Global Markets Monthly

NOVEMBER 2022

MUFG Bank, Ltd. & MUFG Securities EMEA
Members of MUFG, a global financial group

2022 Mitsubishi UFJ Financial Group

DEREK HALPENNY
Head of Research,
Global Markets EMEA and International Securities
Global Markets Research
Global Markets Division for EMEA
E: Derek.Halpenny@uk.mufg.jp

LEE HARDMAN
Senior Currency Analyst
Global Markets Research
Global Markets Division for EMEA
E: Lee.Hardman@uk.mufg.jp

LIN LI
Head of Global Markets Research Asia
Global Markets Division for Asia
E: Lin_Li@hk.mufg.jp

NAOMI MUGURUMA
Chief Fixed Income Strategist
Mitsubishi UFJ Morgan Stanley Securities Co., Ltd.
Investment Research Division
E: Muguruma-Naomi@sc.mufg.jp

GEORGE GONCALVES
Head of U.S. Macro Strategy
Institutional Client Group
MUFG Securities Americas, Inc
E: George.Goncalves@mufgsecurities.com

ERIC RUFF
Director
Credit Trading Group
U.S. Investment Grade
MUFG Securities Americas Inc.
E: Eric.Ruff@mufgsecurities.com

BILL MATTHEWS
Director
Credit Trading Group
U.S. High Yield
MUFG Securities Americas Inc.
E: Bill.Matthews@mufgsecurities.com

Global Markets Monthly

15 November 2022

Contents

Potential scenarios for BoJ rate hike and more flexible YCC framework 3

US Fixed Income: Time to dollar-cost-average in? 8
- US Macro and Fed views 8
- US IG Credit: BEAR MARKET RALLY? WE SEE CONTINUED 10
- US HY Credit: SIGNAL or noise 13

FX 15
- Base case expectations, JPY, EUR & CNY 15
- USD/JPY – Bearish Bias 15
- EUR/USD – Bullish Bias 16
- USD/CNY – Neutral Bias 18
- Key risk factors in the months ahead 19

A member of MUFG, a global financial group

NAOMI MUGURUMA
Chief Fixed Income Strategist

Mitsubishi UFJ Morgan
Stanley Securities Co., Ltd.
Investment Research Division

T: +81 (0) 3 6742 6753
E: Muguruma-naomi@sc.mufg.jp

A member of MUFG, a global financial group

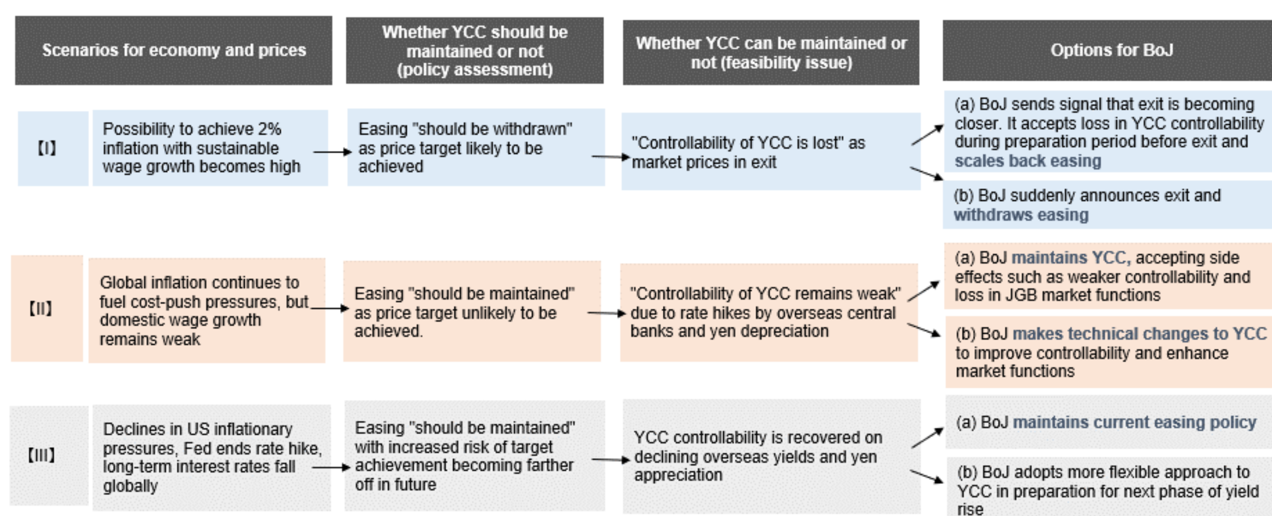
Potential scenarios for BoJ rate hike and more flexible YCC framework

- We summarize discussion regarding possibility of BoJ rate hike and revisions to YCC for various macroeconomic scenarios
- Nature of YCC means Bank would likely announce rate hike without warning once policy objectives are achieved
- BoJ might introduce more flexible YCC framework before objectives are achieved if global inflationary pressures subside

Possible changes to YCC in various macroeconomic scenarios

In this report we discuss the outlook for the BoJ's yield curve control (YCC) policy under various macroeconomic scenarios (Graph 1). Specifically, we considered three cases: one in which it was clear that the Bank would be able to achieve its 2% price target in a stable and sustained fashion along with wage growth (Case I); one in which domestic wage inflation remained tepid despite continued cost-push pressures from global inflation (Case II); and one in which US inflationary pressures receded and the Fed stopped raising rates (Case III).[1] Media and market discussion about a removal of easing or changes to YCC tends to conflate two separate questions: 1) whether the current easing policies *should* be left in place and 2) whether the YCC framework is sustainable in its current form. If changes are made to YCC, we think both the kinds of revisions and their market implications would differ depending on whether they were meant to remove accommodation or enhance the framework's sustainability. In this report, we considered how the Bank might raise rates in Case I and how it might revise YCC (i.e., adopt a more flexible policy framework) in Case III.

