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CURRENCY QUARTERLY

Q4 2022

SUMMARY

After a turbulent year in 2022, growth expectations and most asset prices have declined significantly, suggesting a more balanced start to 2023. We believe there are three key questions that will determine how the year will play out:

1. Have real rates peaked?
2. Is the slowdown already priced?
3. Which areas will outperform?

The answers to these questions will evolve as the year progresses and we provide our thoughts as to how they will impact markets within.

One asset that performed well in 2022 was the US dollar (USD). With valuations approaching historic extremes, a pullback at some stage was inevitable, and the weakness seen in late 2022 could continue into early 2023. However, the higher yields available in the US combined with a stronger growth outlook than most other markets mean the end of the dollar bull market is unlikely to be a simple one. We expect a volatile year ahead, with a tactical approach to positioning more appropriate than holding more medium-term directional views.

In our educational topic this quarter, we take an in-depth view of China's long-term growth prospects. With the property sector seemingly in a structural decline that could last for years, fears of a balance-sheet recession have grown. We believe a transfer of leverage from corporates and local governments to central government is a likely solution.

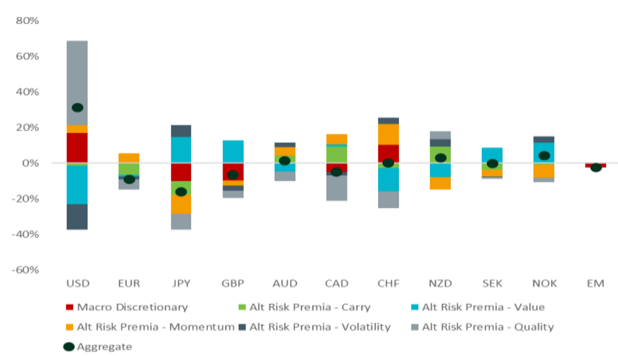
THE ALPHA VIEW

In our view, a combination of alternative risk premia and macro fundamentals are the key drivers of currencies over short-to-medium-term time horizons.

As we outline in more detail later, we sense volatile currency markets will characterize 2023 and holding a position for significant periods of time is unlikely to be profitable. Instead, we view 2023 as a year where more tactical trading is likely to pay off, at least until global growth is closer to its nadir.

At the current juncture, we view some of the USD's recent weakness as likely to retrace. Consequently, our 'blended alpha' strategy of Alt Risk Premia and Macro Discretionary remains positive on the USD and bearish on the euro (EUR), Japanese yen (JPY) and British pound sterling (GBP), respectively. We are broadly neutral on the Australian dollar (AUD), Canadian dollar (CAD), New Zealand dollar (NZD), the Swedish Krona (SEK), and emerging market currencies.

Figure 1: Insight Currency Absolute Return Exposure



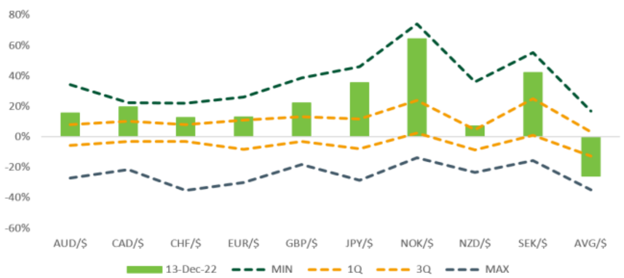
Source: Insight. Data as of January 3, 2023. Note: Black dot shows aggregate position.

LONGER-TERM VALUATION OVERVIEW

As the investment horizon extends to a multi-year window, valuations are likely to dominate the price action in currency markets. We outline the highlights from our long-term valuation model below:

- The USD remains overvalued;
- EUR, GBP, CHF, AUD and NZD are only moderately cheap;
- CAD, JPY, Norwegian Krone (NOK) and SEK are very cheap.

Figure 2: Local currency overvaluation (-) and undervaluation (+) versus USD

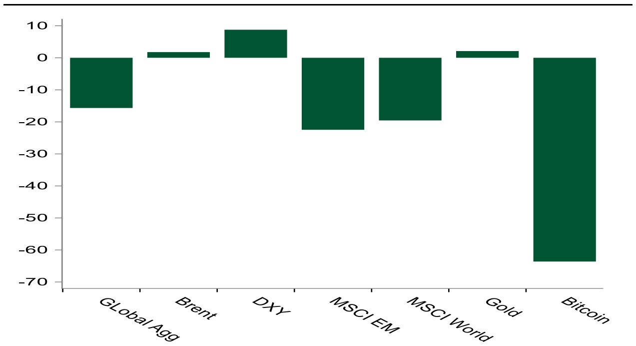


Source: Insight. Data as of January 3, 2023.

