

Commentary

The Times They are A-Changing

The shift into a more inflationary environment has been foundational to our outlook for markets. Higher inflation has implications for interest rates, which directly impact both absolute and relative asset pricing. We believe the Fed has fallen further behind the curve in addressing structural upward pressures on prices than at any time since the 1970s. This quarter the market started to do the Fed's work for it with a dramatic rise in rates, particularly at the short end. This rise had implications for a range of asset prices, reversing the polarity that has defined market movements since the global financial crisis. We highlight three reversals that occurred during the current market correction which indicate to us something meaningful has changed: a change in the behavior of bonds, of commodities, and in currencies. We also discuss the factors driving that change and what it means for investments.

MARKET CORRECTIONS OF >10% SINCE END OF GLOBAL FINANCIAL CRISIS (GFC)

	Start Date	Stocks % change in S&P 500	Bonds Change in US 10yr Treasury Yield (bps)	Commodities Change in Bloomberg Commodity Index	Currency Change in Japanese Yen
1	Apr 2010	-16%	-86	-9%	7%
2	Apr 2011	-19%	-153	-19%	6%
3	May 2015	-12%	5	-15%	3%
4	Nov 2015	-13%	-55	-16%	8%
5	Jan 2018	-10%	16	-4%	0%
6	Sep 2018	-20%	-32	-8%	2%
7	Feb 2020	-34%	-79	-19%	0%
8	Jan 2022	-13%	92	31%	-8%*

* Stock index change to March low. Bond, commodity & currency change to April 13th.

Source: Bloomberg, HPL

(1) A Change in Bond Behavior

Since the GFC, we have experienced seven corrections of 10% or more. We are now in the midst of the eighth with the S&P having fallen 13% and the NASDAQ 21% to their March 2022 lows. Bonds have behaved differently in this selloff than in the previous seven. Since the start of 2022, two-year T-Bills have risen 178bps while the 10-year increased 104bps leading to the worst quarter of performance for treasuries in 50 years, according to Morgan Stanley. Previous post-GFC equity market declines were generally accompanied by falling rates and strong bond performance, as investors sought safety in treasuries.

The brief inversion of the 2yr-10yr yield curve in early April differed significantly from the only other post-GFC inversion back in 2019. The collapse three years ago was a function of falling rates, with the 10-year Treasury yield dropping more than the 2-year. That's the mirror image of what has taken place today with rapidly rising short rates overtaking longer term yields (albeit for a very short time with long yields subsequently rising again).

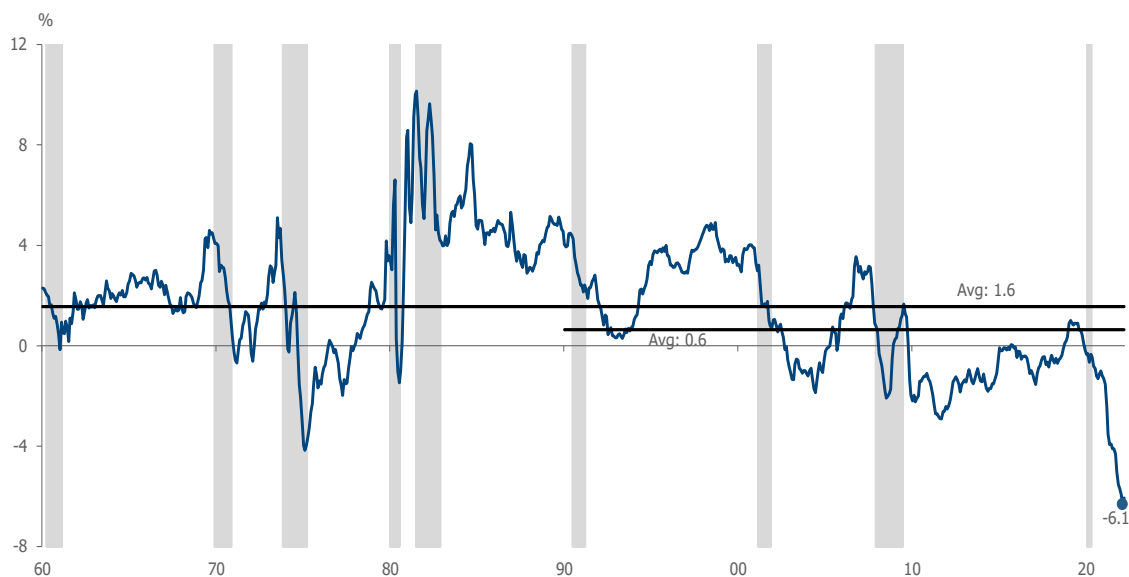
YIELD CURVE



There is a growing concern that the Fed has fallen so far behind inflation it will need to ratchet up short term rates until something breaks and the economy falters. Hence short-term rates keep rocketing upward, anticipating (or preempting?) more Fed action, while long rates are still at relatively low levels versus history, pricing in eventual economic weakness. We share some of this concern but believe there is still significant resilience in the main driver of US (and global) growth, the American consumer. And we especially believe in the resilience of *nominal* growth.

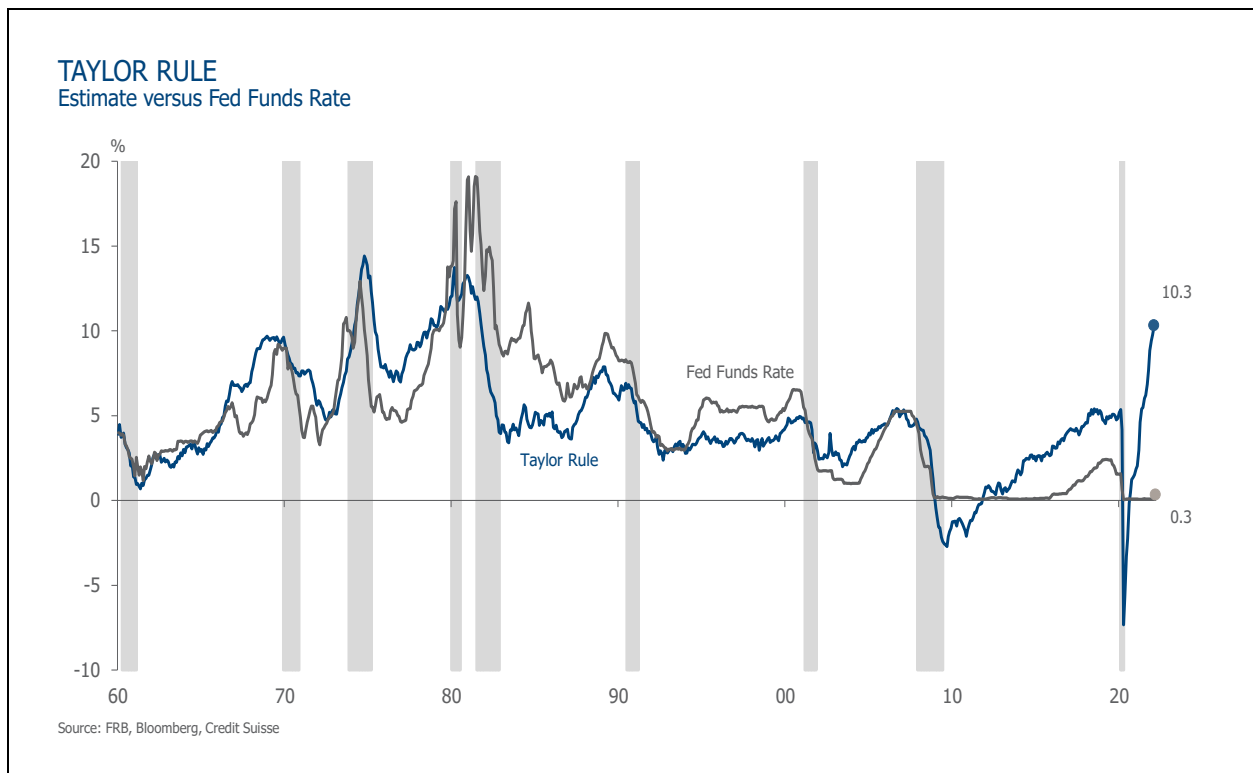
First on the Fed. Never have we seen the Fed Funds rates at such a discount to inflation.

REAL FED FUNDS RATE

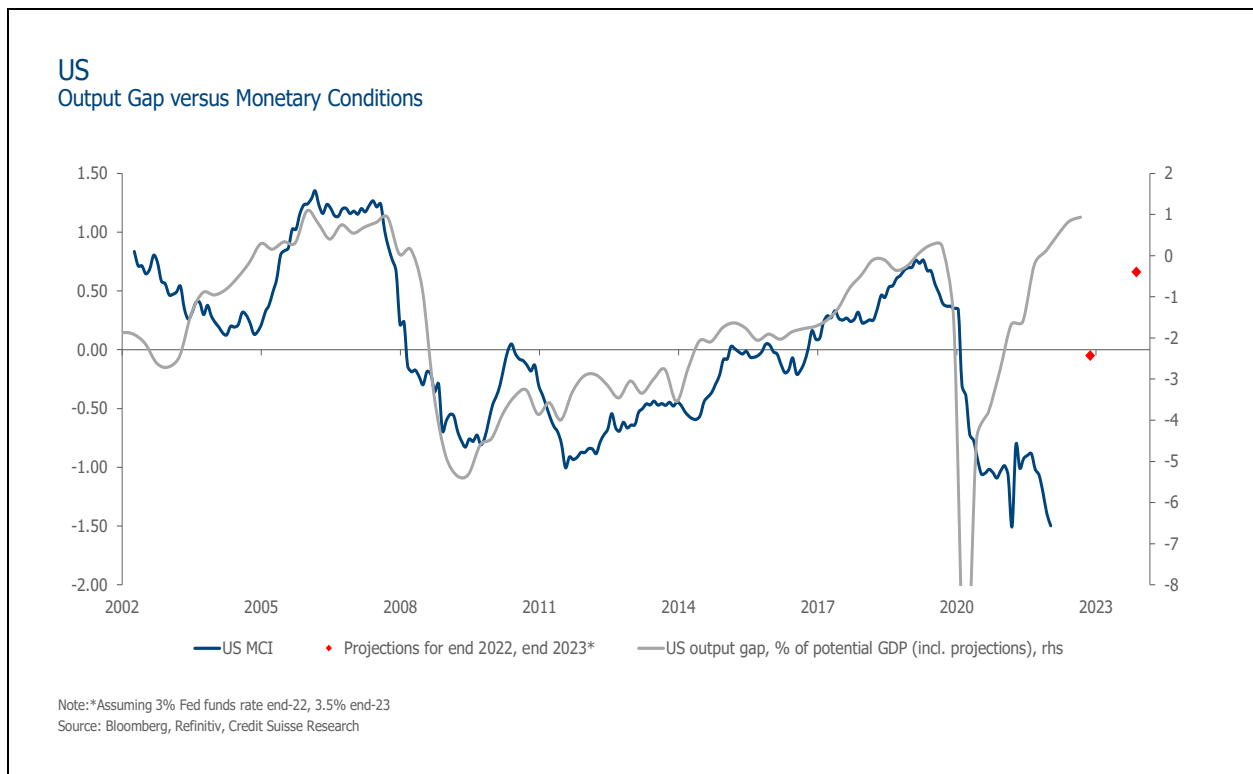


Note: Real Fed Funds calculated as the difference between Fed Funds rate and PCE
Source: FRB, BEA, Bloomberg, Credit Suisse

Inflation at 8.5% is running well above the 2% long term target. Unemployment is now 3.6% and has only been lower in three months over the last 50 years. Chairman Powell characterized labor market conditions as “consistent with maximum employment” when raising the Fed Funds rate range in March for the first time in four years to 0.25%-0.50%. Let that sink in. The Fed has rates at below 0.5% at a time when inflation is over 8% and unemployment under 4%. As Credit Suisse notes, today’s Fed Fund rate compares with a 30-year average of 2.7% and 60-year average of 4.8%. It’s hard to understand why we aren’t already at least near historic averages. The Taylor Rule which was created in the early 1990’s by Stanford economist John Taylor estimates where the Fed Funds rate should be based on inflation and the degree of deviation between current and trend GDP. It’s had a pretty strong pre-GFC track record suggests the target rate should be closer to 10%!



