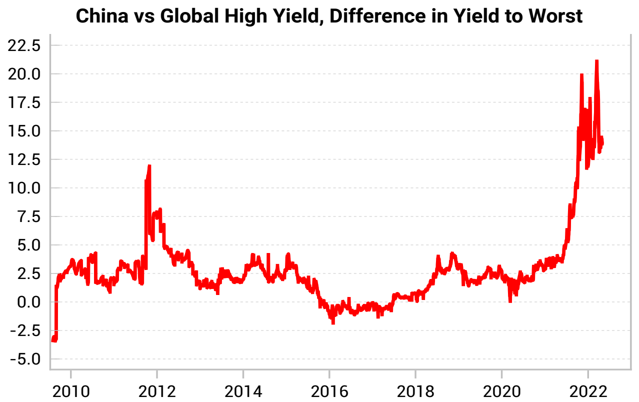
- **The scale of despair and apathy towards China and Chinese assets is historic. Rhetoric towards monopoly regulation remains strong, but there are also signs the authorities are genuinely concerned about the downside risks and shifting market perceptions.**

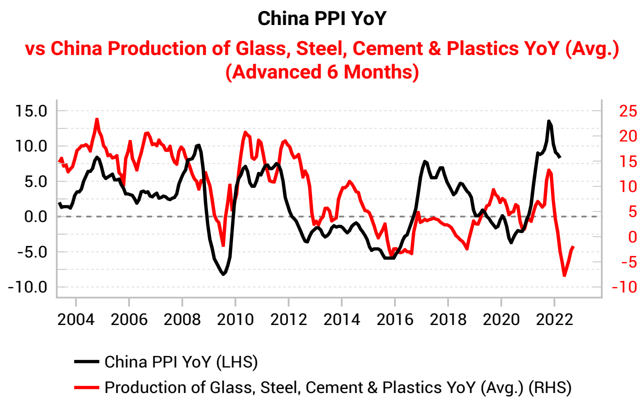
- The scale of Chinese equity under-performance vs MSCI EM is very extreme and rare historically (top chart). Chinese HY spreads are also extremely wide relatively to global HY (second chart).

- There are signs the authorities are now much more concerned about market perceptions. Bearish investment strategists have been digitally disappeared (link). There is also an all-out attempt in Beijing to avoid Shanghai-style lockdowns, with an early and aggressive strategy with mass testing, online schooling etc (link).

- Investors hoping for some regulatory relief for large cap tech will probably be disappointed. The much-hyped Friday Politburo study session on capital in China maintained a strong focus on regulations. The third image on the right shows the word cloud from the released translation (link) where the word "oversight" can be seen in the top 10 words. There was also a special mention on regulating against "*disorderly expansion of capital and platform monopolies*".

- China's economic struggles is allowing China's PPI to roll over, which will help add some relief to the global inflation narrative.

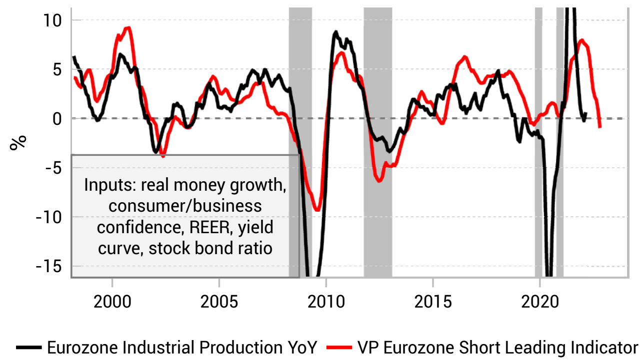




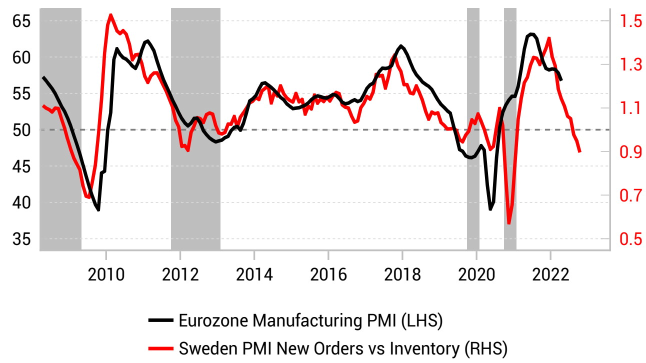
EUROZONE (1)