GRAPH 1: POSSIBLE REVISIONS TO YCC IN VARIOUS MACROECONOMIC SCENARIOS



Source: MUMSS

[1] In the October 24 report, our Case III macroeconomic scenario included a US recession, but we now make the more general assumption of a "decline in US inflationary pressures."

Case I: BoJ hikes rates

In Case I, where the policy objectives have been achieved, the BoJ has two options: 1) announce a rate hike after preparing the markets, or 2) hike rates with little or no advance notice. It is usually deemed preferable for a central bank to minimize the market shock of policy changes by communicating them in advance and having the market gradually price them in. But since YCC aims to guide a government bond yield to a specific level, any attempts to signal a rate hike would only increase the upward pressure on yields, leaving YCC increasingly less manageable. As this would happen before an official decision by the Policy Board, the Bank (specifically the Financial Markets Department) would have to buy more bonds to prevent yields from rising, which would probably exacerbate the loss of liquidity or market functions in the JGB market. Thus we think the first option (I-a), in which the BoJ hikes without warning, is the only realistic choice in Case I.

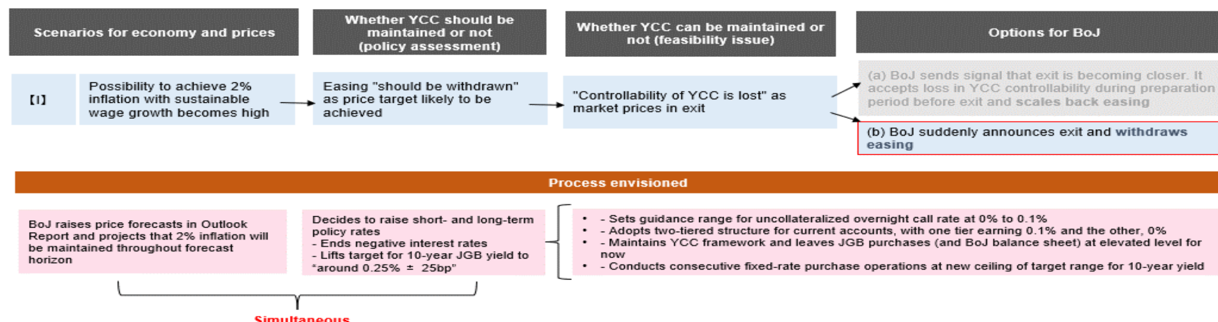
Envisioned rate hike process

In Case I-a, we envision the sort of process shown in Graph 2. First, the BoJ would raise its price forecasts in the Outlook Report and present a scenario in which the 2% price target would be achieved throughout the forecast horizon. To support these projections, the Bank would argue that wage inflation had risen sufficiently to produce a virtuous cycle of price and wage growth, thereby anchoring longer-term inflation expectations around 2%. Second, the BoJ would decide to raise the short- and long-term policy rates -- thereby ending the policy of negative interest rates -- at the same time as it presented its assessments of the economy and prices. It would then adopt the (weighted-average) uncollateralized overnight call rate as the new short-term policy rate and seek to guide it to a range of 0% to 0.1%. It would also raise the guidance target for the on-the-run 10-year JGB yield to "around 0.25% ± 25bp" from the current "around 0% ± 25bp." Third, the Bank would say that additional rate hikes would remain conditional on the "stable and sustained achievement" of the 2% price target, noting that while further rate increases would be considered if inflation looked likely to exceed the target, the probability of that happening was extremely low for now. Fourth, it would continue to buy as many bonds as needed to achieve the YCC target yields, with no upper limit. It would also continue to conduct consecutive fixed-rate purchase operations at the new ceiling of 0.50% for the 10-year yield.

BoJ engaged in massive bond purchases last week

The BoJ sought to discourage any increase in the 10-year JGB yield by increasing its bond purchases. On the 14th it held an additional bond-buying operation for bonds maturing in 5-10 years. It increased the size of all regular operations on June 15 and added super-long JGBs to the list of bonds it would purchase. On the 15th, it sought to discourage selling of JGB futures by adding JB356, the CTD issue, to the FRPO (purchase yield: 0.25%) and said it would conduct similar operations on the 16th and 17th. By the end of the morning session on Friday, June 17, the Bank had bought a total of JPY10.9 trillion in JGBs (Graph 1*). Even so, the second day of the Policy Board meeting was held amid continued upward pressure on yen rates.

RAPH 2: HOW BOJ MIGHT REMOVE EASING AND HIKE RATES IN CASE I



Source: MUMSS

Case II: No changes to policy expected

In Case II, we think the BoJ would decide to leave the current easing policies in place. Hence, we do not expect an increase in either of the policy rates or changes that would encourage such an increase. Any revisions to the policy framework would be intended to curb a rise in JGB yields and defend the 0.25% ceiling for the 10-year JGB yield, and we have difficulty envisioning any measures that are capable of achieving that.[2] The Bank has already done whatever it can to achieve an appropriate yield curve, including adding the CTD issue to its fixed-rate purchase operations and easing the terms for lending the CTD under its Securities Lending Facility. In the end, we think the BoJ would continue implementing its existing policies until the macroeconomic environment swung to either Case I or Case III.