Fed actions have done little to reign in financial conditions, which are near their most accommodative levels in history at a time when the economy is running hot. In fact, the central bank was still injecting liquidity by buying bonds as recently as March of this year. Actual reduction in its balance sheet is not slated to occur until May.

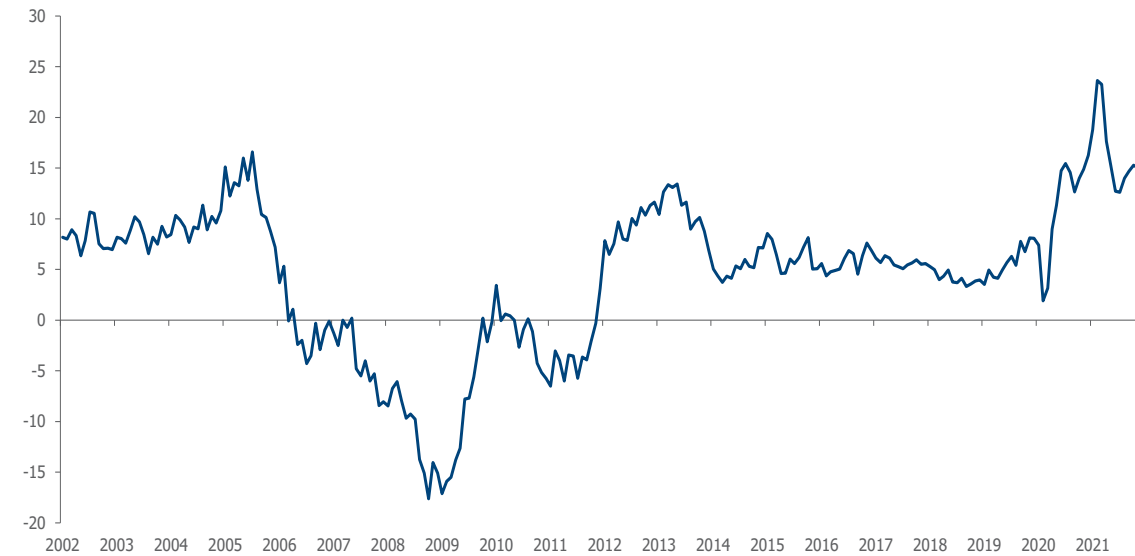


The Fed's reticence to change directions seems to lie in longer inflation expectations, which remained anchored so far with 5-year forward 5-year inflation expectations having only risen 35bp to 2.7% over the past year. The fixation on this measure recalls Soros' theory of reflexivity – the idea that "distorted views can influence the situation to which they relate by leading to inappropriate actions." Long term expectations that inflation will eventually come down significantly have shaped the Fed's reaction function. But without more forceful action now, the risk inflation becomes increasingly embedded grows. This is especially the case given monetary policy works with a lag, typically around 12 months.

Look at two specific factors which point to more sustained inflation. The wage component of the employment cost index is running at 4.5%, the fastest pace in at least 30 years. Upward pressure on wages is likely to continue with unemployment near record lows and job openings equal to 1.8x the number of unemployed workers, the highest level since at least 2001 (typically, there are more available workers than jobs). High labor costs eventually feed into overall prices. The cost of services makes up 60% of the CPI, according to Credit Suisse, and are directly driven by wages.

Housing is the other factor. The latest figures show the rise of existing home prices abated somewhat in February but still rose 15% year-on-year with the past two years among the highest increases post-WWII. These prices typically take 18 months to flow into rental rates and the owner equivalent rent metric, which makes up 40% of overall core CPI, meaning that the full impact of the 25% increase we saw a year ago has still to be felt in reported inflation.

US EXISTING HOME SALES MEDIAN PRICE Year over Year Percent Change

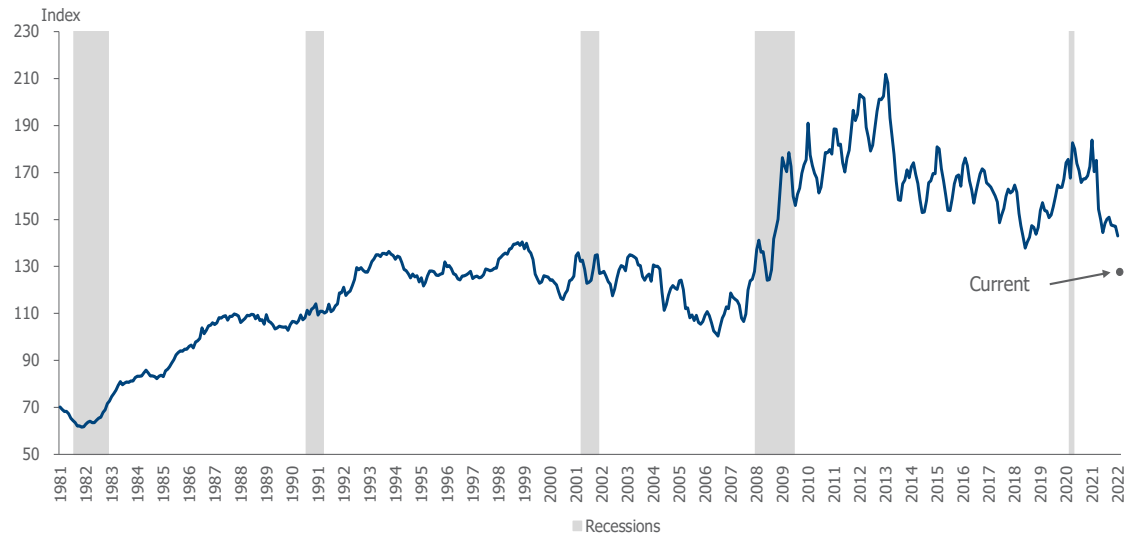


Source: Bloomberg, HPL

It is true that 30-year average mortgage rates have risen 200bps in a little over a year and at 4.85% are at the highest level since 2011. That has begun to have an impact on affordability, which is at its post-GFC crisis lows. But affordability remains high compared to the decades prior to 2008.

HOUSING AFFORDABILITY INDEX

1981 through Late March 2022



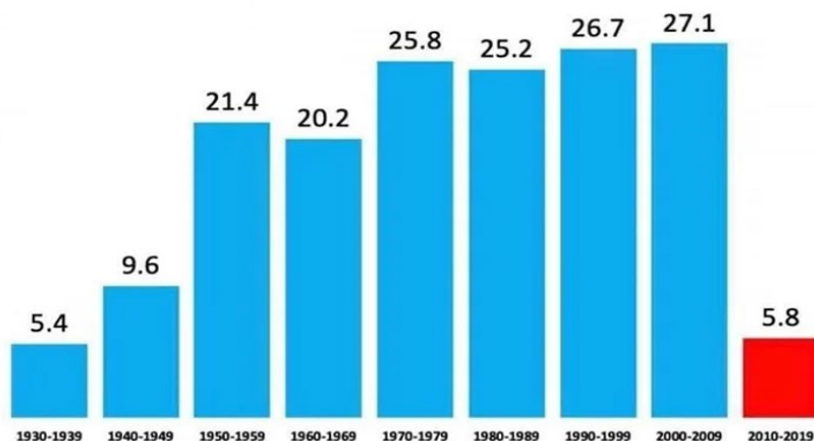
Note: Gray shading denotes S&P 500 drawdown >20%

Source: Notional Association of Realtors, Empirical Research Partners Analysis and Estimates

Empirical Research notes that housing inventory is 3 million units below normal, not surprising given the lack of new construction that followed the GFC housing collapse. Vacancy rates for both rental units and owner-occupied housing are both at 40-year lows. The credit quality of mortgages measured by FICO scores remains solid and wage growth supportive. First time buyers, as a share of the mortgage market, are near 20-year highs suggesting that millennials are finally leaving their parents' basements (too much together time during Covid?). All of this suggests that housing prices, while high relative to income, are likely to remain supported, feeding into inflation.

HOMES BUILT IN THE UNITED STATES BY DECADE

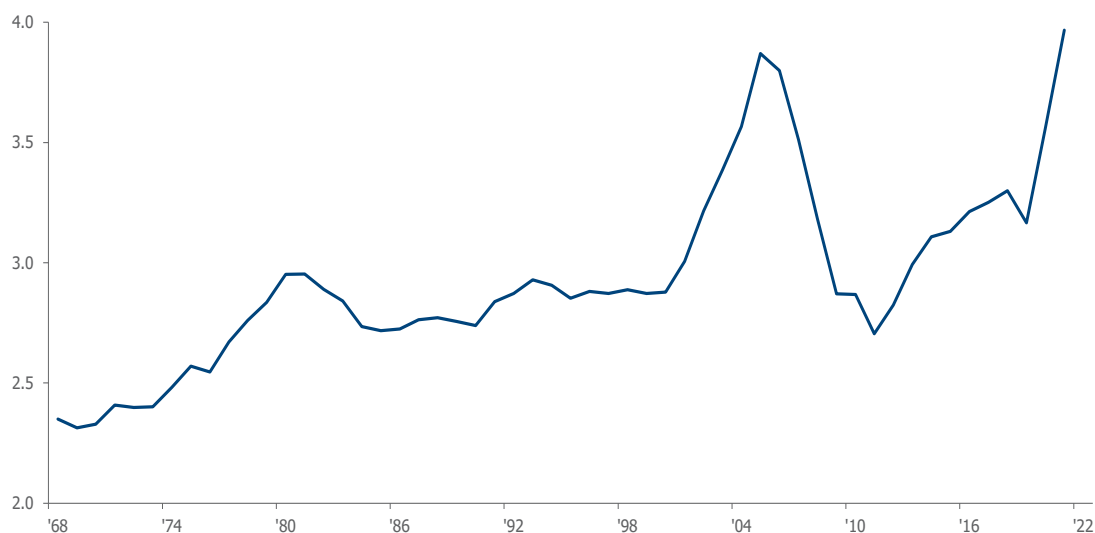
In Millions



Source: Robert Frick, NFCU

HOUSE PRICES VERSUS INCOME LEVELS

Median Existing 1-Family House Price Relative to Average Annual Income



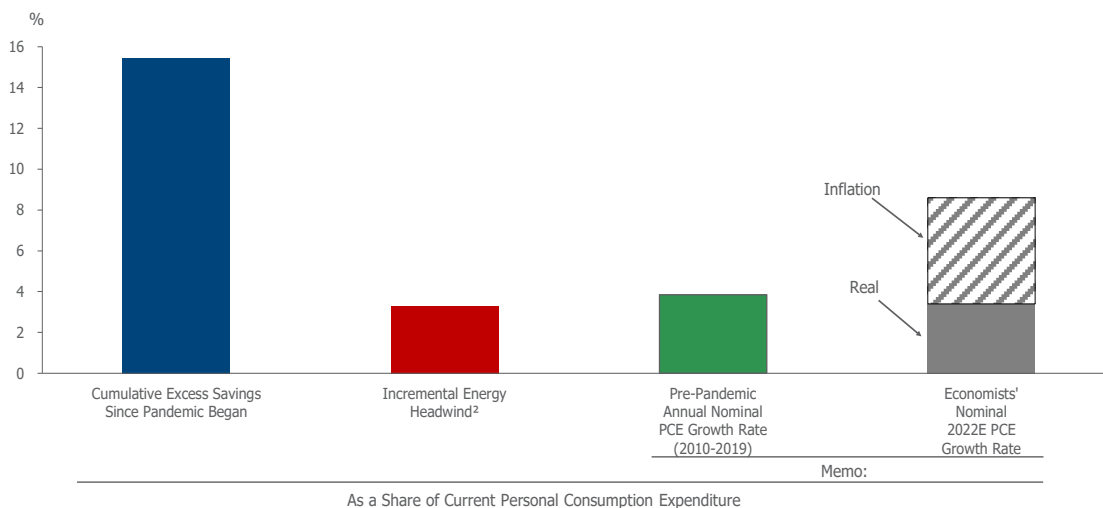
Source: Strategas Research Partners

Support for the housing market factors into our view of the resilience of the US consumer. The \$4.4 trillion in quantitative easing (QE) during the pandemic combined with \$5 trillion of fiscal stimulus (18% and 21% of GDP respectively) have left US consumers sitting with over \$2 trillion in excess savings, equal to 15% of annual personal expenditure. When combined with higher home values and other asset appreciation, household wealth is now nearly 30% higher than it was on the eve of the pandemic. Together with rising wage growth, it's no surprise retail sales remain incredibly strong, 25% above pre-pandemic levels. Higher energy costs will divert some of this spending power, but even these need to be seen in context. While gasoline prices are back to their 2008 peak levels, they are still 40% lower when measured relative to wages and only 15% above the past decade's average on this metric, according to Wells Fargo Research. Excess savings far exceed the potential hit from even a doubling of energy costs.