- **Our eurozone LEI (top chart) has now fallen into negative territory, indicating we are on the verge of a recession.**
- Sweden, as a small open economy more sensitive to the business cycle than the eurozone, has historically offered a short lead on the eurozone. Swedish PMI new orders to inventories have now crashed through the critical 1 level, suggesting eurozone PMIs are set to fall further (second chart).
- Historically the ZEW eurozone economic expectations have never been this low without the economy being in recession (third chart).
- The final confirmation we are waiting for on a potential eurozone recession is to see more hard data stress.
- The bottom chart shows that eurozone hard data stress has been relatively contained so far (black line remains low in chart) and most of the stress has been concentrated in softer survey and financial market data (red line surging in chart).

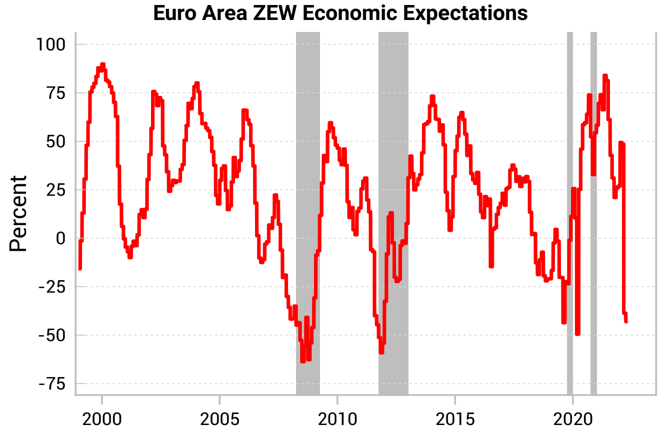
Eurozone Industrial Production YoY
vs VP Eurozone Short Leading (Advanced 6 Months)



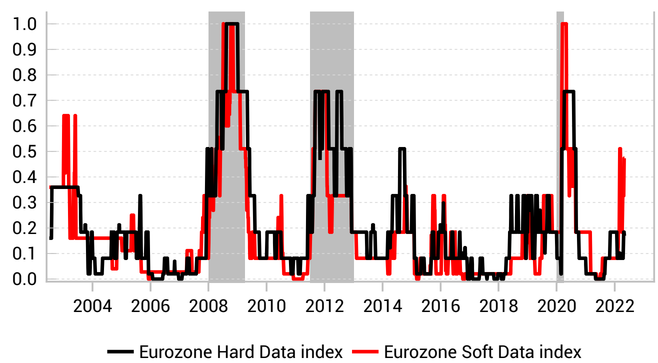
Eurozone PMI
vs Sweden PMI New Orders vs Inventories (Advanced 6 Months)



Euro Area ZEW Economic Expectations



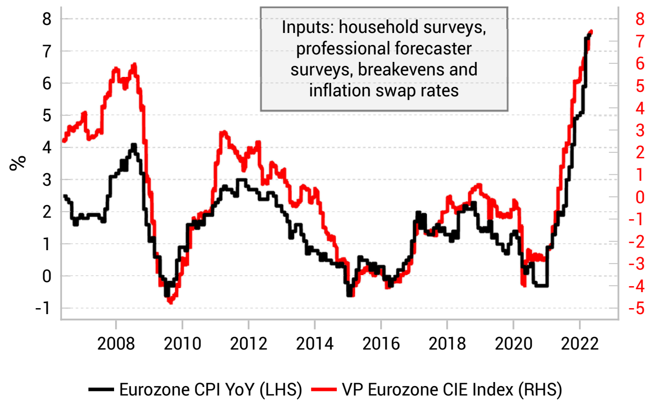
Eurozone Recessions (Daily): "Hard" Real Economy Inputs
vs "Soft" Survey/Market Inputs