Case III: A fresh "assessment" of policy to enhance sustainability of YCC

In Case III, global inflationary pressures recede and upward pressure on yen rates diminishes. Since the BoJ's policy objectives remain unmet, the orthodox policy response would be to leave the current easing policies in place (III-a). But if upward pressure on bond yields has subsided and YCC has become more manageable, the BoJ might take the opportunity to consider a more flexible approach to YCC (III-b). The decision to widen the trading band for the 10-year JGB yield to around 0% ± 20bp from around 0% ± 10bp at the July 2018 Policy Board meeting was made under the pretext of "strengthening the framework for continuous powerful monetary easing" and not of withdrawing accommodation (Graph 3). Additionally, the modest widening of the target band (to around 0% ± 25bp from around 0% ± 20bp) at the March 2021 Board meeting was the result of an "assessment for further effective and sustainable monetary easing."

GRAPH 3: ON-THE-RUN 10-YEAR JGB YIELD AND YCC POLICY FRAMEWORK

Source: MUMSS, from Bloomberg

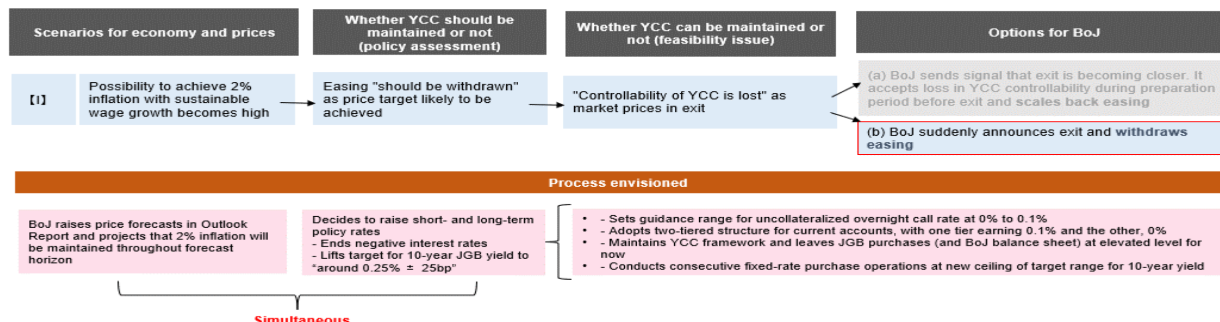
"Re-assessment" would probably have BoJ confirm benefits of YCC while acknowledging side effects

Graph 4 shows our scenario for Case III-b. First, under a new governor, the BoJ carries out a fresh assessment of the costs and benefits of YCC after global inflationary pressures have subsided and upward pressure on the 10-year JGB yield has eased. Second, the Bank reviews the global upswing in bond yields and

[2] The BoJ's own past analysis, including the September 2016 "comprehensive assessment," suggests that a replacement of the 10-year yield target with a super-long yield is unrealistic. We have therefore chosen not to consider it in this report.

reaffirms the effectiveness of YCC in keeping JGB yields under control. But it also acknowledges that the extremely narrow trading band for the 10-year JGB yield relative to overseas bond yields has led to certain side effects, including reduced JGB liquidity and a loss of market functions. Third, the BoJ decides to begin guiding the 10-year JGB yield more flexibly to ensure the sustainability of YCC while mitigating the side effects of the policy when overseas yields experience another sharp increase. NIRP is left in place. Fourth, if the 10-year JGB yield rises in response to this decision, the Bank keeps it in check with fixed-rate purchase operations and increases in the size of its bond purchases at ordinary operations.

GRAPH 4: HOW BOJ MIGHT ADOPT MORE FLEXIBLE APPROACH TO YCC IN CASE III



Source: MUMSS

We think BoJ should consider guidance target of around 0% with ceiling of 0.50%

One possibility for a more flexible YCC framework would be to leave the guidance target for the 10-year JGB yield at "around zero percent" while lifting the upper end of the trading band to 0.50% and not explicitly indicating a lower end. In its March 2021 "assessment," the BoJ said it had adopted a 50bp trading band (around 0% ± 25bp) because of analysis concluding that "the degree to which monetary easing affects business fixed investment is more or less unchanged, except when the range of fluctuations in 10-year JGB yields over the preceding six months exceeds 50 basis points." A guidance target of "around zero percent" with a ceiling of 0.50% would still have a 50bp range of fluctuations and would therefore be consistent with this analysis. The Bank would simply have to explain that since it is engaged in monetary accommodation, the new range does not mean it would reject a negative 10-year JGB yield. With the BoJ now the only central bank that is still pursuing a negative-interest-rate policy, we do not expect a return of the world in which central banks compete with each other to lower nominal short-term bond yields.

It could be argued that the BoJ could already adopt a more flexible approach to YCC today. However, the Bank does not appear interested in doing so at a time when overseas speculators are engaged in heavy targeted selling of JGBs in anticipation of policy revisions (although it might change its mind once it achieves its objectives). We think the Bank might discuss a more flexible approach to YCC once upward pressure on global long-term yields weakens, attention shifts away from Japan's central bank, and YCC becomes more manageable. But for now, we do not envision either a rate hike or a more flexible approach to YCC between now and FY24. That said, we still think it is important for investors to psychologically prepare for a variety of risks and sub-scenarios.

Kuroda's comments when BoJ widened trading band for 10-year yield in 2018 and 2021

When the BoJ widened the permissible trading range for the 10-year JGB yield in July 2018, Governor Kuroda said the Bank did so "to enhance JGB market functioning." When the trading band was clarified in March 2021, the governor said the decision was made "from the standpoint of achieving an appropriate balance between market functioning and interest rate control" (Table 1).