US

Cumulative Excess Savings and Potential Incremental Energy Headwind as a Share of Current Personal Consumption Expenditure

2020 through January 2022

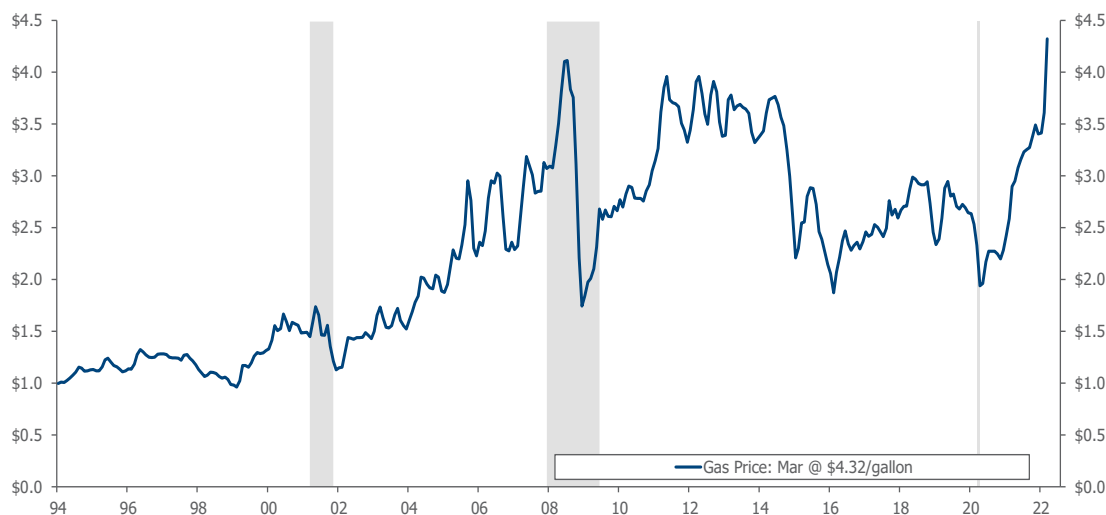


Note: ¹ Excess savings are those above the prevailing savings rate at the end of 2019.

² Incremental spending relative to 2021 assuming a +100% increase in gasoline, natural gas, and heating oil from 2021 levels and a +50% increase in electricity prices. Assumes no demand elasticity. Source: Bureau of Economic Analysis, Empirical Research Partners Analysis.

DON'T FEAR THE CREEPER

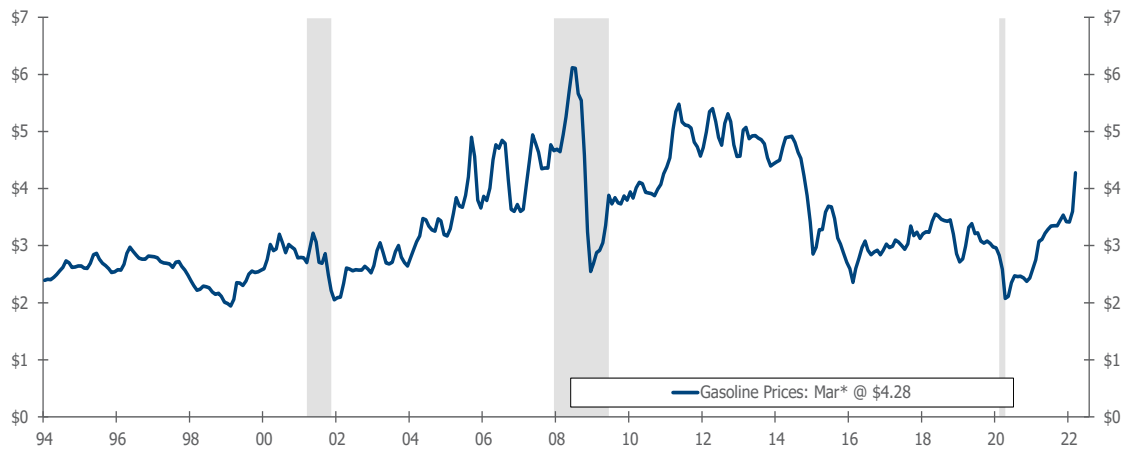
US Gasoline Price Per Gallon



Source: U.S. Energy Information Association (EIA), Wells Fargo Economics

GASOLINE PRICES ADJUSTED FOR WAGES

US Retail Gasoline Prices Adjusted Using Average Hourly Earnings
of Private Sector Productions and Nonsupervisory Workers



Note: Wells Fargo estimate for March 2022 @ \$4.28

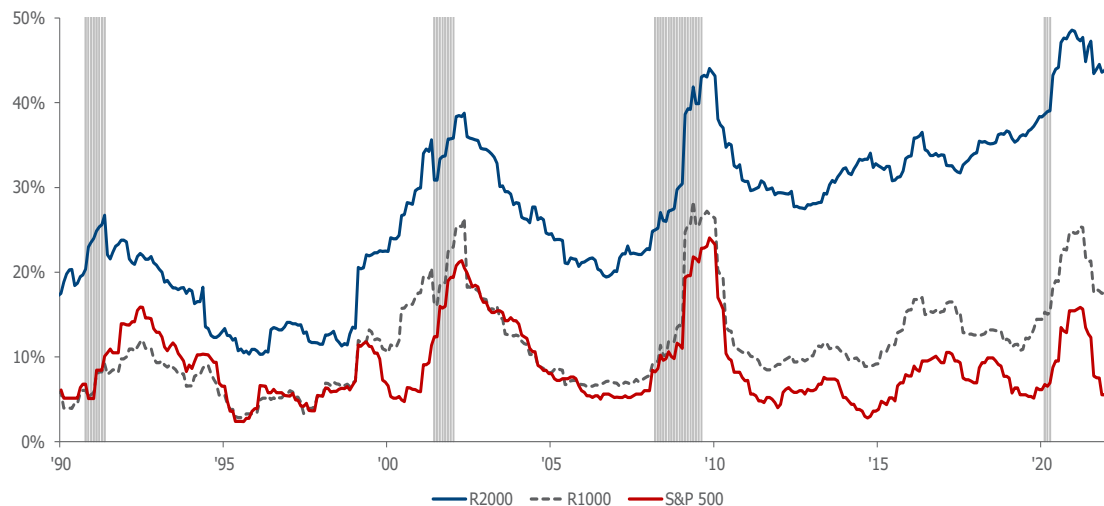
Source: EIA, US Department of Labor and Wells Fargo Economics

Higher prices, whether at the pump or at the food store, are hurting consumer confidence. Spending growth may well remain high because consumers increasingly pay more for the same (or less) quantity of goods and services. But the strong starting point (delevered balance sheets, excess savings) we believe will still sustain *nominal* growth higher for longer and keep upward pressure on interest rates, both at the short end and long end.

Rising rates have brought carnage to the more speculative areas of the market. At its recent lows, the NASDAQ saw more than half of its companies down 30% or more from their highs and nearly 30% of companies down 60% or more. The Goldman Sachs US non-profitable tech basket has fallen 55% from its peak a year ago, with most of the drop (46%) occurring since November last year. Even after this drop, this group of 50 companies (all of which lose money and collectively burn cash) still sells for 11x sales. The decline has brought down the weighting of non-earners in the larger cap S&P universe but done little to address the extreme which still exists in the broader Russell 2000 universe, as shown below.

PERCENT OF NON-EARNERS

Russell 2000, Russell 1000, & S&P 500
Based on Companies with Available Data

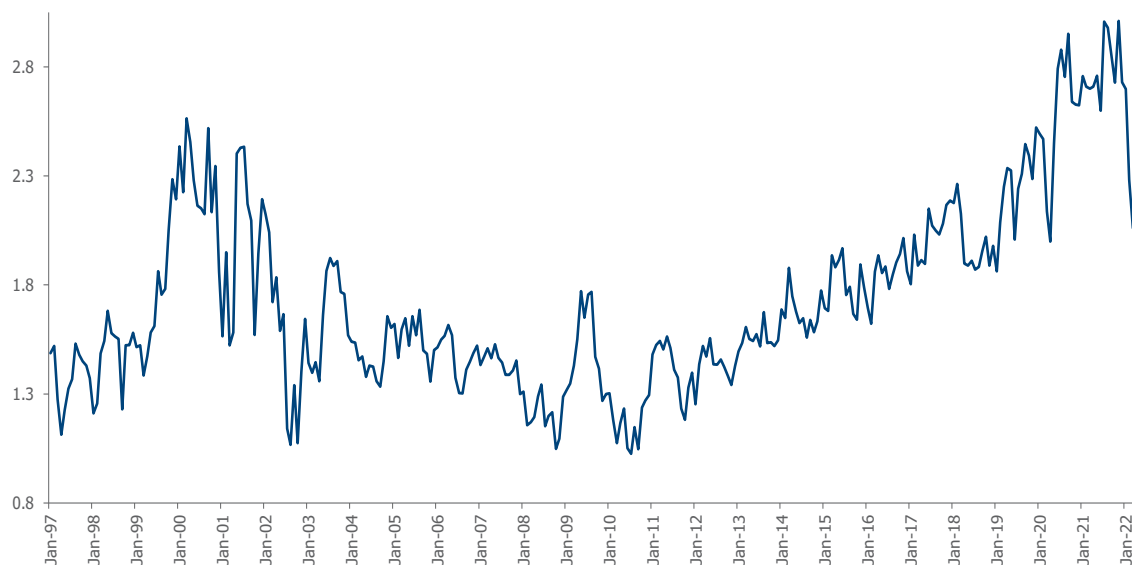


Source: Strategas Research Partners

The bear market in the NASDAQ has more work to do. Many tech companies continue to look expensive relative to history even after their recent correction. The Redburn chart below compares price to sales valuations for US software companies with their expected growth over the coming two years. The ratio reached 3x before the current pullback, well above their 2000 peak of 2.5x. In the decline that followed the dotcom bubble, the median software company eventually corrected to 1x sales to growth over a period of about two years. After the selloff over the past four months, the group is still at twice that previous low (2x).