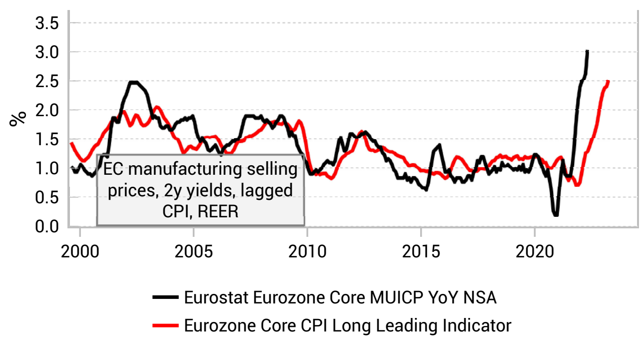
EUROZONE (2)

- **Eurozone inflation indicators remain very strong, putting the ECB in a stagflation quagmire.**
- Our eurozone common inflation expectations index continues to make new highs (top chart), while our core eurozone CPI LEI is also still trending higher (second chart).
- The surge in European commodity prices is epic and unprecedented. The third chart shows the extremely high level of all eurozone commodities.
- Eurozone consumer sentiment is starting to deteriorate but not yet anywhere near previous lows. The bottom chart shows that consumer sentiment towards savings is rolling over but still well above pre-pandemic levels. The deterioration in the financial situation indicator is more negative.
- We previously flagged a large divergence in the implied policy paths in 2023 between the Fed and the ECB. The ECB is expected to be in major tightening mode in 2023 compared with the Fed starting to cut by year end. We like betting on the convergence of the Dec 22/23 spread in eurodollars with the spead in euribor. (see Money market top idea: eurodollar vs euribor Dec 22/23 spread).

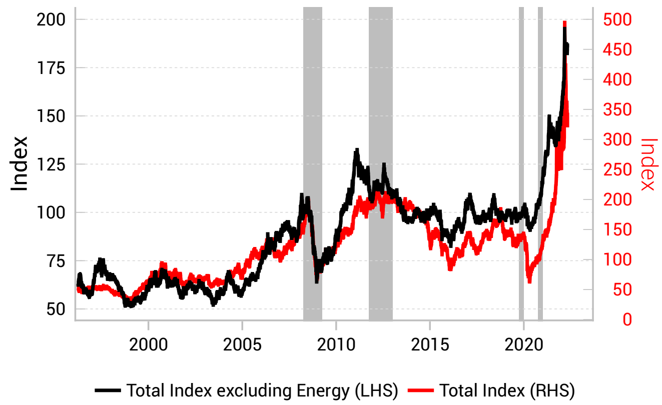
VP Eurozone Common Inflation Expectations Index



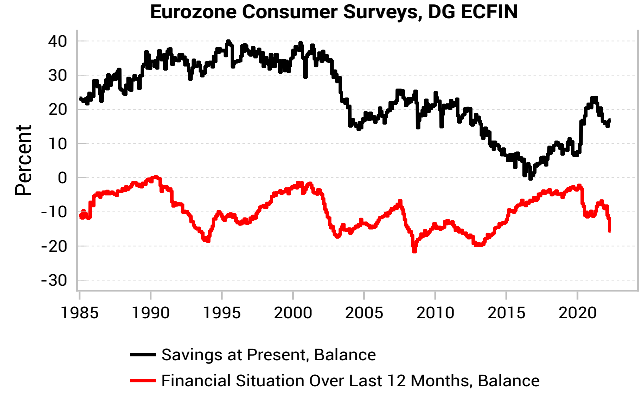
Eurozone Core CPI YoY
vs VP Eurozone Core CPI Long Leading Indicator (Advanced 12 Months)



Euro Area, Commodity Indices, HWWI, Index, Close, EUR



Eurozone Consumer Surveys, DG ECFIN



COMMODITIES

- **The cyclical headwinds for commodities are still increasing. We suspect a supercycle intermission. The one area within commodities we still like is energy.**

- Our cyclical commodity regime indicator (top chart) has been signalling lower returns for a while, but now our supply-demand all-commodity model (second chart) also shows a meaningful drop.