SHELLSHOCKED

Last year did not pull any punches. Indeed, 2022 began with the most contagious COVID wave yet, a war in Europe, the realization that inflation was not temporary after all, production bottlenecks, and the fastest global monetary tightening cycle in 40 years. Against this backdrop, most assets registered significant losses — a standard 60/40 in real terms delivered the worst performance in decades. As can be seen in Figure 3, of all the major assets, only the USD (i.e., DXY) delivered significant positive returns. Therefore, it is not surprising that many are looking at 2023 with a slight sense of trepidation.

Figure 3: 2022 returns major asset classes

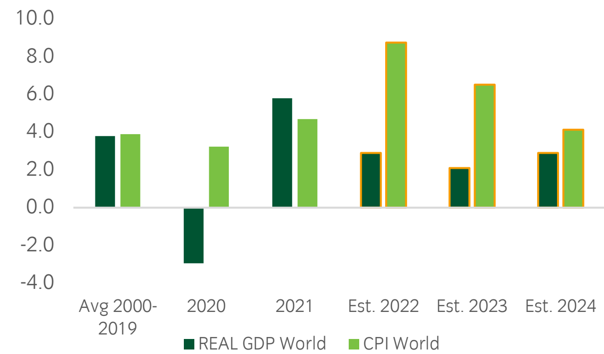


Source: Bloomberg. Data as of January 3, 2023.

What will 2023 bring? The single most positive macro news of the last few weeks is inflation globally seems to have peaked – or is close to peaking in Europe's case. The importance of this cannot be overstated as it gives affirmation to central bankers that monetary tightening is working and hope to participants that interest rate expectations have peaked. This, along with some offsides positioning, helps to explain the rally in assets and sell off in the USD we witnessed in late 2022.

Although the news of a peak in inflation is undeniably good, if confirmed, it represents only the first step in a longer process to bring inflation back to target. This process is likely to entail slower growth and an extended period of tight monetary policy. Consensus suggests that 2023 will be a year of subdued growth dotted by recessions in the euro area, the UK and possibly also in the US, and a gradual deceleration in inflation (see Figure 4).

Figure 4: Consensus expectations for 2023 and 2024



Source: Bloomberg. Data as of January 3, 2023.

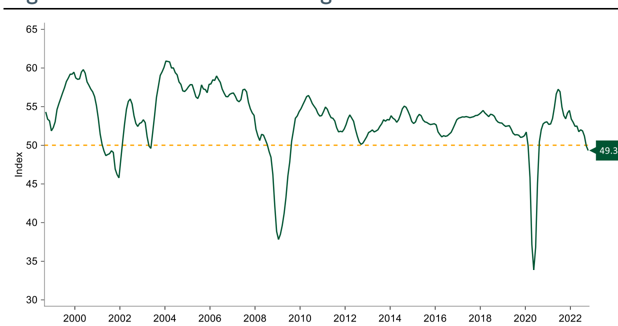
Interestingly, in spite of real GDP growth being expected to be one standard deviation *below* longer-term averages, global inflation is expected to be one standard deviation *above* longer- term averages. This seems fair and speaks to the slow nature of the disinflationary process, the need for central bank vigilance and the risks of easing policy too quickly.

Against this backdrop, there are three questions that, in our view, will drive the performance of asset markets.

Q1: HAVE REAL RATES PEAKED?

Monetary policy and the resultant real rates are key for both the economic outlook as well as for asset prices, including currencies. Therefore, it is important to gauge whether the policy induced spike in real rates sufficiently achieves policymakers' main goal: to slow the global economy enough to reduce inflationary pressures. Figure 5 highlights the main forward looking indicator economists use to gauge the direction of travel of the global economy, the composite global purchasing managers index (PMI). As can be seen, the current level of the global composite PMI is consistent with a significant economic slowdown. Indeed, the only times it has registered a lower reading was in the aftermath of the dot-com bubble in 2001, during the global financial crisis in 2007, and during COVID in 2020. This strongly suggests a significant slowdown is coming. This is in line with the market pricing the start of a rate cutting cycle later in 2023 and 2024.

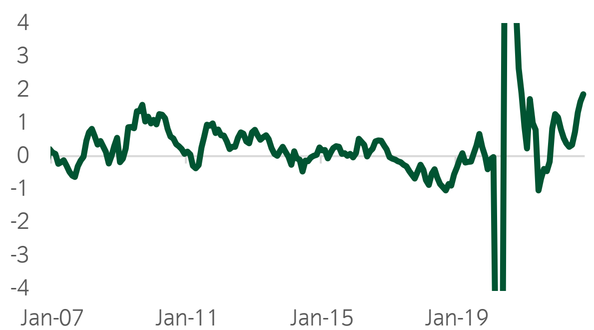
Figure 5: Global manufacturing and service PMIs



Source: Bloomberg. Data as of January 3, 2023.

What has been more surprising is that, considering the global composite PMI peaked 18 months ago, economic activity remains remarkably resilient. If we look at the estimates of current growth – also known as Current Activity Indicators (CAI) – using 'hard' data such as industrial production and retail sales and compare them to estimates of growth using 'soft' data, such as surveys like the PMI, we find a surprisingly large gap. As can be seen in Figure 6, the difference is stark: hard data is better than soft data. Most interestingly, the measure has been trending higher even after some of the pandemic related noise in the data has passed. What could explain this resilience of the real economy? There are a couple of reasons for this unusual dichotomy.