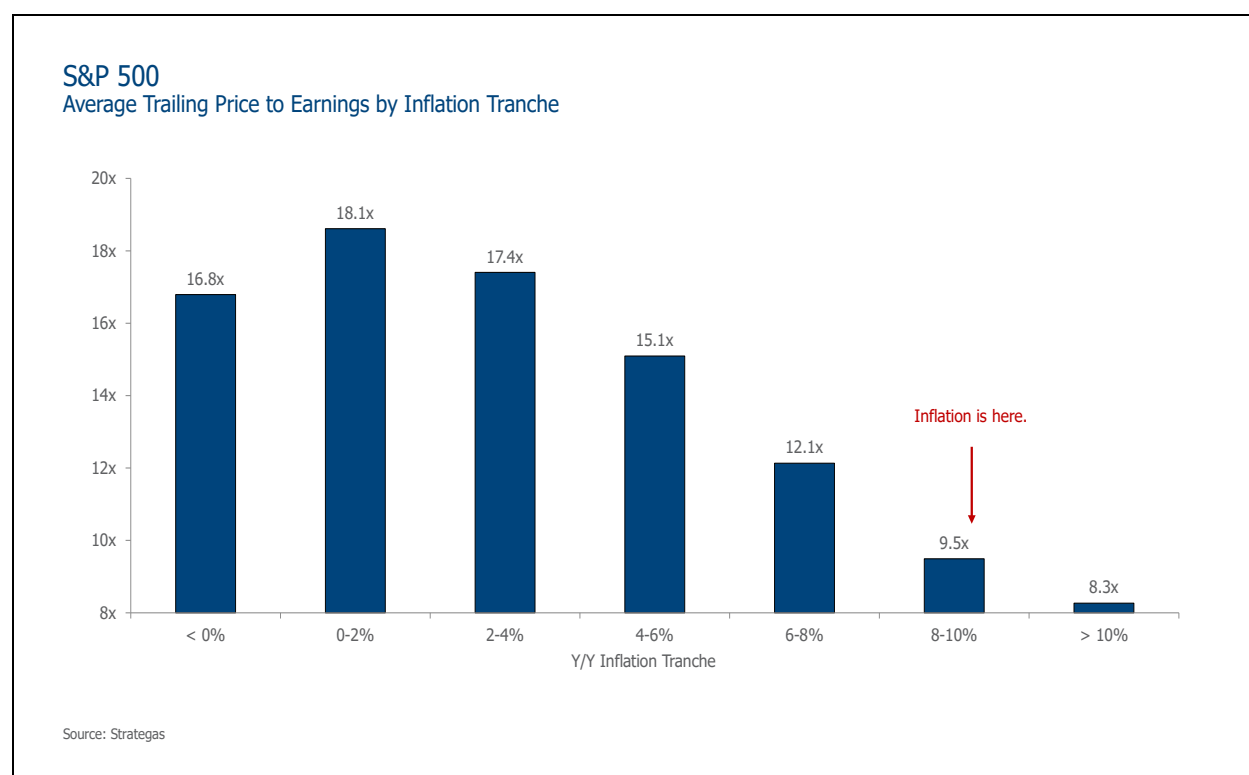
SOFTWARE COMPANIES

Median Price to Sales Relative to Growth (PEG Ratio)



Source: Redburn, DataStream

Even the overall US market remains expensive on an absolute basis, relative to its history and compared with overseas markets. The current price to consensus earnings 12 months forward of 19.4x looks out of whack with where multiples have historically been in times of higher inflation.



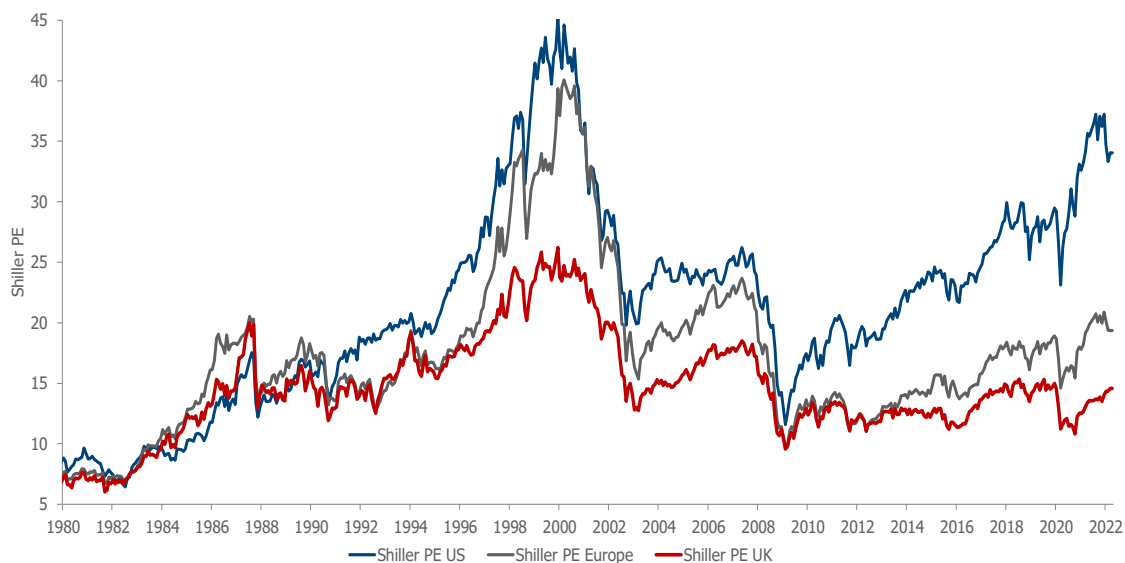
Longer term valuations have barely budged with the cyclically adjusted rolling P/E at alarmingly high levels, in sharp contrast with Europe or the UK.

SHILLER CAPE PRICE TO EARNINGS RATIO



Source: Robert J. Shiller

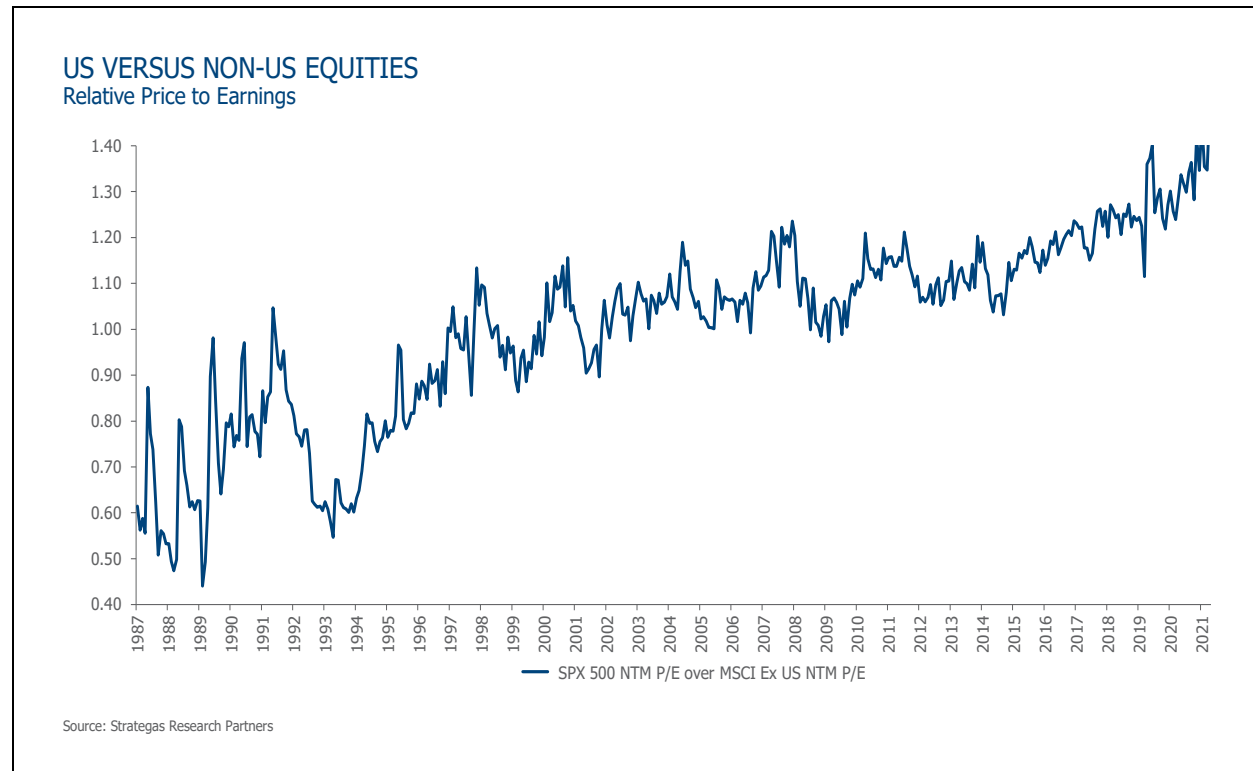
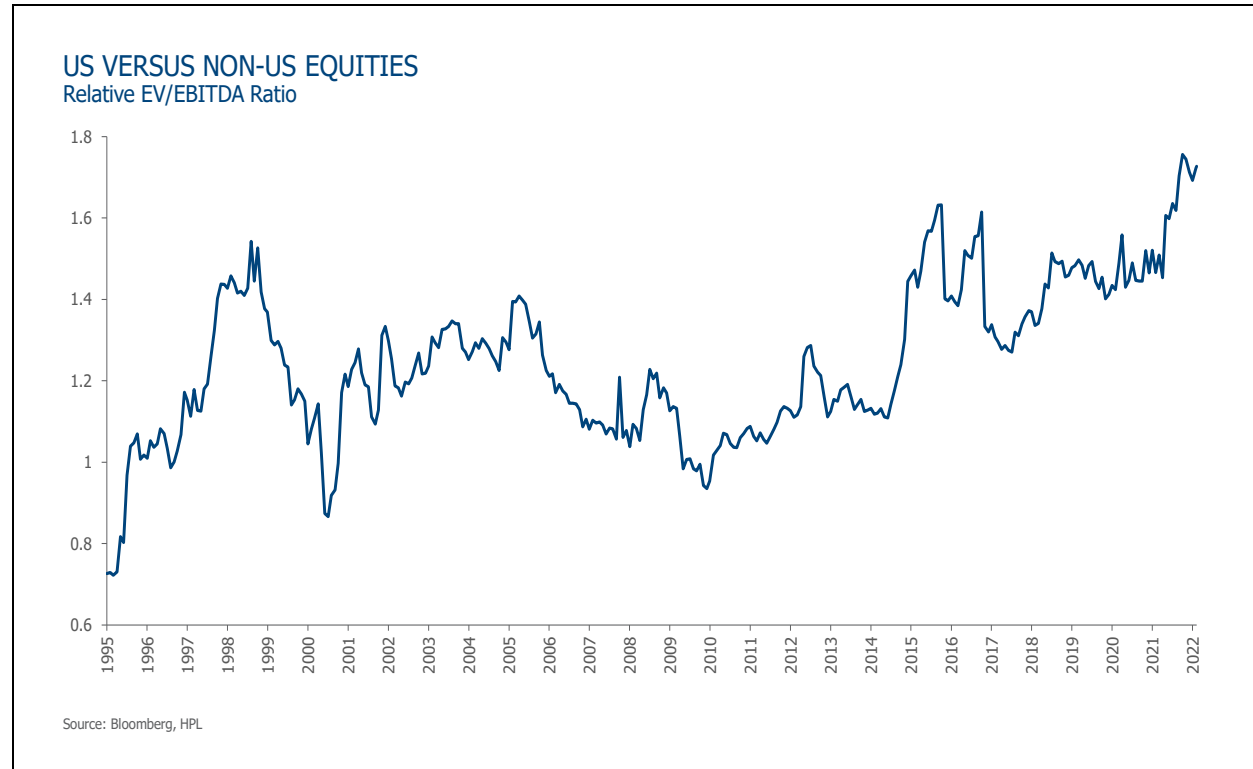
REGIONAL SHILLER CAPE PRICE TO EARNINGS RATIO