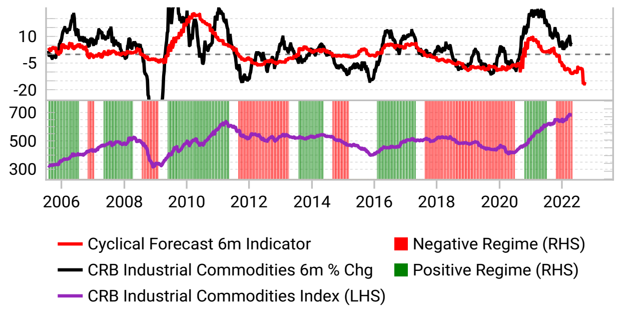
- The main pillar of support for our commodity supercycle view has been low capex. This is still the case but capex has been increasing from low levels.

- Combining capex and our global aggregate leading indicator gives us a proxy for 'supply and demand'. With capex ticking up and our leading indicator falling, this model is pointing to increasing headwinds (second chart).

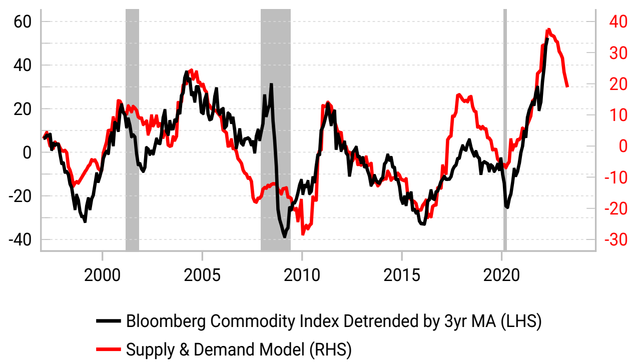
- This commodity supercycle is running 55% ahead of the 2000s cycle (third chart). With cyclical headwinds building we suspect we are reaching a supercycle intermission. This would be similar to the last quarter of 2004, or the second half of 2006 when commodities traded sideways with a lot of volatility.

- Within commodities we still like energy. Compared to other commodity industries capex has been muted in the oil & gas industries. We wrote about oil services in recent weeks ([link]). The industry will benefit as capex in O&G producers follows profitabilityh higher over the next year.

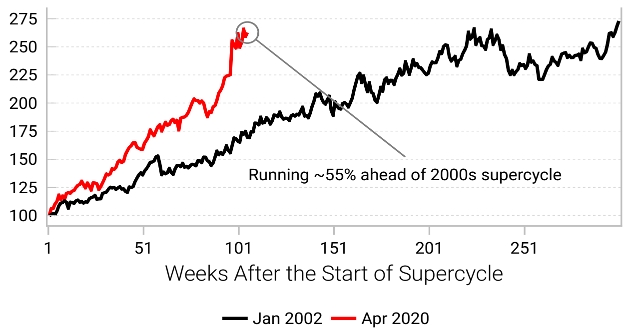
6-Month Forward CRB Industrial Commodity Returns
vs Cyclical Regime Indicator (Inputs: China leading, China excess liquidity, commodity contango diffusion, IFO Expectations)