TABLE1: COMMENTS BY GOVERNOR KURODA WHEN BOJ ADOPTED MORE FLEXIBLE APPROACH TO YCC IN PAST

July 31, 2018: "Strengthening the Framework for Continuous Powerful Monetary Easing"
The Bank will purchase Japanese government bonds (JGBs) so that 10-year JGB yields will remain at around zero percent. While doing so, the yields may move upward and downward to some extent mainly depending on developments in economic activity and prices. With regard to the amount of JGBs to be purchased, the Bank will conduct purchases in a flexible manner so that their amount outstanding will increase at an annual pace of about 80 trillion yen.

Kuroda's comments at press conference
We have in mind a target for the 10-year yield of roughly double the original range of 0% ± 10bp under YCC. However, in the event of a sharp rise in bond yields, we intend to buy JGBs quickly and as appropriate and therefore do not anticipate an increase in the level of bond yields.
Regarding upward and downward movements in short- and long-term yields, the Bank will allow a certain amount of fluctuation to enhance JGB market functioning.
We have no intention of raising the level of bond yields.

March 19, 2021: Assessment for Further Effective and Sustainable Monetary Easing
In order to conduct yield curve control flexibly during normal times, the Bank will make clear that the range of 10-year Japanese government bond (JGB) yield fluctuations would be between around plus and minus 0.25 percent from the target level. At the same time, it will introduce "fixed-rate purchase operations for consecutive days" as a powerful tool to set an upper limit on interest rates when necessary.

Kuroda's comments at press conference
After we strengthened the framework for continuous powerful monetary easing in July 2018, the range of fluctuations for the 10-year JGB yield widened, and JGB market functioning improved. Subsequently, however, the range of fluctuations narrowed. We therefore believe that it is appropriate to clarify the acceptable range of fluctuation for the 10-year JGB yield from the standpoint of achieving an appropriate balance between market functioning and interest rate control. This is in view of the findings of our assessment, which suggested that a certain amount of fluctuation would have a positive impact on market functioning without undermining the impact of monetary accommodation.

Source: MUMSS, from BoJ

GEORGE GONCALVES
Head of U.S. Macro Strategy

Institutional Client Group
MUFG Securities Americas Inc.
T: +1-212-405-6687
E: George.Goncalves@mufgsecurities.com

ERIC RUFF
Director

Credit Trading Group
U.S. Investment Grade
MUFG Securities Americas Inc.

T: +1-212-405-7489
E: Eric.Ruff@mufgsecurities.com

BILL MATTHEWS
Director

Credit Trading Group
U.S. High Yield
MUFG Securities Americas Inc.

T : +1-212-405-7486
E : Bill.Matthews@mufgsecurities.com

Mitsubishi UFJ Securities
A member of MUFG, a global financial group

US Fixed Income: Time to dollar-cost-average in?

Macro Review: The latest CPI report came in lower than expected. It's the start of the process, but one needs to be careful of basing a view change on just one data point. In our view, the decline in inflation will be a process that will evolve over the course of the 1st half of 2023. We do believe US inflation will be heading lower but there will be risks along the way (i.e. oil price/geopolitics) and the ongoing long lags of rental prices.

Fed Policy: At the November FOMC meeting chair Powell said that the "more we move into restrictive territory; the question of speed becomes less important." Suggesting that they are already planning to step down towards 50bps and eventually 25bps a meeting before they pause. He also mentioned that it's very premature to be thinking about the pause. He alluded that they are likely going to keep hiking into 2023. In terms of what the Fed is looking for to pause, he clarified that it's not going to be as easy as witnessing a few CPI down prints to say the coast is clear. Lastly, he said, given the data since September dot forecasts, it suggested to him "we may move to higher levels than we thought at the time of the September meeting" suggesting that the dot plot in September is too low (4.63%) out of date and rates are going even higher (perhaps having the Fed make a run towards 5% on Fed Funds).

Rates Views: 30 basis point daily moves in 10y rates are rare and should be taken with a grain of salt. Thus, into year-end we expect one last rates sell-off/grind up as the Fed delivers a smaller rate hike, but still lifts rates up by 50bps. Meanwhile we do not think the bond market will take out all of the 2023 rate hikes until the Fed gives more forward guidance. That said, as rates rise back up the risk/reward improves, especially if we are truly getting closer to the end of the Fed's hiking cycle. Historically the last hike or second to last hike has proven to be a good window to start dollar-cost-averaging into the higher yields that bonds are offering.

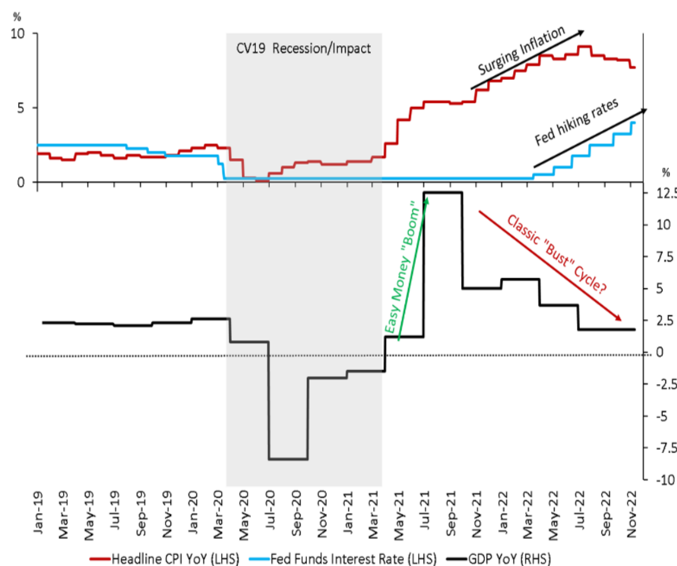
Credit Views: The bear market rallies continue in Q4; however, we remain sceptical of the sustainability of such moves for both IG and HY. We maintain our medium-term IG spread range of 125–175 bps. We see a similar story in high yield and remain bias to defensive positioning. We maintain our spread widening bias for both our short-term HY spread range of 450–525 bps and our medium-term range of 450-575 bps.