Figure 6: Developed Market CAI hard vs soft data (3M ma)

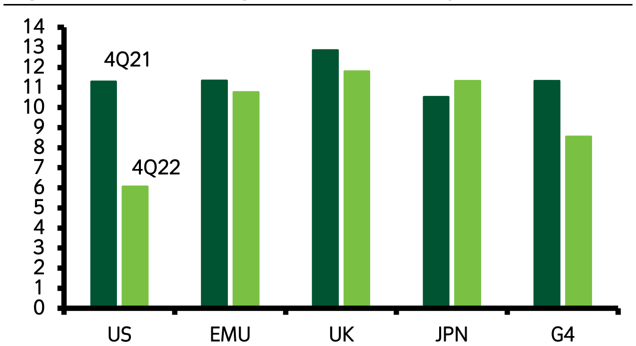


Source: Goldman Sachs. Data as of January 3, 2023.

The first is likely tied to the fact that monetary policy works with long and variable lags. Given that developed market (DM) central banks started to hike in the spring of 2022, and that most economists believe the lag is roughly six to nine months, it is likely that the full impact of the cumulative tightening will be felt sometime in mid-2023.

The second one is likely to be tied to the impact of 'excess savings' – defined as the cumulative gap in saving relative to its pre-COVID trend. The aggressive fiscal policy easing pursued by governments in the wake of the COVID crisis resulted in the accumulation of the equivalent of roughly 10% of disposable income in excess savings. Interestingly, as of mid-2022, the US had already used almost half, while excess savings in other core markets remain elevated, as seen in Figure 7.

Figure 7: Excess savings (% Household Disposable Income)



Source: JP Morgan. Data as of January 3, 2023.

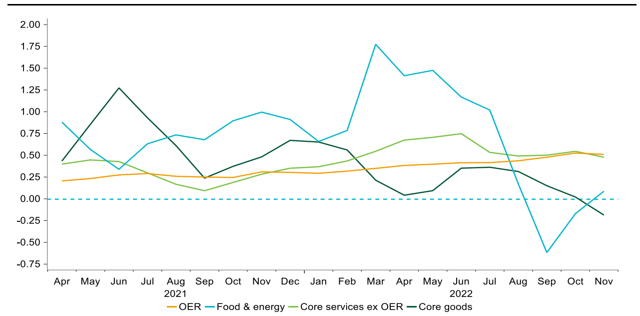
This is likely to have changed in the last few months as consumers have had to adjust to higher energy and mortgage prices.

Looking ahead, our sense is that growth will slow as tighter monetary policy works its ways through the economy and further erosion of excess savings put pressure on consumption.

The recent signs of a peak in inflation exist against a background of slowing, but still resilient growth. The key driver of a drop in inflation momentum are commodities and goods prices. As can be seen in Figure 8, US service price inflation remains strong, even if we exclude the Owners' Equivalent Rent (OER) from the calculations.

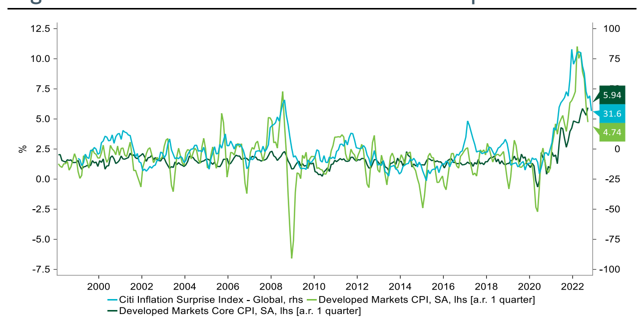
Figure 9 highlights the situations that policymakers are facing: inflation surprises have eased, but core inflation in DM countries remains stubbornly high, suggesting that while inflation may have peaked, rates need to remain high to ensure the trajectory back towards target is well established. As such, any 'pivot' by central banks is likely to come in the form of a slower increase in rates and an eventual (extended) pause rather than rates cut before 2024 at the earliest.

Figure 8: US inflation breakdown



Source: Macrobond. Data as of January 3, 2023.

Figure 9: Core DM inflation and inflation surprises



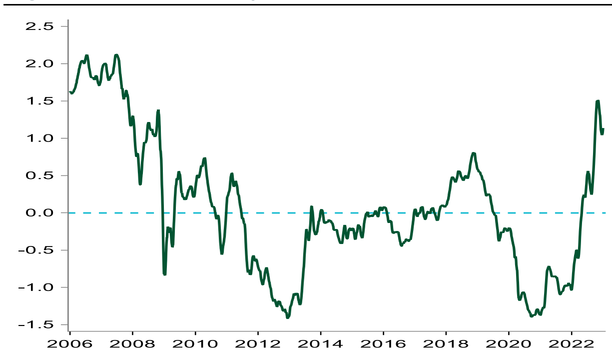
Source: Macrobond. Data as of January 3, 2023.