Note: Shiller PE defined as inflation adjusted price to 10Y average EPS

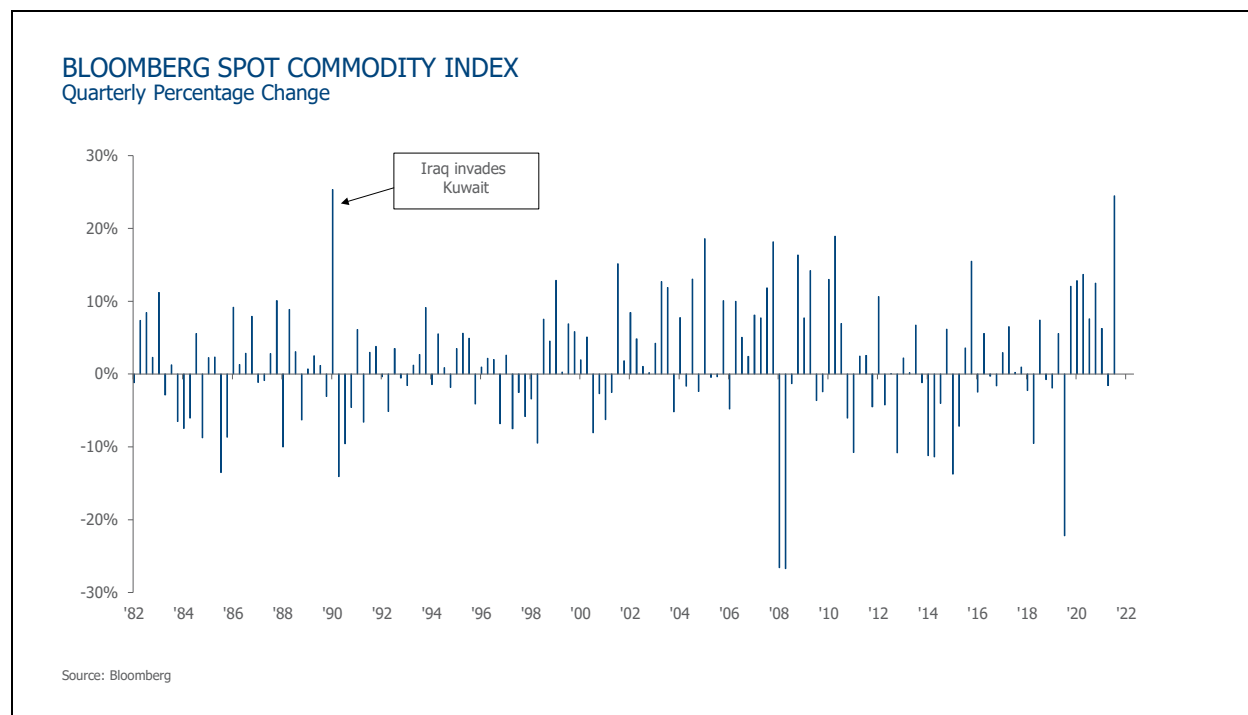
Source: MSCI, FTSE, S&P, OECD, Various National Sources, Global Financial Data, S&P, Robert Shiller, Morgan Stanley Research

And versus foreign markets generally, the US is more expensive than it has ever been. On price to earnings, US stocks trade at a 50% premium. On an enterprise value relative to operating income before depreciation, they sell at a 72% premium. Both are record highs for as far back as we can measure.

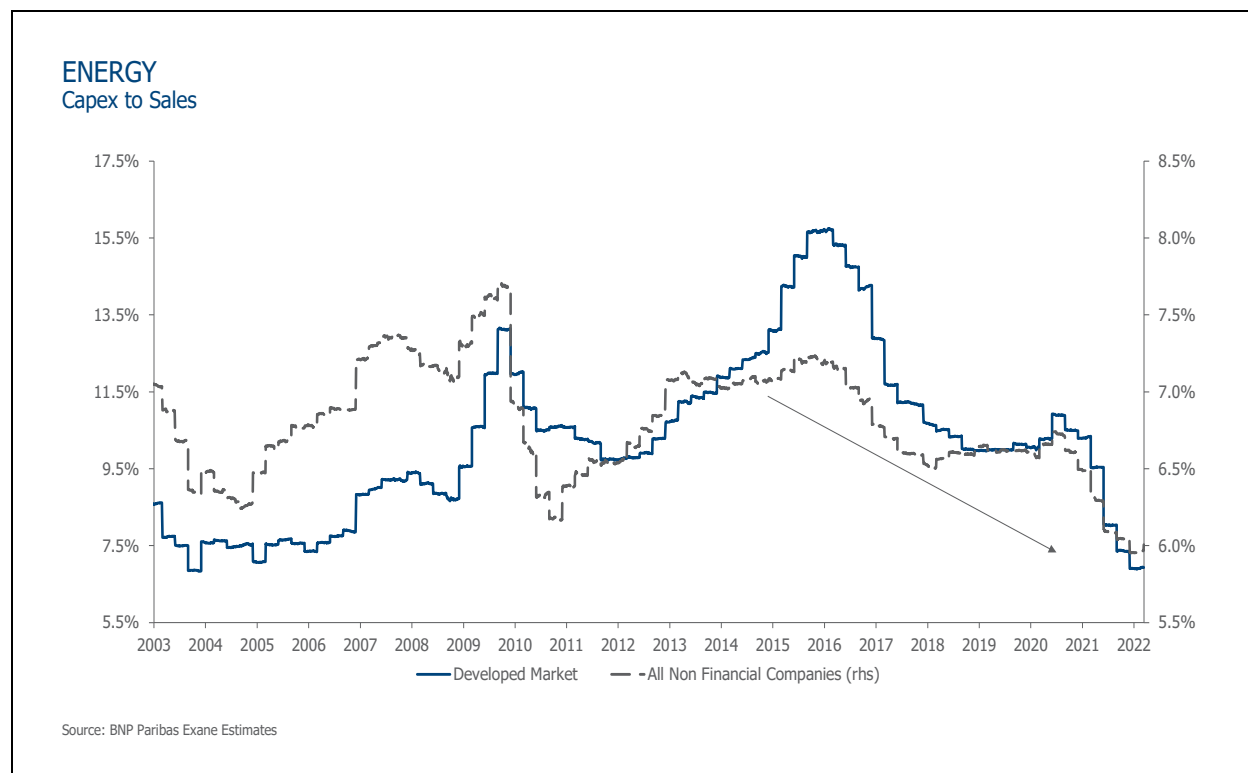


(2) Changing Commodity Behavior

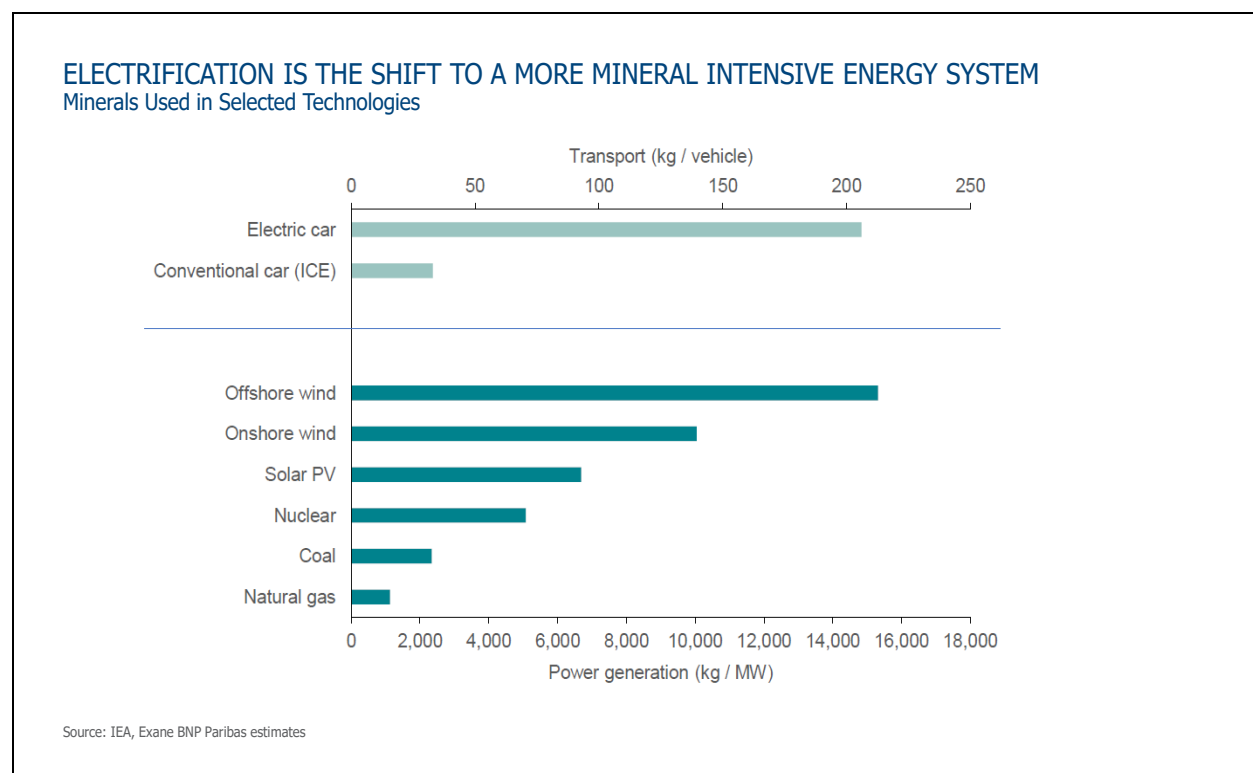
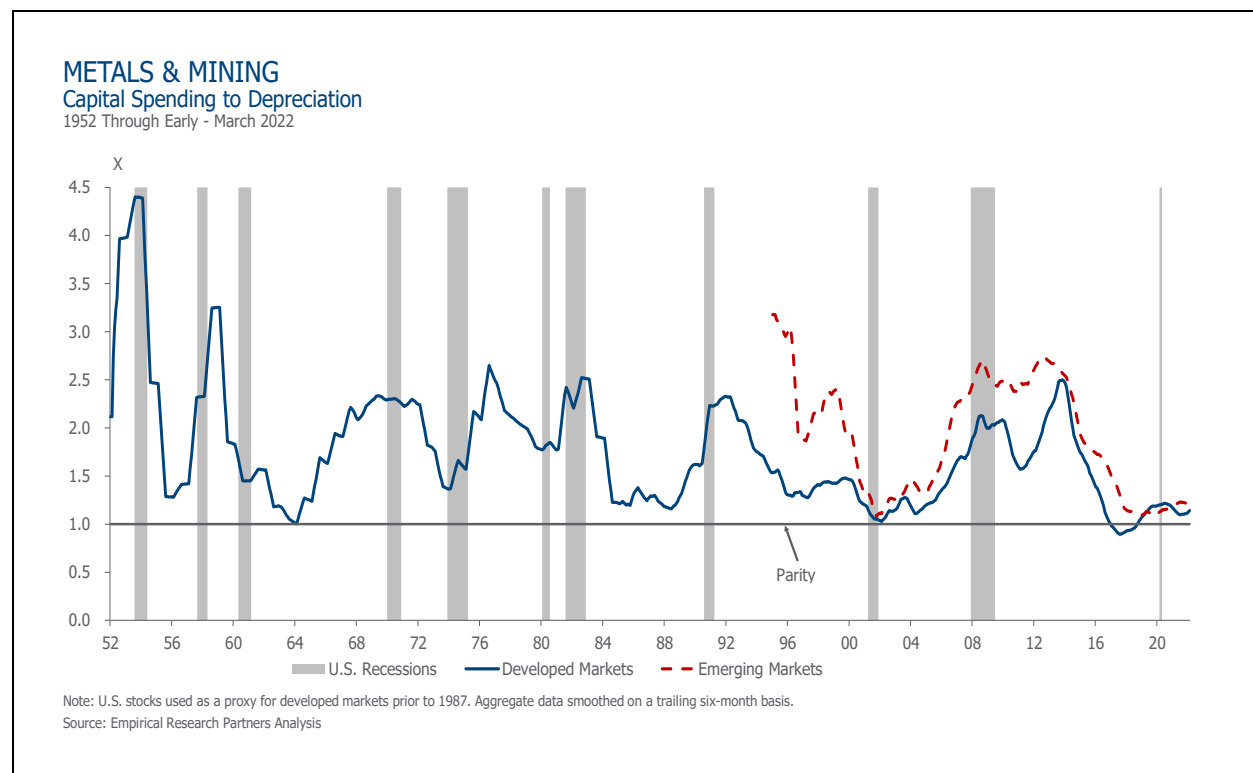
Much like bonds, commodity prices have also acted differently during this equity market sell-off. As the previous table on page 1 showed, in every other correction energy and materials prices declined. This is the first where commodity prices have risen, jumping over 30% since the start of the year, one of the largest increases on record.