US MACRO AND FED VIEWS

The prospects of goldilocks (i.e. soft landing) have gone to virtually zero, in our view. The cumulative effects of Fed tightening will likely result in the US having a shorter cycle (and skipping a mid-cycle adjustment). In many ways post CV19 activity is similar to post-war boom/bust periods. And yes, it's likely we have just seen the peak in CPI readings, but the concern is that inflation remains sticky while drifting lower.

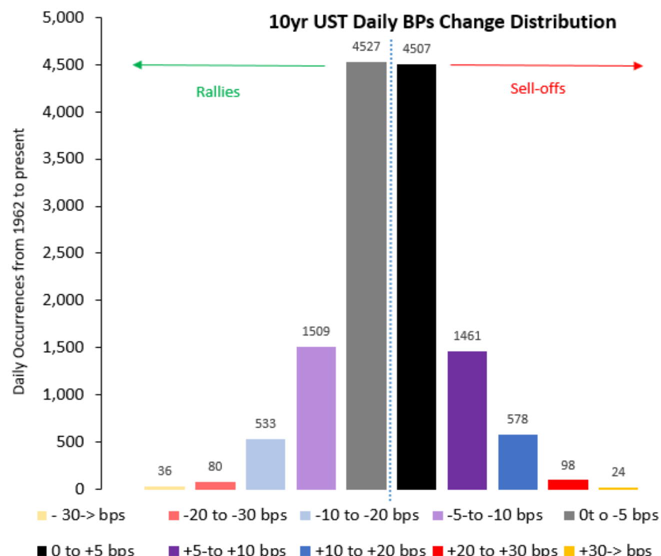
This is why we believe the Fed aims to crush aggregate demand (via wealth destruction) in order to wrestle inflation to 2%. As a result, we have raised our recession odds to 75% in 2023 given this FCI tightening (via higher rates, ongoing QT, the damage from peak USD, and overall lower valuations in stocks and housing).

CHART 1: US MACRO - A CLASSIC BOOM/BUST CYCLE?



Source: FRED, MUFG U.S. Macro Strategy

CHART 2: 10Y DAILY MOVES OF 30BPS ARE SUPER RARE



Source: Bloomberg, MUFG U.S. Macro Strategy

December FOMC Meeting Preview: Given what we heard at the last FOMC meeting from chair Powell, as well as the economic developments since (in particular the lower than expected CPI report), it is likely that the Fed steps down its hiking sizes from 75bps a meeting to 50bps at the last FOMC meeting in December. The uncertainty surrounding that meeting is more about will they offer further guidance on how and when they will pause. We will also get new interest rate forecast (i.e. the dots) which will likely show a higher terminal rate from their September forecast estimates. That would suggest they need to keep hiking into 2023 at a minimum. Then it comes down to how high rates get to and how long can the Fed stay on hold.

Moreover, supply chain frictions are easing and M2 money supply continues its slide and that plus range bound oil could result in even lower headline CPI prints ahead. There's obviously a lot of risk to the oil outlook given the winter that is in store for Europe, but our inflation model points to lower all-in inflation by late summer/early fall 2023. The issue for the Fed is that core CPI remains sticky and above the 2% target. Overall our opinion is the Fed probably wants to avoid the "Yo-Yo" up/down rate moves of the 70s. It's what helped ushered in stagflation. Yes, they will likely ease again post a pause but in our view, they will try to avoid doing ZIRP & QE again too.

Market Implications: In the short-term we believe it's in the best interest for the Fed to keep a hawkish stance, even run the risk of over-tightening into 2023, in order to ensure they have put inflation back in the bottle. However, the more they do this, and the longer they keep rates up, eventually the weaker credits in the economy will start to face difficulties and that will result in firms cutting costs and jobs as we enter a recession. In such a backdrop US Treasuries will outperform at the expense of credit.

US IG CREDIT: BEAR MARKET RALLY? WE SEE CONTINUED

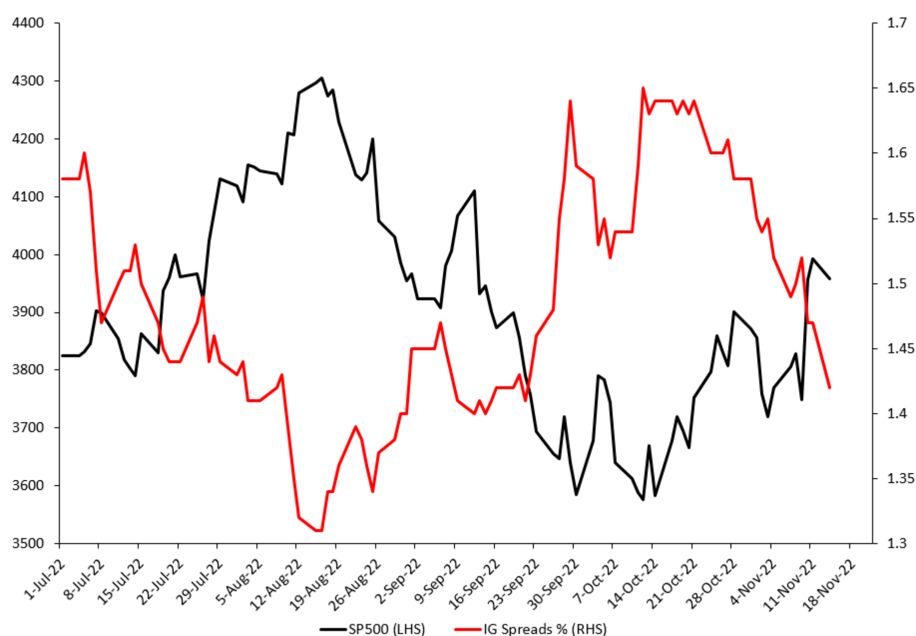
With the financial conditions index (FCI) continuing to tighten in 2022 (largely in response to Fed hikes and QT) we believe overall credit is still at the mercy of a further move in the FCI index. In addition, we are concerned about liquidity risks into year-end. Although IG has discounted a lot of these issues already, we worry that correlation risk would still hit credit if conditions were to worsen.