All in all, this suggests to us that real rates, particularly in the US, are likely to have peaked, but we do not expect them to meaningfully decline until we see evidence of a sustained deceleration in service inflation. This is likely to take some time given the strength of the labor market data.

It is important to stress here how the current monetary tightening cycle is different from those of the last couple of decades. In the 2000 to 2020 period, inflation was not a significant concern, allowing central banks to respond more quickly to bouts of slower growth. The current cycle is very different: inflation is the primary concern. Growth concerns can be tackled only if central banks bring inflation under control. Up to now, central bankers have tightened policy against a healthy growth backdrop, 2023 might prove tougher and might test their inflation fighting credentials because monetary policy will need to remain tight until inflation is on a credible path back to target.

In a nutshell, while it is understandable that markets have reacted to the recent positive news on US inflation and expect this 'feel good' period could extend into early 2023, our sense is that, as the months progress, markets face likely disappointment given monetary policy will probably remain tighter than is currently priced. So, while we expect real rates to have peaked, we think it's too early to price in a significant decline.

Figure 10: Real US 10Y yields



Source: Macrobond. Data as of January 3, 2023.

Q2: IS THE SLOWDOWN IN THE PRICE?

While global growth is likely to slow in 2023 to roughly two thirds of the average of the 2001 to 2019 period, the extent to which this is already priced into markets is less clear. Unlike previous bouts of economic weakness, the current one has been well telegraphed, and investors expect a recession – at least in Europe – since Russia's invasion of Ukraine earlier this year. When, and if it comes, the recession in core markets is likely to be one of the best telegraphed in history. This can be clearly seen in Table 1, which highlights the average change in several key US indicators in the year prior to the official start of recessions in recent history. As can be seen, unlike in previous recessions, the S&P 500 Index, emerging market (EM) equities have already significantly declined and the US dollar, proxied by the DXY has meaningfully increased. All of this has happened well before any recession has been declared anywhere in core markets. Furthermore, household debt and business debt has already been reduced and investors have already adjusted their portfolios to hold more cash and bonds and less equities. The extent to which the market has been expecting a significant slowdown is also clear in the level of implied volatility in equities, which has proved remarkably subdued given the size of the sell off.

Two key parts to the question of whether the expected global slowdown is already in the price:

a) is the fact that the market is well prepared relevant?
b) how deep will the slowdown be?

We think it is relevant that market participants and economic agents are entering a period of slower growth better prepared than has been the case historically. However, this does not mean that markets will be able to 'see through' the recession. Despite being forward-looking, our sense is that it will be hard for markets to ignore a recession and rally. More likely, the fact that the upcoming slowdown is likely to be one of the best telegraphed in living memory suggests that the recession in core markets will be a relatively shallow one. If this is indeed the case, it would mean that monetary policy would need to stay higher for longer to ensure inflation returns to target. Against this backdrop of moderating growth and tight monetary policy, we think growth sensitive markets are unlikely to significantly rally, and are likely to range trade, at best.

Table 1: Changes one year before the start of US recessions

	Historical Avg	Current
S&P (%)	7.7	-15.8
EM equities (%)	15.3	-26.8
DXY (%)	0.5	11.3
HH debt to GDP	1.8	-9.0
Business debt to GDP	1.6	-8.6
Net % overweight cash	7	47
Net % overweight equities	-29	-90
Net % overweight bonds	19	-2

Source: Bloomberg. Data as of January 3, 2023

Q3: WHICH AREAS WILL OUTPERFORM IN 2023?

Up to now, we have discussed the outlook for global growth, but the differentiation in performance between economies will prove key for relative value asset classes like foreign exchange. In our view, there are a few key factors that are affecting geographical areas differently:

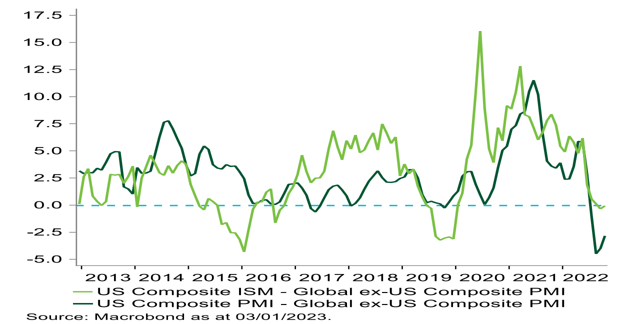
- **Energy costs.** Energy prices have acted as, and remain, the European Achilles' heel. Despite gas prices retreating from the highs, the cost of energy for Europe remains multiple times that of North America. Furthermore, the risks of further disruption, not just over the next few months, but over the longer term, are likely to remain more severe in Europe. While the outlook remains very cloudy, higher energy prices for European firms are fanning fears of a more structural loss of competitiveness. Asia is also suffering from higher energy prices, but the impact is less severe given that countries like China have bought energy at preferential prices from Russia and other countries like Australia are net energy producers and are not facing fears of energy rationing, in the same way that Europe is.