Commodity prices initially rebounded from pandemic lows largely due to constrained supply exacerbated by years of underinvestment. Despite high oil prices and record cash flows, capital investment by energy companies remains near historic lows. The last time oil prices were at these levels, E&P capital expenditure was four times higher while overall spending by the largest energy companies was twice as high.

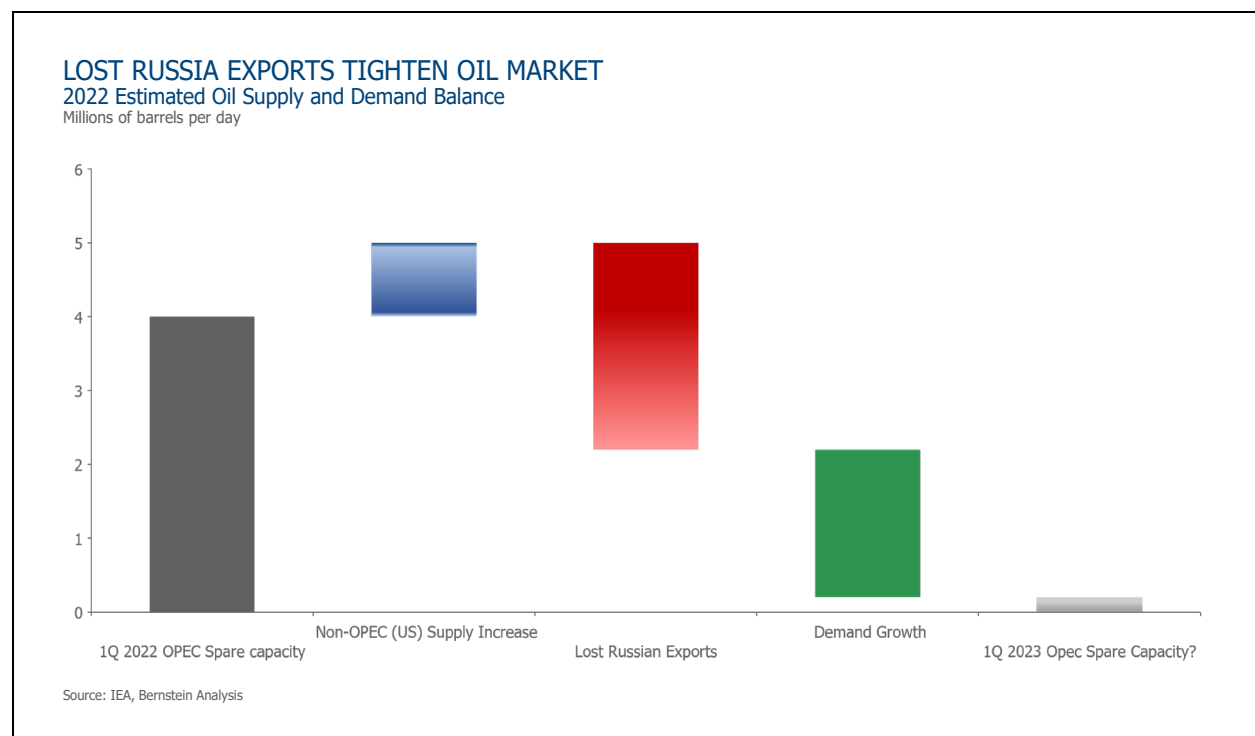


This underinvestment is largely a function of capital being allocated away from fossil fuels toward renewables, resulting in escalating demand for metals where capex remains similarly constrained. That's led to upward pressure on everything from copper (up 63% since year end 2019, pre-pandemic) to nickel (+128%) to iron ore (up 37%).



The tragic invasion of the Ukraine by Russia is an additional shock to commodity markets. Consider the impact on food prices: Russia and Ukraine together produce nearly a quarter of the world's wheat, a fifth of its corn, and 80% of its sunflower oil production according to 13D Research. Russia is the world's largest exporter of fertilizer, which has implications for the cost of farming and food globally. Metal supplies are also hit. Russia is home to the world's third largest copper reserves, one of the largest producers of rare-earth metals (used in electronics) and supplies nearly half of the world's palladium (used in car production).

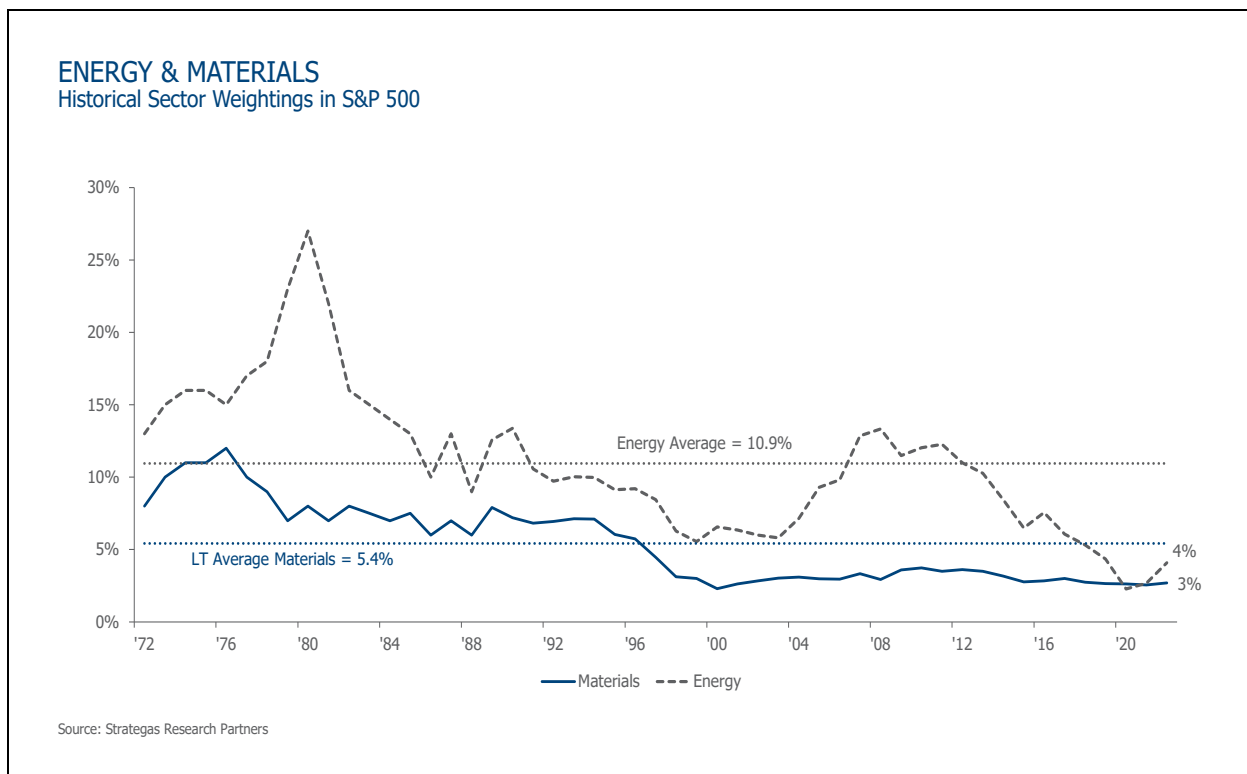
Energy markets are most disrupted. Russia is the second largest gas producer with 17% global share, and third largest oil producer with 12% global share. The estimated 3mbpd short term disruption in Russian oil supply (roughly 30% of its pre-war production) has a meaningful impact on an already tight market as shown below. The is especially true at a time when inventory levels are near historic lows. The longer-term implication for Russian production may be even greater, as sanctions cut off imports of technical equipment from the West needed to support extraction from both existing and new projects. Bernstein note that Russian exports fell by 6mbpd thru the late 90s following the disruption caused by the collapse of the Berlin Wall.



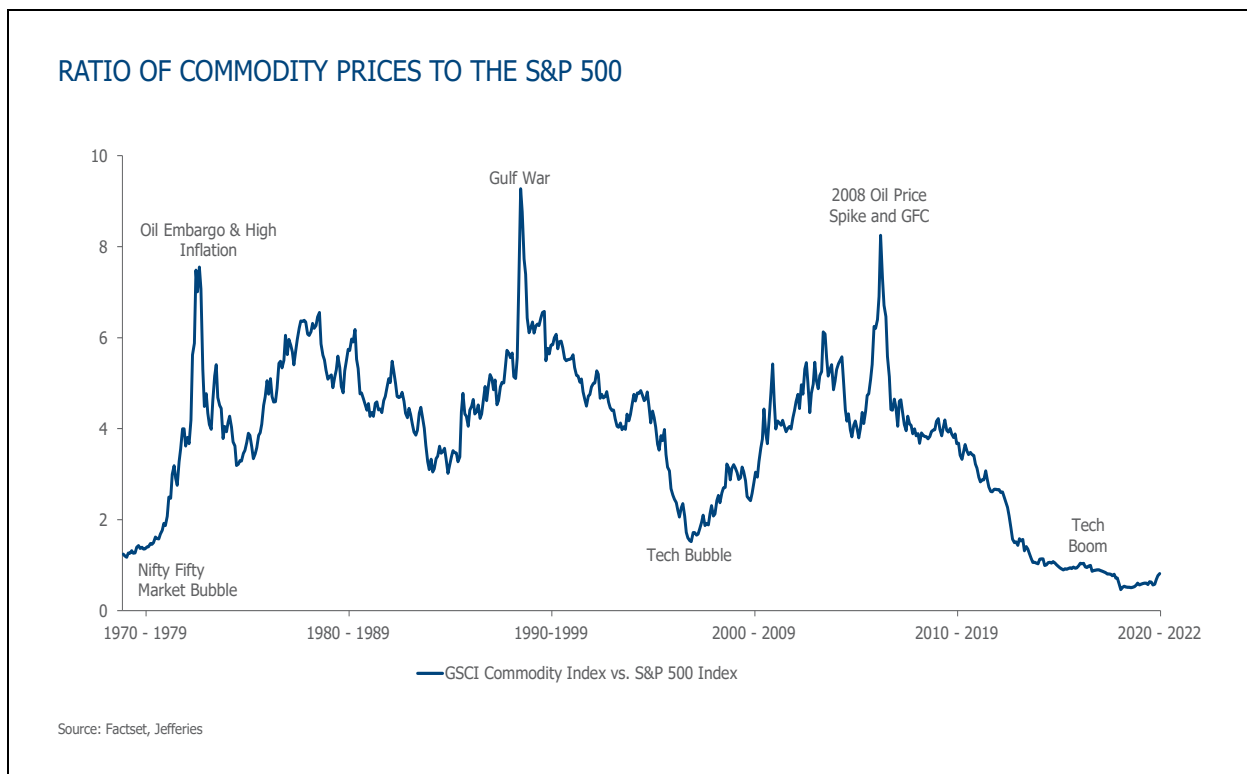
Europe is most exposed, relying on Russia for 40% of its natural gas needs, 32% of its coal and 26% of its crude oil. Gas has been particularly impacted with a 200% yoy price increase in February feeding directly into skyrocketing European electricity prices. Beyond the immediate disruptions, Putin's actions have forced a complete reorientation of European energy markets. The EU has laid out plans to reduce their Russian gas purchases 80% by year end and fully replace them well before 2030, in part by increasing LNG imports which largely come from the US. President Biden has promised to increase US LNG sales to Europe by 15bn cubic tons in 2022 and 50bct by 2030. Achieving this goal will require significant investment. Russian gas supplies to Europe are equal in size to a third of the entire global LNG market currently and replacing them entirely would require 50% more capacity than is presently planned thru 2025.