We therefore are reaffirming our upward spread widening bias by maintaining both our medium-term IG spread range of 125 – 175 bps and our short-term spread range of 140 – 175 bps to reflect challenging market conditions. If IG spreads fall and remain sub 135 bps or conversely rise meaningfully above 175bps (which increases the value proposition), we would reassess our view.

Markets Summary: Both equities and IG bonds rallied over the past month, largely driven by the following (please refer to the chart below for more details):

1) Optimism around the US mid-term elections, as the consensus had the Republican Party winning a majority in at least one house of Congress
2) Third quarter earnings that were generally positive (sans the TMT sector). Bank earnings were surprisingly strong as NIM's increased on higher rates.
3) Markets absorbing the latest Fed rate hike and relatively hawkish outlook
4) IG spreads tightening continued, partly due to the above factors, but also due to the reopening of new issuance, which saw a flood of deals in the 2nd half of October to early November, ahead of the mid-term elections.

IG SPREADS HAVE IN MANY WAYS OUTPERFORMED THE STOCK MARKET



Source: Bloomberg, MUFG US Macro Strategy

Third quarter earnings season started off well, with banks, healthcare, and some consumer sectors reporting inline to better earnings. But then shipping companies and commodities started to take a bit of the shine off and pessimism started to show up in actual 4Q/FY23 guidance and/or management commentary.

Earnings continued weaker in late October, especially with large cap tech stocks, with several benchmark companies reducing guidance due to weaker consumer PC, cell phone, and electronics demand, as well as lower advertising spending in the

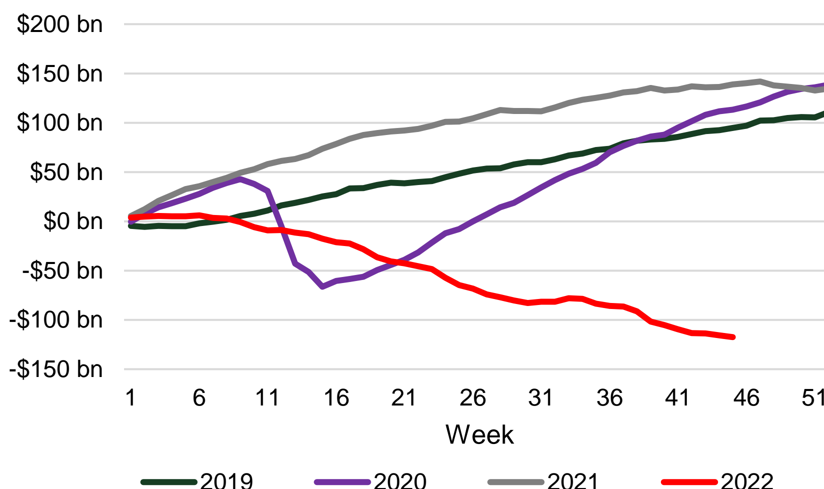
social media space. We feel these latest earnings warnings are a red flag for economic weakness ahead.

For us the primary market risks have not changed over the past 6 months (continued high inflation; supply chain disruptions; Russia's war with Ukraine; China's increased tensions with Taiwan; and the Fed both raising rates and shrinking its balance sheet). We believe these issues will continue to perpetuate uncertainty into 2023 and so we remain cautious on credit. This has been the story of 2022 where our house view since the start of the year has revolved around spread widening as liquidity is drained. And this year we've seen spreads spike almost on monthly basis.

Demand Update: Market participants continue to be quite vigilant and seem to be more inclined to shed longer duration and prefer shorter maturities in credit space. That said there are moments when opportunistic buying surfaces, especially with the 2-year Treasury now well above 4%. IG is also suffering from the competition it's getting from other US fixed income products being equally cheap (which may be driving asset allocation flows away from IG). Trading volumes have been light, reflecting market volatility and economic uncertainty. Investors are sitting on a good amount of cash, and other than participating in new issuance or buying very short paper (3-6 months) to park into the new year, they generally remain on the sidelines until there is strong evidence of inflation peaking. Credit remains orderly though given the amount of cash on the side-lines, relative yields vs historical levels, as well as the amount of high-quality credit paper trading at deep discounts due to low coupons.