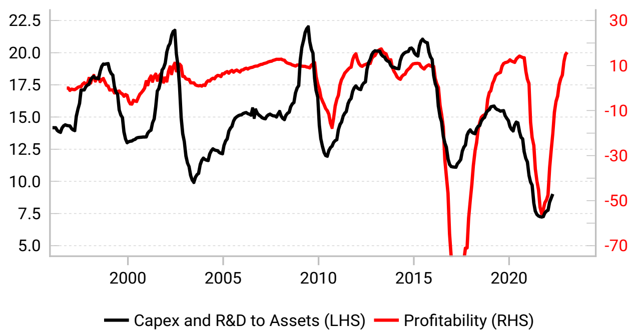
Commodity Index Detrended vs
vs Commodity Supply-Demand Model



Commodity Supercycles: 2000s vs 2020s
(CRB Index Rebased to 100)



Oil & Gas Producer Capex-to-Assets
vs Industry Profitability (Advanced 9 Months)



Current Macro Themes

- **Equities are in window of vulnerability.** The Fed remains hawkish with little policy room until CPI peaks and rolls over. To turn bullish we need to see 1) our China LEI inflect higher 2) US CPI roll over, confirming our inflation LEIs. Post-Fed Asset Allocation: A window of vulnerability - 22 Mar 2022 VP Portfolio Watch
- **For 10y yields, we suspect a "buy the rumor, sell the fact" price action. The Fed's hawkish messaging on the 1st hike has delayed this roadmap.** Yield surge, tech fall: buy the rumor, sell the fact- 11 Jan 2022 VP Portfolio Watch; Post-Fed Asset Allocation: A window of vulnerability - 22 Mar 2022 VP Portfolio Watch
- **The '04 scenario of transitioning to China-led reflation is being complicated by war, lack of Fed policy room and commodity squeezes.** Post-Fed Asset Allocation: A window of vulnerability - 22 Mar 2022 VP Portfolio Watch
- **Global LEIs still show deteriorating liquidity and growth rolling over.** No relief on the liquidity front - 4 Apr 2022 VP Leading Indicator Watch
- **US inflation indicators have peaked, but inflation pressures remain in absolute terms.** US inflation LEIs have peaked - 6 Jan 2022 VP Leading Indicator Watch
- **In EM, the YTD BRL appreciation will help to keep a lid on local prices, accelerating the end of BCB hiking cycles.** Country desynchronizatio: Brazil - 21 Apr 2022 VP Leading Indicator Watch
- **Commodities: cyclical headwinds, structural tailwinds.** The window of vulnerability persists - VP May Macro Snapshot
- **We are were too early in turning neutral on peak USD at end of March.** The window of vulnerability persists - VP May Macro Snapshot

Current Positions

Core portfolio long positions (VP recession indicator still shows low risk of a US recession):

- **Banks** (The Case For Banks - 8 Oct 20)
- **Energy** (Biden's risks to energy - more bark than bite - 6 Oct 20),
- **Commodities** (China Deleveraging Over- 26 May 20, The Next Commodity Supercycle- 22 Oct 20),
- **Homebuilders** (US homebuilders: buying into a cyclical slowdown - 24 Sep 21),
- **China tech** (The "outsider" view on the China tech crash- 29 Jul 21, Buy Oversold China Tech Companies- 27 Apr 21),
- **Long EM debt (lcl ccy), particularly Brazil.** Given unprecedented sanctions, Russian assets look "uninvestable" for most until sanctions are lifted (EM debt: Time to buy - 8 Feb 22)
- Tactically, we would look to reduce equity overweights, selling into the current relief rally. We continue to like put spread collars (sell calls, buy put spread) as a way to hedge equity beta risk and monetize elevated volatility. (Top ideas by asset class - 26 Apr 2022 VP Portfolio Watch, Waiting for bullish catalysts: China LEI upturn and peak inflation - 1 Apr 2022 VP Macro Snapshot)

***Changes are in red**

VP COUNTRY LEI FRAMEWORK (SYSTEMATIC)

- **EM** debt continues to be flagged as attractive, with Brazilian debt being our most preferred.
- **China** equities remain a contrarian outperformer now that our China LEI is stabilizing. However, there is little evidence of actual China reflation despite government rhetoric.