Russia's actions are a stark reminder of the need for energy security. While the move toward increased renewables is necessary to mitigate climate change, it must be accompanied with a realistic acceptance that the transition will require fossil fuels. As discussed, electrification and renewables need tremendous amounts of industrial metals to build. Forcing the transition at a pace which the physical realities of mining cannot meet creates artificial shortages ultimately resulting in rapidly inflating costs. Europe was already seeing the consequences in higher electricity prices even before the invasion. With higher prices now attracting political attention both in the US and Europe, natural gas should increasingly be seen as the bridge in this transformation, with lower carbon emissions than other fuels and greater abundance in geographies aligned with the West.

While energy stocks and materials performed well in the first quarter, they still make up a much smaller share of markets than they have historically. The trends above suggest there is further potential for this weighting to rise.



Despite the increases of the past two years, commodity prices are also still relatively low when compared with other asset classes like equities for example.



On a broader view, Russia's actions have led seismic geopolitical shifts with enduring and profound implications. Look no further than the Swiss abandoning over 200 years of neutrality. Germany's pacifist attitude toward military spending has completely reversed with a 50% increase in its defense budget planned for this year alone, making it larger than Russia's defense budget. In complete contrast with the focus on austerity that dominated the decade following the GFC, the move toward increased government expenditure which started in the response to the pandemic has been accelerated. Goldman Sachs estimate Germany's fiscal deficit in 2022 will increase from 3.3% of GDP in 2022 to 5.9%. Business investment is also likely to increase. Companies were already looking to address the fragility of supply chains in the wake of the pandemic by onshoring production. The war has accelerated this imperative. Energy related investments are needed to adjust flows to new political realities, while government incentives will drive increased capital spend aimed at addressing climate change. Morgan Stanley estimates \$10-20 trillion will need to be spent thru 2040 re-architecting energy infrastructure.

It's worth pausing here to address the elephant in the room, namely the implications Russian actions have for the investability of China. Parallels between Russia's desire to take control of Ukraine and China's claims over Taiwan are not hard to draw. China's declaration of "no limits" support for Russia a month prior to the invasion have pushed us higher into what Kissinger described as "the foothills of a new Cold War" and expanded its front to encompass Eurasian autocracies versus Western democracies. The punishing sanctions placed on Russia came with the unspoken risk of what to do should they be blatantly disregarded by the Chinese, or worse should China support Russia directly with military equipment.

In this regard, a few points are worth considering. While not without costs for the West, primarily from higher energy costs, economically isolating Russia has far fewer implications than extending sanctions to China. Together Russia and Ukraine account for less than 2% of global GDP compared with China at nearly 10x that figure. It would be far more costly for multinationals to voluntarily shutter or exit operations in mainland China as they have done in Russia. According to Gavekal Dragenomics, China accounts for nearly \$200bn worth of US exports and another \$600bn in sales of locally made and sold products by US companies (think iPhones made in China sold to Chinese customers). Equally, it is not in China's leadership interest to precipitate an economic collapse when much of its legitimacy has been built on improving household incomes. The speed with which Russia's actions have galvanized Western alliances must be sobering for any country contemplating extraterritorial excursions. China holds over \$1tn of treasuries and does not have a convertible currency. For all the discussion over whether China would weaponize treasury holdings in response to Trump's tariffs, the confiscation of Russian reserves showed these to be a double-edged sword. Despite its growing dominance of global trade, reduced access to dollars would be problematic for a country that is the world's largest importer of food needing to sustain 20% of the earth's population on less than 7% of the planet's arable land. In many ways, the existential threat of mutually assured destruction that prevented outright military confrontation with the USSR during Cold War I has been replaced by economic mutually assured destruction in the emerging Cold War II encouraging detente between China and the West.

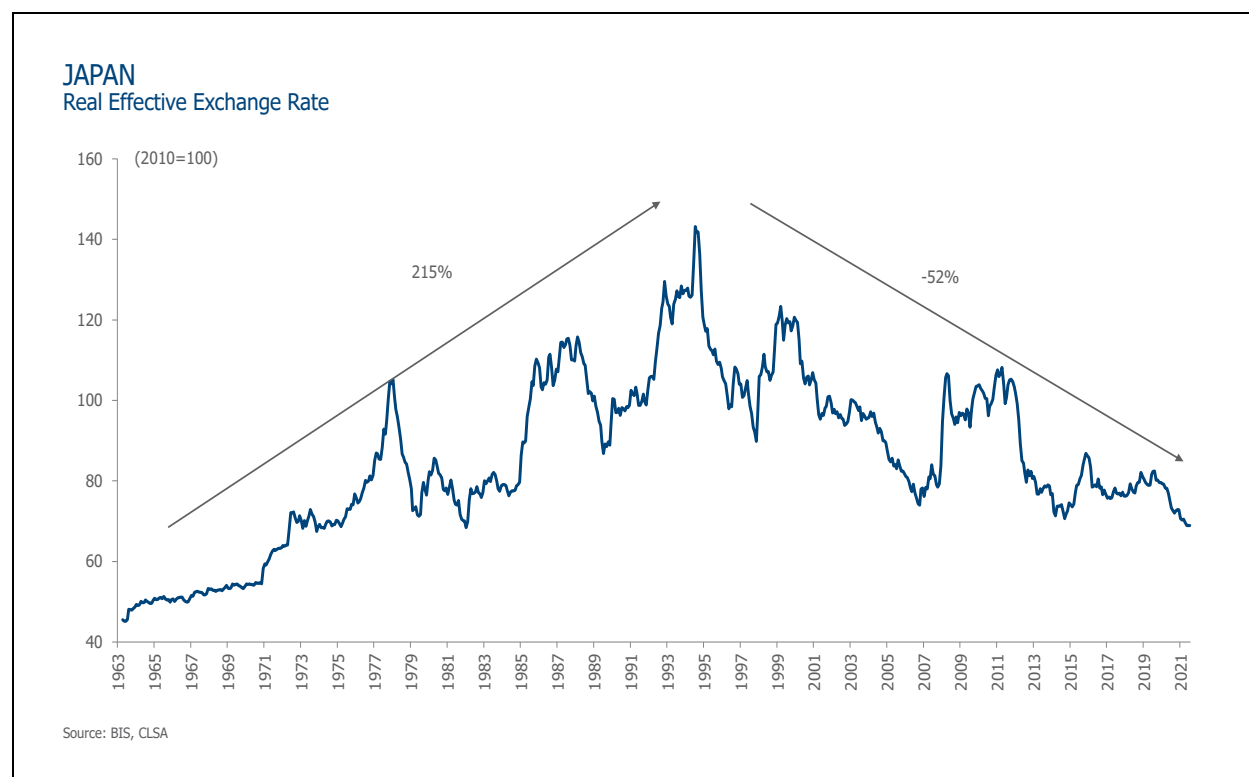
That is not to say that there are not clear red lines that might trip the West into imposing sanctions or China into acting militarily in Taiwan. The statement following the Ukraine invasion that China's relations with Russia have a bottom line and the actions by Chinese financial institutions with respect to sanctions thus far are both important signals. While China has maintained its rhetorical support of Russia even in the face of mounting war crimes, it has yet to blatantly disregard the sanctions put in place by the West. Given the price Russia is paying, there is little reason why recent events would embolden China toward Taiwan, especially when it can continue to play the long game. Opportunities may arise in the distant future for some form of acceptable peaceful resolution. Even if that is Pollyannish, China sees itself growing relatively stronger over time, making a military victory more probable than it would be today. Waiting also buys time to build the self-sufficiency needed to withstand the type of economic response the West has demonstrated against Russia, a self-sufficiency that does not exist in China today given its dependence on trade. That said, an obvious trigger event would be Taiwan declaring independence (or being recognized as such). The policy of strategic ambiguity over whether the US would defend Taiwan in such a scenario has been in place for nearly 50 years precisely so as not to embolden those who seek independence. The refusal of the West to confront a nuclear power in aid of another nascent democracy can only heighten that ambiguity.

Even if this central case of averting an escalation of tensions comes to pass, it's clear that the pace of decoupling and diversification away from China will accelerate. Production strategic to national interests will relocate home or with close allies. Supply chains whose vulnerabilities were exposed in the pandemic will be rebuilt with great resilience and reduced PRC dependance. The US has described the change as a "realignment of commercial ties rather than a divorce."

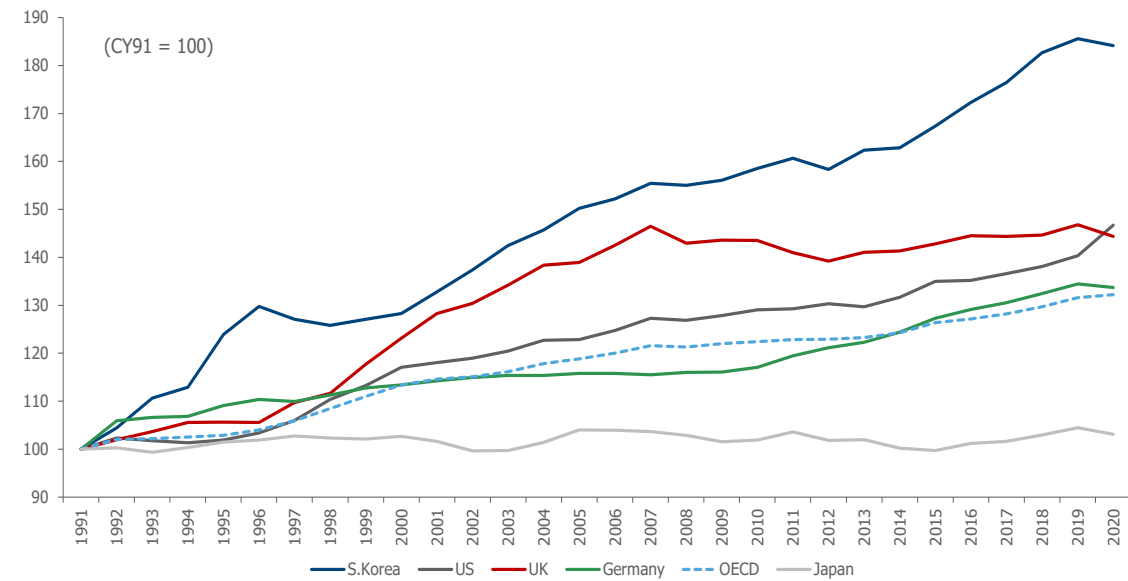
(3) A Change in Currency Behavior

The final interesting divergence in this equity selloff we would highlight lies in currency markets. It is not unusual to see the dollar strengthen during market correction as has happened of late. This makes sense with European economic growth more directly exposed to the fallout from the Ukraine invasion. The interesting divergence lies further east as shown back in the table on page 1. Since the start of 2021, the Japanese yen has fallen 18% against the US dollar, and since the sell-off in US equities began it has dropped 8%. In other post-GFC corrections, the yen has been a safe harbor, strengthening as risk-off investors unwound cheap Japanese borrowings used to fund carry trades in riskier assets. It now appears the rising interest rate differential with the US is diverting flows out of Japan.

At ¥125, the yen is now at its weakest levels versus the dollar in the past twenty years. Because inflation has been and remains much lower in Japan than in other countries, on a real effective basis the yen is now the cheapest it has been since the 1970s having fallen 52% from its high, as shown by CLSA.