- **Fiscal policy.** 2022 was marked by a significant fiscal tightening in the US and continued fiscal support in Europe. This will change in 2023. The fiscal drag in the US is likely to be much more modest, while the support in the euro area will move to neutral. In China, the government's support for the real estate sector should help to turn fiscal policy into a modest tailwind. The UK stands out as the country that is likely to experience the biggest shift in fiscal policy from supportive to restrictive as the government attempts to stem the fallout from the 'mini' budget.
- **Excess savings.** As highlighted in Figure 7, this is the one metric on which the US looks weakest having already drawn down a bigger share of its excess savings to cushion the impact of higher inflation.
- **Labor market.** Labor markets are tight in most areas, but the US labor market is particularly tight, with the unemployment rate below its structural lows and demand for labor continues to significantly outstrip supply, despite some moderate improvement in recent weeks. In the euro area, the labor market is tight, but signs of demand overheating are less prevalent, as indicated by lower wage growth than in the US. The UK stands out as having a worrying combination of both strong labor demand and weak labor supply. Part of the weak supply story is likely tied to Brexit, but part of it is due to the lingering weakness in the labor participation rate that has yet to recover from the COVID dip.

In short, while managing an overheating economy remains the main challenge for US policymakers and managing an extended energy shock will preoccupy their European counterparties, UK policymakers must deal with both challenges and a significant labor supply shock.

China is likely to be the wildcard of 2023. The progressive easing of the zero COVID policy will likely inject notable economic volatility. While looser restrictions should help support growth, they will also likely lead to a notable pick up in COVID cases. Indeed, while restrictions imposed by the state have been easing at a significant pace, a notable – and likely – pick up in COVID cases might well mean that self-imposed restrictions frustrate the re-opening of the economy in the first half of 2023. Our sense is that a combination of looser restrictions and more targeted support to the real estate sector suggest that China is likely to be one of the few economies to experience an acceleration of growth in 2023 versus 2022, but this is unlikely to happen until the winter is well past and vaccination rates have improved. This acceleration in growth is also likely to be temporary, with growth structurally weakening in the years ahead as the consequences of the one child policy and a shift to a more ideologically driven economic strategy become clear.

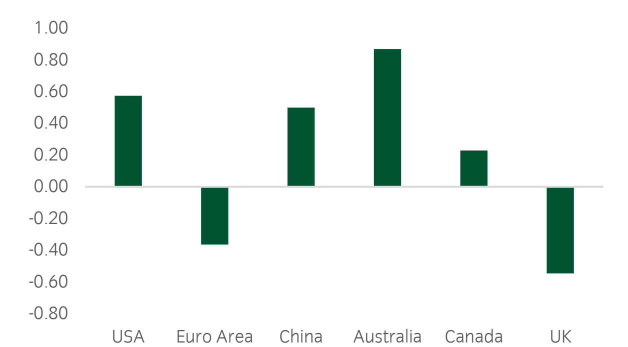
Figure 11: US exceptionalism



Source: Macrobond. Data as of January 3, 2023.

All in all, our sense is that the phase of US exceptionalism experienced in the past few years is passing. However, as can be seen in Figure 11, it is not clear the US is lagging. Indeed, our expectations are that US growth in 2023 will be roughly 60% of its longer-term trend. While lackluster, this is still better than our outlook for both the euro area and the UK, where we expect negative growth. The UK stands out as the likely weakest link in the growth chain as it is likely to contract by an equivalent of 40% of its long-term growth rate (Figure 12). On a brighter note, we do expect growth in Asia to be the strongest, with Chinese growth reaching roughly 80% of longer-term average levels, but this is likely to take place in the second half of the year as the ongoing COVID wave stabilizes. This suggests US growth might yet outshine that of other areas, particularly in the first half of 2023.

Figure 12: Expected 2023 growth as % of 2001-19 average



Source: Insight. Data as of January 3, 2023.

THE KNOWN UNKNOWNS

As always with economic outlooks that stretch months into the future, the central case scenario highlighted above is fraught with risks. Our general sense is that, while we do not believe the risks are skewed to the upside, they are likely to be more balanced than at the start of 2022, if only because growth expectations are significantly lower, as are asset prices. A few key events are worth monitoring.

On the positive side, we would highlight:

- A post pandemic increase in labor mobility and easing of supply bottlenecks could help to ease the excess demand on labor and support central banks in bringing inflation back to target more swiftly than expected.
- A cease fire between Russia and Ukraine could help to stabilize – but not necessarily improve – Europe's energy situation. A reduced European energy tail risk and the hopes of a Ukraine reconstruction plan could boost markets and growth.