Overall, flows have been orderly and we haven't sensed any panic in the IG market so far. However, on an aggregate basis, the outflow from IG funds reflect investors' cautiousness on the product, as YTD net IG fund outflows totaled nearly $118bn, up $8bn in the past month and in stark contrast to last year's YTD positive inflows of $139bn. Please refer to the chart below for a recent history of IG fund flows:

IG FUNDS IN '22 CONTINUE TO SEE A SIZEABLE AMOUNT OF WITHDRAWALS



Source: LIPPER, Bloomberg, MUFG US Macro Strategy

CHART 3 – IG SPREADS, RETURNS, AND EQUITY RETURNS (AS OF 11/9/2022)

OAS AND SPREAD CHANGES						Total Return		Excess Return	Spread Variance		S&P 500 Equity
Sector	OAS	1 Month	YTD	1 Year	YTW	MTD (%)	YTD (%)	YTD (%)	Sector vs Total	Sector 5 Yr Avg Diff	YTD Return
Total IG	152	-2	59	65	5.92%	0.08%	-19.49%	-2.66%	-	-	-20.3%
Financial Institutions	168	4	84	89	6.13%	0.30%	-16.35%	-3.18%	16	-8	-12.0%
Utility	151	-1	44	55	5.91%	-0.12%	-22.96%	-2.61%	-1	-1	-6.1%
Energy	157	-11	40	50	5.98%	0.26%	-18.50%	-1.26%	5	38	65.6%
Basic	183	-1	68	71	6.20%	0.11%	-21.70%	-3.28%	31	30	-14.7%
Capital Goods	128	-8	42	48	5.67%	0.13%	-18.70%	-2.14%	-24	-10	-8.5%
Technology	129	-2	49	52	5.66%	-0.05%	-19.44%	-2.16%	-22	-21	-30.3%
Communications	179	-5	61	64	6.12%	-0.17%	-24.02%	-3.55%	27	27	-42.4%
Consumer Noncyclical	130	-6	42	46	5.68%	-0.07%	-21.23%	-2.15%	-22	-8	-4.9%
Pharmaceuticals	105	-7	30	32	5.44%	-0.14%	-20.57%	-1.51%	-46	-19	-5.6%
Food/Beverage	128	-13	39	43	5.64%	-0.01%	-20.68%	-1.31%	-24	-4	-4.9%
Consumer Cyclical	125	-4	46	50	5.63%	0.02%	-18.18%	-2.54%	-27	-6	-36.0%
Transportation	145	-5	46	53	5.83%	-0.28%	-23.37%	-2.38%	-7	2	-8.5%

Source: Bloomberg, MUFG U.S. Macro Strategy

IG New Issuance Stats Table

2022	Actual	Est	2021	2022 YTD	2021 YTD
Jan	$142.1	$140	$137	$142	$137
Feb	81.4	100	123	223	260
Mar	230.0	150	203	453	463
Apr	107.2	110	120	561	583
May	86.5	135	138	647	721
June	69.1	105	129	716	850
July	87.4	75	90	804	940
Aug	114.3	75	91	918	1,031
Sep	78.6	145	165	996	1,196
Oct	83.2	75	121	1,080	1,317
Nov	50.6	75	111	1,130	1,428
Dec		60	62	1,130	1,490

Current 2022 FY est:	$1,215
Original 2022 Est (Dec. 2021)	$1,390
Curr vs Orig	-13%
Curr vs 2021	-18%
Curr vs 3yr Avg	-18%

YTD New Issuance - Through 11/09/22

	Issuance ($ bn)	New Issue Concession	Books Times Cvd
2022	$1,130	13 bps	2.9
2021	$1,275	2 bps	2.9

Annual Totals	
2001	$551
2002	415
2003	445
2004	398
2005	430
2006	633
2007	726
2008	586
2009	711
2010	711
2011	741
2012	960
2013	1,006
2014	1,090
2015	1,252
2016	1,286
2017	1,335
2018	1,172
2019	1,129
2020	1,813
2021	1,490

Source: MUFG

IG Issuance Update:

- After a very slow start in early October, new issuance jumped back to life by late October and continued into early November, spurred by getting past the November Fed meeting, getting ahead of the US mid-term elections, and pent-up demand to fund M&A and refinance upcoming debt maturities.

November 7 was notable, as 15 issuers came to market, one large tech company came with negative concessions, and most issues traded higher in the grey market. All this in spite of a hawkish Fed and stronger payrolls. This seems to indicate investors have pent up demand for new issuance.

- YTD 2022 issuance through November 9 is running 11% behind 2021, but that may narrow with one fuller week left in the month.
- FY 2022 estimate of $1.215 trillion is running 18% behind 2021 and would be the lowest annual issuance since 2019.

US HY CREDIT: SIGNAL OR NOISE

Our spread projections are underpinned by 1) our belief that tighter Fed policy needed to fight inflation will tip the economy into recession and 2) historical spread widening during past periods of tighter lending standards and elevated rates. The October CPI is the first data point to support a reduction in amount, pace and duration of tightening.

That said, we are reaffirming our upward spread widening bias by maintaining both our short-term HY spread range of 450–525 bps and our medium-term spread range of 450-575 bps to reflect challenging market conditions.

The OAS on the High Yield Index tightened -47bp month over month to +498. Following Thursday's softer CPI print, the OAS index tightened an additional -14bp to close at +468bp. This places the index just above it's +446 average level since the February 24th Russian invasion of Ukraine (high of 583 on July 5, 2022; low of 309 on April 5, 2022).

The soft US October CPI report sparked an immediate cross asset rally that continued through the day. The stunning alacrity of the risk rally was matched by the steep drop in the US dollar. Both trends continued through session end.

The US CPI data release was softer across headline, core and component metrics. Following the broad miss in inflation data, odds of a fifty-basis point hike increased substantially. The OAS on the Bloomberg US Corporate High Yield index at 466bp, is approaching the low end of our projected spread levels of 450-525bp in the short range and 450-575 in the medium.

At current levels, high yield spreads reflect continued softness in inflation. The data dependent Fed has indicated it will need several diverse data points before declaring a reduction in rate increase let alone coming to a full pause. The impact of a higher-for-longer rate environment remains to be seen including the likelihood of a resulting recession along with elevated levels of unemployment. These factors will likely cause pressure on high yield spreads in the coming year.