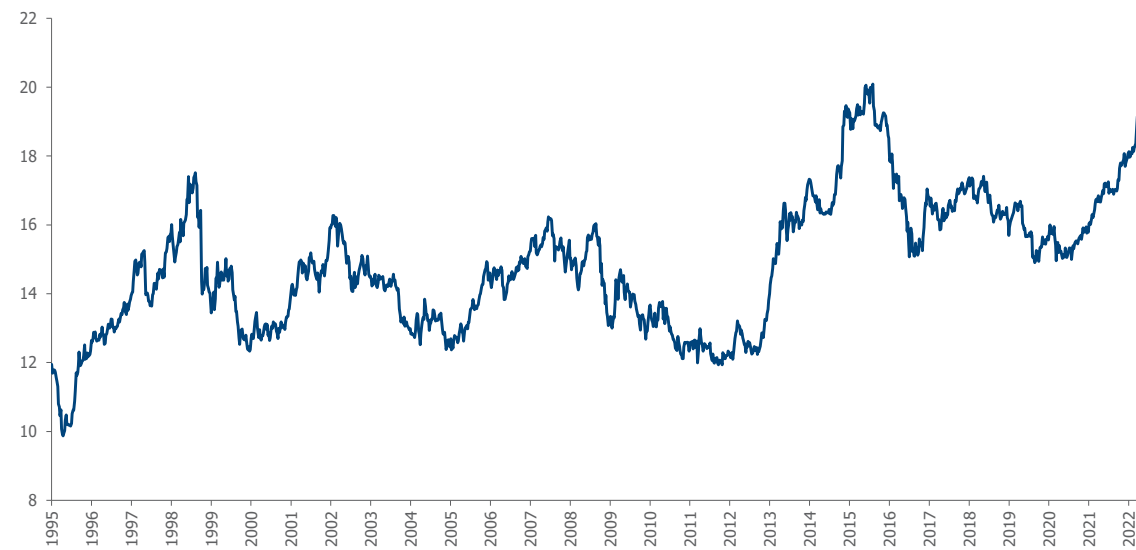


AVERAGE WAGES IN PPP DOLLARS

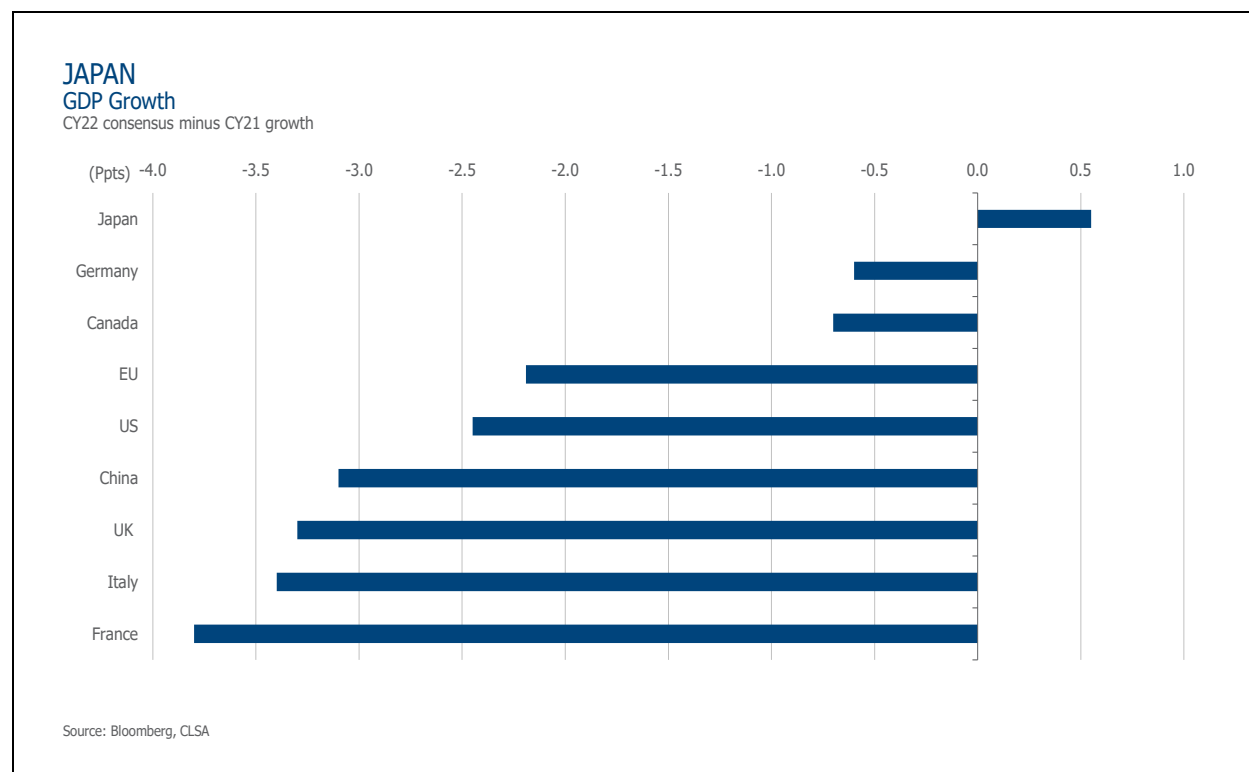
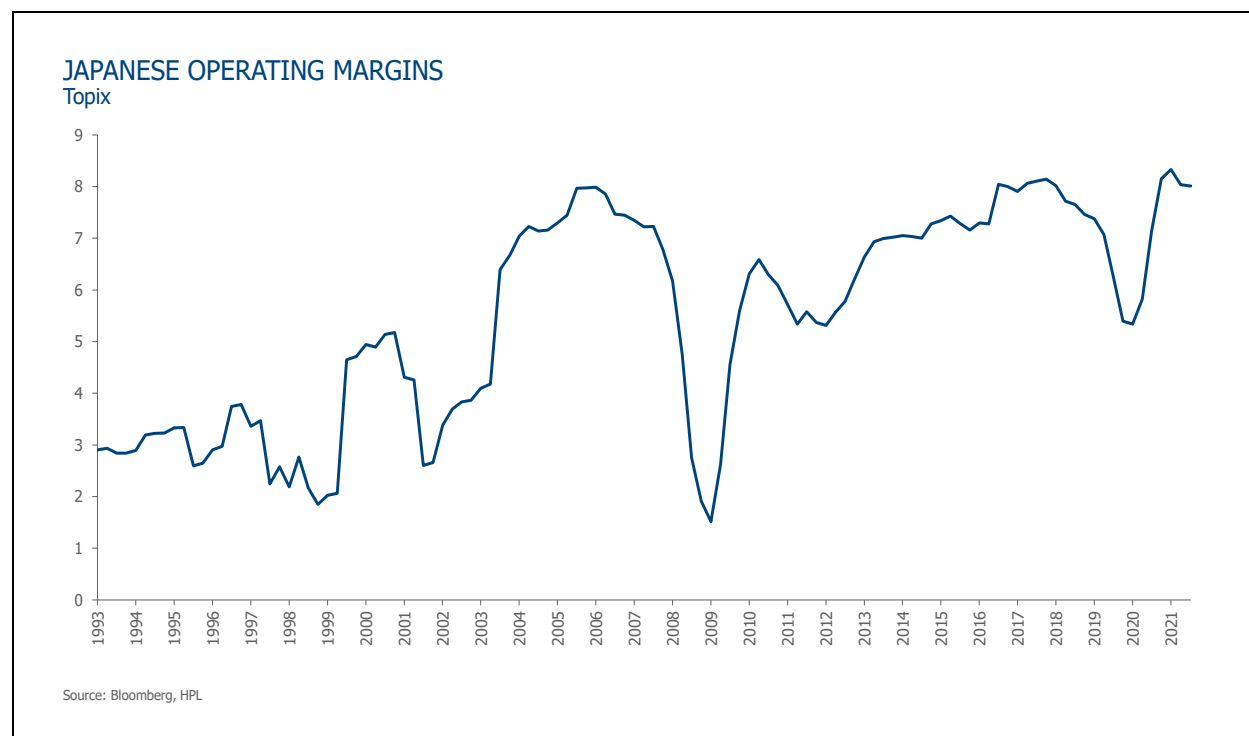


Look too at how cheap the yen is versus the Chinese renminbi.

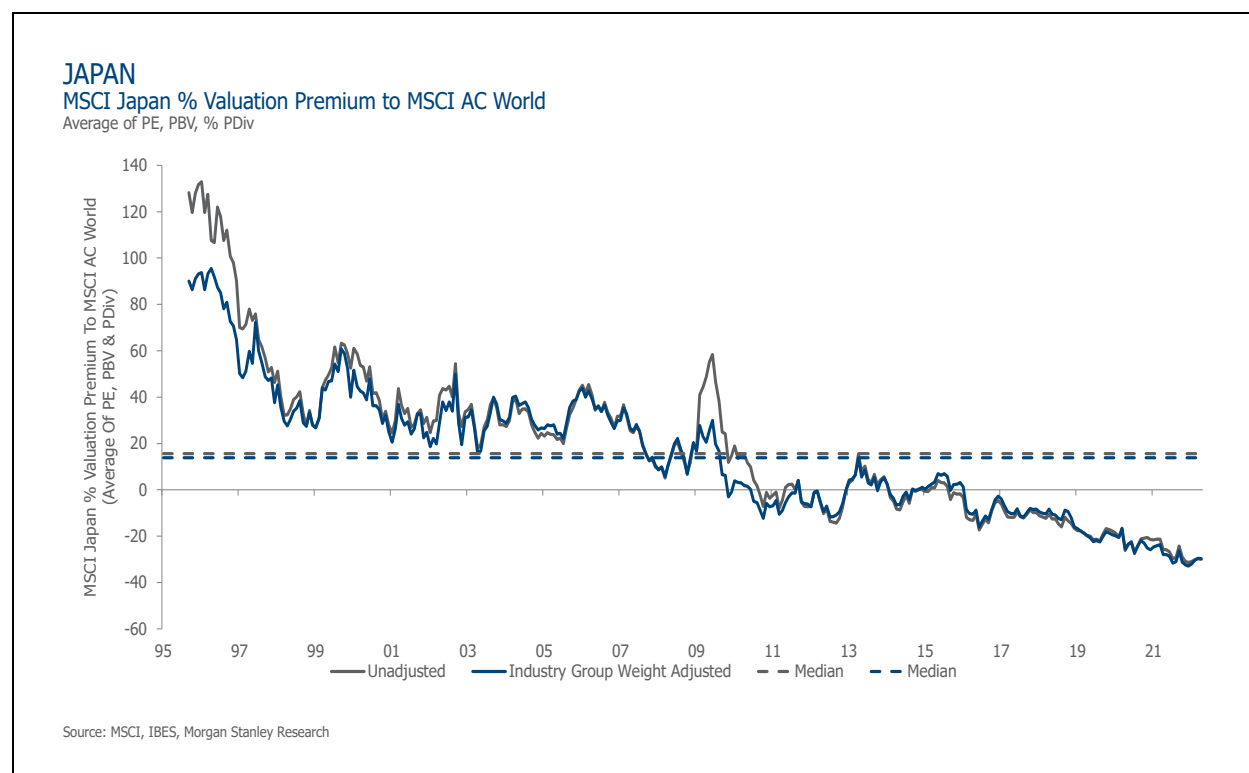
JAPANESE YEN VERSUS CHINESE CNY



China's rapid progress up the manufacturing value-chain since entering the WTO has challenged Japanese exporters. The weaker yen improves these exporters competitive position. It also results in high reported profits when foreign earnings (including those from selling in China) are translated back home. To the degree that polarization drives a shift in manufacturing out of China, it may increasingly benefit Japanese producers able to step into the void. That is especially true given the relative improvement in wages in Japan shown above. Higher inflation overseas relative to domestic prices should sustain the operating margin improvement Japanese businesses have made in recent years. It is also interesting that Japan is one of the few major countries where GDP is expected to accelerate this year thanks in part to an uptick in fiscal expenditure.



Fortunately, one doesn't have to pay up for what appears an attractive backdrop for Japanese equities. The market is undervalued on an absolute basis with the Topix selling for just 12x estimated earnings and 1.2x price to book. Relative to the rest of the world on a composite of valuation measures, Japanese companies are the cheapest they have been in decades.



Conclusion

Change is afoot. You can see it in the behavior of bonds, commodities, and currencies during this equity market sell-off which looks different from other post-GFC declines.

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