A few negative risks stand out:

- Just as central banks are getting ready to hike rates at a more moderate pace, liquidity withdrawal is likely to step up in 2023, with significant declines in outstanding Targeted Longer-Term Refinancing Operations (TLTRO), the start of Quantitative Tightening (QT) in the euro area and a possible further adjustment of the Yield Curve Control (YCC) mechanism in Japan. Given the limited experience in unwinding central banks' balance sheet, our sense is that it would be complacent to dismiss this as a risk.
- Earlier, we mentioned our expectation that Chinese growth would accelerate in the coming year. Our sense is that the 'lumpy' nature of the improvement as reopening is weighed against higher COVID cases will keep inflationary pressure in China moderate. There is, however, a notable risk that an acceleration of Chinese growth increases global inflationary pressures once again and forces central banks to have to hike higher than is currently expected.
- The US debt ceiling increase could go down to the wire, again. The US federal debt is likely to reach its statutory limit by January 2023, exhaust its extraordinary measure by March 2023, and run down its roughly $500bn cash balance by July/October 2023, at which point the government would be forced to go into shutdown as it was in 1995, and in 2011. Most US political commentators suggest a compromise will be found, but only at the last minute. If it is not, a government shutdown and the threat of default is likely to keep markets on the backfoot until the uncertainty is resolved.

THE 2023 OUTLOOK FOR CURRENCY MARKETS

What does this mean for currency markets? While 2022 was defined by significant USD appreciation, we think 2023 will prove a more volatile and messy year for currency markets, as the forces supporting the USD fade – namely the end of the Federal Reserve's (Fed) aggressive hiking cycle – but the preconditions for a significant decline will be slow to gather.

If one considers the outlook for currencies only through the global growth prism, the temptation would be to conclude that weaker growth in the first half of 2023 would support the USD and that, as the year progresses and growth bottoms out, a combination of excessive valuations (Figure 13) and better growth prospect would lead to a rally in growth sensitive currencies like the EUR, GBP and the CAD and AUD. Although entirely reasonable, this reasoning misses the very important and parallel narrative around inflation. In recent weeks, the peak or near-peak of global inflation coupled with stretched long USD positions helped to bring about a significant sell off in the USD in December 2022. Recent price action could well extend into next year supported by negative seasonality for the USD and the remarkable resilience of activity data. This opens an opportunity for the USD to remain under pressure for a while yet.

Figure 13: USD Valuations (negative figures signal overvaluation)

Source: Insight, Data as of January 3, 2023.

Our sense is this bout of USD weakness is unlikely to prove permanent and more USD strength will follow as the market is disappointed by a combination of the slow deceleration of inflation and the Fed's reluctance to cut rates in the face of weaker activity and slow improvement in Chinese data. During the period, the resolve of central bank to fight inflation even in the face of weaker growth is likely to be tested.

The tension in currency markets between wanting to discount the peak in inflation and a more dovish Fed versus the economic reality is clearly highlighted in Figure 14. As can be seen, medium-term change in the developed market currencies versus the USD can be largely explained by changes in interest rate differentials and growth prospects – highlighted by the Global PMI. In the last month the USD has sold off significantly, but the fundamentals have yet to catch up. As we don't think that growth prospects will improve quickly or that the Fed will cut rates in 2023, our sense is that the gap may well be closed by more USD strength, but it may take some time for the narrative to manifest itself.

There are two more reasons to think the recent USD weakness is likely to fade in the earlier part of 2023.

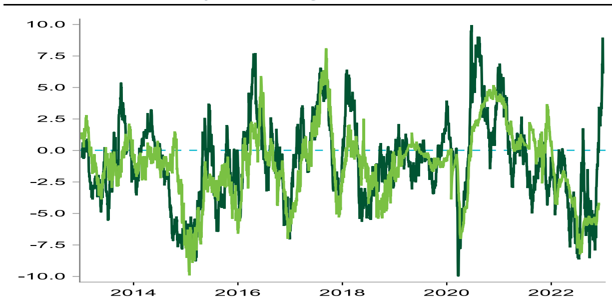
First, unlike in previous cycles, when action by policymakers (monetary or fiscal) has supported growth and markets, no such cavalry is likely to be coming in 2023. Quite the opposite, policymakers have been leaning on tighter financial conditions to temper inflation and, as such, are unlikely to find an excessive reversal in either growth or market expectations desirable. Against this backdrop, our sense is the recovery in asset prices and activity will be slow to develop.

Second, the traditional negative relationship between global growth and the USD is complicated by the fact that the USD is currently high yielding. The fact that US growth is expected to be more resilient in 2023 than in many other areas of the world compounds this yield advantage (see Figure 15).

In short, we believe that 2023 is likely to be defined by volatility, with sharp moves in currency markets often reversed as the macro environment evolves. This suggests that 2023 will be a year where more tactical positioning should be preferable to a steady directional view.