▲ Good ▼ Bad — Neutral

Country	Equity 3m fwd Outlook	Outlook Chg	FX vs USD 3m fwd outlook	Outlook Chg	FI (10y Sov) 3m fwd outlook	Outlook Chg
North America						
Canada	Neutral		Neutral		Neutral	
US	Negative		NA		Neutral	
EMEA						
Czech Republic	Negative		Neutral		Neutral	
Eurozone	Neutral		Neutral		NA	
France	Neutral		NA		Neutral	
Germany	Neutral		NA		Negative	
Italy	Neutral		NA		Neutral	
Netherlands	Neutral		NA		Negative	
Norway	Negative		Neutral		Neutral	
Poland	Neutral		Neutral		Neutral	
Russia	Neutral		Negative		Neutral	
Saudi Arabia	Neutral		NA		NA	
South Africa	Positive	↑	Positive	↑	Positive	
Spain	Positive	↑	NA		Neutral	
Sweden	Neutral		Positive	↑	Negative	↓
Switzerland	Neutral		Neutral		Negative	
Turkey	Neutral		Positive		Neutral	
UK	Negative		Neutral		Negative	↓
Asia-Pacific						
Australia	Neutral		Neutral		Neutral	
China	Positive		Neutral		Neutral	
India	Neutral		Neutral		Positive	↑
Indonesia	Negative	↓	Negative		Neutral	
Japan	Neutral		Neutral		Neutral	
Malaysia	Neutral		Neutral		Positive	↑
Philippines	Positive		Neutral		Neutral	
Singapore	Neutral		Neutral		Neutral	
South Korea	Positive		Neutral		Neutral	
Taiwan	Neutral		Neutral		Neutral	
Thailand	Neutral		Neutral		Neutral	
Latin America						
Argentina	Neutral		Neutral		NA	
Brazil	Neutral		Negative	↓	Positive	
Chile	Neutral		Neutral		Neutral	
Colombia	Neutral		Neutral		Neutral	
Mexico	Neutral		Neutral		Positive	

Please see *Understanding Country Leading Indicators* for the full methodology. The above dashboard is an initial screen that signals outlier countries for us to look into.

VP REPORT HISTORICAL OUTCOMES

Writing reports is not the same as managing money in the real world, any research/paper track record is of limited value. Our goal is that our reports are a value-add part of clients' investment processes and that clients view us as a resource.

We try to objectively quantify the quality of our historical reports by using a simple decision rule: for every historical report section, was the subsequent 6-month forward price move profitable?

Year	Good outcomes % from report sections*	No. of report sections with explicit views	Notes
1H2021	70%	82	LEIs supported reflation & flagged inflation scare
2020	68%	98	LEIs flagged unprecedented liquidity environment
2019	45%	118	Failed to anticipate magnitude of Powell pivot in Jan 2019
2018	65%	167	LEIs flagged China slowdown & tightening liquidity

*If 6m forward return from report date is profitable

VP PUBLICATION SCHEDULE

Report	Publication Schedule	Report Description
Leading Indicator Watch (LIW)	1st & 3rd Week of each month (usually Thursday)	> The key global and regional leading indicators, updated each month > Investment-focused coverage of major regions with prioritization of those countries flagged by our systematic framework
Macro Snapshot	1st Week of each month (usually first working day)	> Our top macro themes presented in succinct slides with key charts > Get up to speed quickly
Portfolio Watch	Once/twice a week, usually Tuesday and/or Thursday	> A data-driven approach to key market questions and actionable ideas
Thematic	Ad hoc, usually one/two reports each month	> Hunting for the next big idea, based on data and qualitative deep dive > One pager summary of pipeline and on-going themes, updated monthly > We've covered Shale, Biotech, Commodity Supercycle, SPACs, China, Euro Breakup and many others before they played out