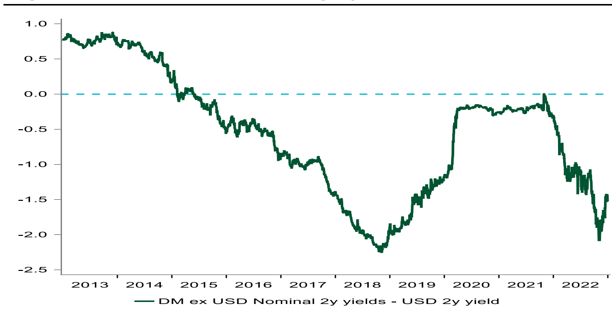
The USD is likely to have peaked and the current period of weakness could well extend into early 2023, but we do not expect this to last as a challenging backdrop of weak growth and tight Fed policy will bring in more support. Only later in the year, when we are closer to a bottom in global growth, European and Chinese growth starts to outperform and there is higher certainty that inflation is closer to target can we see the USD weakening more meaningfully.

Figure 14: DM vs USD: explaining quarterly changes using relative rates (five year) and global PMI (%)



Source: Macrobond. Data as of January 3, 2023.

Figure 15: The USD is still a high yielder



Source: Macrobond. Data as of January 3, 2023.

HOW TO POSITION IN THE CURRENCY SPACE

For active medium-term investors akin to our alpha strategies, we would caution against aggressively positioning for a move lower in the USD. As mentioned in the previous section, we expect to do more tactical trading in 2023, and view the recent weakness in USD as a good opportunity to trade for a partial reversal particularly versus the JPY and EUR. Our long USD bias can be seen in Figure 1 above.

For less-agile longer-term investors whose investment decisions lean more heavily on valuations metrics, the current levels of extreme exchange rates, as seen in Figures 2 and 15, respectively, should represent good opportunities to start to fade the strength in the USD.

TRADERS CORNER EPISODE 6: GROUNDHOG DAY

In previous episodes we have discussed the Insight approach to trading, wherever possible, with entities that have adhered to the FX Global Code and there has been much focus on this topic recently. Three major FX platforms have announced in the last six months that they intend to default to liquidity from code compliant sources with one, Euronext FX, publishing a research note that attempts to quantify the difference in performance between compliant and non-compliant sources. The data sample comprises $1.2 trillion executed on their venues over a three-month period and Euronext compares performance based on spreads, mark outs and the costs of both rejects and slippage, concluding that code compliant liquidity is generally better. They do suggest that non-compliant liquidity providers have a lower reject cost on 27% of turnover and lower slippage on 21% of turnover and therefore there is room for these players in a liquidity pool.

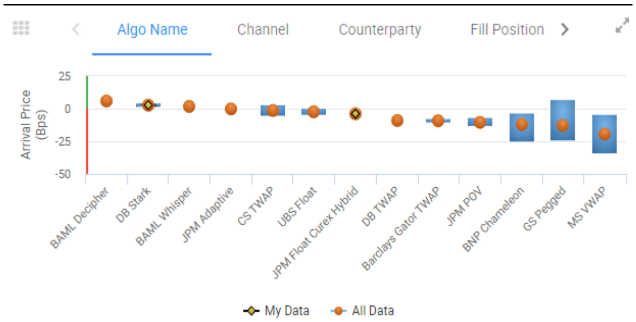
We would have to question this conclusion and ask why you would want to interact with a liquidity pool where participants are held to different standards of behavior. The non-compliant liquidity providers often have significantly higher reject rates and longer hold times on rejects than on trades they accept. We agree that, for clients with a certain style or trades where you simply want to get filled quickly, there might be an argument for using all liquidity sources. As the Grinch said, "one man's toxic sludge is another man's potpourri" but we believe it is more important for the industry that all participants are seen to adhere to the Code. Our independent Transaction Cost Analysis provider, BestX, already has a field for code compliant liquidity and we will be working closely with them, and our peers, to encourage suppliers of algorithms to get this populated

Whilst this work is targeted at improving the post-trade information set, it would be remiss not to mention the tremendous work that BestX have been doing recently to help inform their clients in the pre-trade selection space. One of the standout recent successes in the FX industry, BestX now has over $100 trillion of notional traded by their clients opted into their pool that can be used for pre-trade decision making. The Insight FX trading team have been using algorithms for more than 15 years and are confident in our ability to deliver good outcomes for our clients. It is likely, however, that we will be subject to a degree of cognitive bias. We regularly have lively debates amongst ourselves on the best approach to achieve a particular result and we all, without doubt, have our favored algorithms. To use another movie quote, as Bill the Weatherman ventured in Groundhog Day, "There is no way that this winter is ever going to end as long as this groundhog keeps seeing his shadow. I don't see any other way out. He's got to be stopped. And I have to stop him".

Now I wouldn't describe our outcomes as winter, and the analysis shows we stack up strongly when compared with our peers, but the point is that we can always try to improve them. We have an increasingly statistically significant data set from BestX together with the tools to interrogate this, as Insight is a member of the opted in pool. I would always caution against style bias when trying to compare peer outcomes, as there can be different objectives or unknown constraints, such as portfolio manager limits or targeted execution times. I think there is an argument for additional filters on the BestX tool to remove time-based algorithms, for example, as these have a very different utility function to opportunistic algorithms and tell you more about the prevailing market than any qualitative factors. My earlier comments are also relevant here, as other users are possibly interacting with liquidity providers that are closer to the toxic sludge end of the spectrum than the potpourri end.

The BestX pre-trade TCA tool could be particularly useful when selecting an algorithm for trading a currency pair that is slightly less liquid. I have selected USDNOK which can be a challenging pair with most liquidity executed via EURNOK and EURUSD. I have filtered on trade sizes between $20m and $40m where the client is selling Norwegian Krone during the London morning.

Figure 16: USDNOK algorithm sample

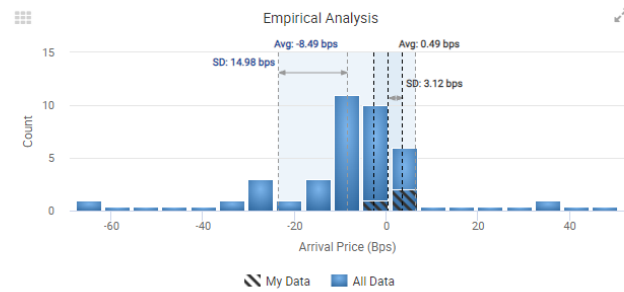


Source: BestX December 2022

At the end of the spectrum of outcomes you will notice the Time-Weighted Average Pricing (TWAP) and Volume-Weighted Average Pricing (VWAP) algorithms, and this is what you would expect given the extra time risk taken by the user. The yellow diamonds represent the Deutsche Bank Stark and JP Morgan Curex Hybrid algorithms used by Insight. You can conclude from the chart that there may be other strategies that are available to us, such as BAML Decipher, BAML Whisper or JP Morgan Adaptive, that are worth considering and have been successful for our peer group in this currency pair. As the volume of data in the pool continues to grow, then the tool will become even more powerful, particularly if it could filter further by algorithm type.

If you look at the peer analysis function the style bias is very evident:

Figure 17: Insight arrival price versus peers (bps)



Source: BestX December 2022

The time-based strategies contribute to a standard deviation of 14.98 basis points in the peer universe and average slippage of -8.49 basis points. The small Insight sample of 3 trades shows a much-reduced standard deviation of 3.12 basis points and average slippage of +0.49 basis points. We would, of course, argue that this is down to skill and the quality of liquidity we are interacting with, but the point is that we now have powerful tools that can help us deliver these results over time. In Groundhog Day, Phil liked to quote Samuel Coleridge, "There is one art of which people should be masters – the art of reflection".

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Experienced and highly regarded currency team. The investment team is well-established and has an average experience of 18 years. Our dedicated client relationship team will work in partnership with you and our local offices offer client service, quantitative research and product specialist/solution design capabilities.

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Proven and scalable technology infrastructure. We have the flexibility to implement highly tailored client solutions with risk control at each step of the process.

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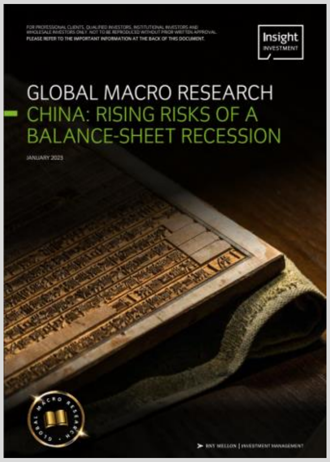

China: Rising risks of a balance sheet recession[1]

- The pandemic response has caused a period of severe economic volatility; corporate and local government balance sheets have become impaired, and the property sector appears to be in a structural slowdown that could last for years. This has led to fears of a balance-sheet recession in China.
- Although aggregate debt levels are concerning, and growth is structurally weakening, there are still significant policy options available.
- Comparisons with Japan in the late 1980s suggest some similarities, but key differences are also apparent.
- We do not believe that China is in a balance-sheet recession yet, but the risks are meaningfully higher than they were a few years ago. A transfer of leverage from corporates and local governments to central government seems a likely solution.

FIND OUT MORE

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[1] https://www.insightinvestment.com/globalassets/documents/us-redesign-documents/perspectives/us-global-macro-china-rising-risks-of-a-balance-sheet-recession.pdf

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3-month USD Libid: Libid (the London Interbank Bid Rate) is the average interest rate at which major London banks borrow eurocurrency deposits from other banks. Libid is calculated through a survey of London banks to determine the interest rate at which they are willing to borrow large eurocurrency deposits. 3-month USD Libid is calculated as a monthly return based on the average month's daily 3-month USD Libid annualized rates. The average is deannualized and then compounded on a daily basis for the month.