Following the post CPI release rally, total return for the HY index YTD now stands at -13.6% with Pharma and Consumer non-cyclicals leading the downside and Energy and Transportation outperforming. See chart below for sector performance.

The primary market continues to be dominated by M&A deals including Nielsen, and Tenneco with DISH, Spirit Airlines, and Ball Corp. also issuing paper. Announced but yet to launch financings include Tegna, OpenText and Sealed Air. The year-to-date global volume is $118.85bn equivalent (US$98.1bn and non-US$20.7bn equivalent).

CHART 1 – HY SPREADS, RETURNS, AND EQUITY RETURNS (AS OF 11/09/2022)

HY OAS AND SPREAD CHANGES						Total Return	Excess Return	Spread Variance		S&P 500 Equity
Sector	OAS	1 Month	YTD	1 Year	YTW	YTD (%)	YTD (%)	Sector vs Total	Sector 5 Yr Avg Diff	YTD Return
U.S. Corporate High Yield	498	47	215	195	9.32%	-13.57%	-4.55%	-	-	-15.9%
Financial Institutions	518	84	252	240	9.71%	-13.96%	-4.90%	19	-47	-7.5%
Utility	275	-17	26	0	7.23%	-11.50%	-0.63%	-223	-103	-1.6%
Energy	339	-32	12	-72	7.98%	-7.01%	2.82%	-159	162	69.2%
Basic Industry	474	40	186	180	9.25%	-12.50%	-3.79%	-25	-1	-9.9%
Capital Goods	434	19	159	141	8.89%	-10.43%	-2.79%	-64	-44	-4.6%
Technology	490	74	246	245	9.34%	-13.81%	-4.50%	-8	-79	-24.5%
Communications	548	-2	231	244	9.91%	-17.12%	-7.70%	50	-14	-38.7%
Consumer Non-Cyclical	557	50	307	281	10.02%	-18.34%	-9.28%	59	-9	-2.6%
Pharmaceuticals	1001	7	660	594	14.41%	-31.00%	-22.42%	503	93	-3.1%
Food/Beverage	374	23	177	159	8.26%	-13.05%	-3.06%	-125	-82	-2.6%
Consumer Cyclical	513	49	245	215	9.61%	-14.11%	-5.42%	15	-15	-31.1%
Transportation	406	-18	97	32	8.55%	-8.81%	-0.87%	-92	154	-4.6%

Source: Bloomberg, MUFG U.S. Macro Strategy

DEREK HALPENNY
Head of Research, Global Markets EMEA and International Securities

Global Markets Research
Global Markets Division for EMEA
T: +44 (0)20 7577 1887
E: Derek.Halpenny@uk.mufg.jp

LEE HARDMAN
Senior Currency Analyst

Global Markets Research
Global Markets Division for EMEA
T: +44 (0)20 7577 1968
E: Lee.Hardman@uk.mufg.jp

LIN LI
Head of Global Markets Research Asia

Global Markets Research
Global Markets Division for Asia
T: +852 2862 7005
E: Lin_Li@hk.mufg.jp

MUFG Bank, Ltd.
A member of MUFG, a global financial group

FX

The US dollar on a DXY basis has dropped by over 5% since the last Global Markets Monthly which means there is validity in posing the question – have we now had the peak for the US dollar in this cycle? We now think there is a very good chance that we have. This would certainly be a more compelling prospect if we have reached peak inflation. After just one good inflation print it is too soon to make that conclusion but the prospects look good given all the other pipeline inflation data suggest that. A slower pace of tightening by the Fed also likely means ECB monetary tightening will at least match the Fed going forward while the level of pessimism over global growth has eased somewhat given the China growth policy announcements. The correction lower now for the US dollar is the largest since the bull-run began and the squeeze of long US dollar positions could have further to run. It is perhaps not a coincidence that the low for EUR/USD in later September coincided with the start of ECB communication on hiking by 75bps in October. We believe a cyclical low is now in place.

BASE CASE EXPECTATIONS, JPY, EUR & CNY

USD/JPY – BEARISH BIAS

- **Range: 134.00-146.00**

We have narrowed slightly the range for the month ahead although it remains wider than usual. The downside for the range last month (140.00) was breached with a large sell-off of the US dollar coming after the CPI print posted a downside surprise in the data for October. The data triggered heavy dollar selling, a big drop in US yields and a strong rally for equity markets. To some degree the market reaction looks overdone – after all, it was just one month's data. But in another sense, the market move was somewhat justified. It was the biggest downside surprise in MoM CPI (+0.272% versus 0.5% expected) since the inflation surge began in 2021 and there has been building evidence in pipeline inflation data to suggest this drop could be a first sign of a sustained trend lower in YoY core CPI over the coming months.

This is potentially hugely significant for the dollar and for USD/JPY specifically. There have been two key fundamental drivers of a higher USD/JPY this year – the Fed tightening cycle relative to the inaction of the BoJ and the terms of trade shock fuelled by the surge in energy prices. If we have reached peak inflation then we can safely conclude a peak in US yields has also been reached or is close to being reached. The OIS market for the US has an implied terminal rate of close to 5.00%. We think that is too high with potentially another 75bps of tightening. This could see the 2yr UST bond yield moving higher again but whether we see a break of the 4.80% high is debatable. The FOMC in December will be important in this regard. Fed Chair Powell signalled the current median dot of 4.625% for 2023 may be raised although if that is the case, we would expect the increase to be just 25bps to 4.875%.

In previous months we had argued that USD/JPY would remain supported through to year-end and then in 2023 would turn lower as the macro fundamentals shifted from USD-supportive to JPY-supportive. With the fundamental backdrop possibly not as

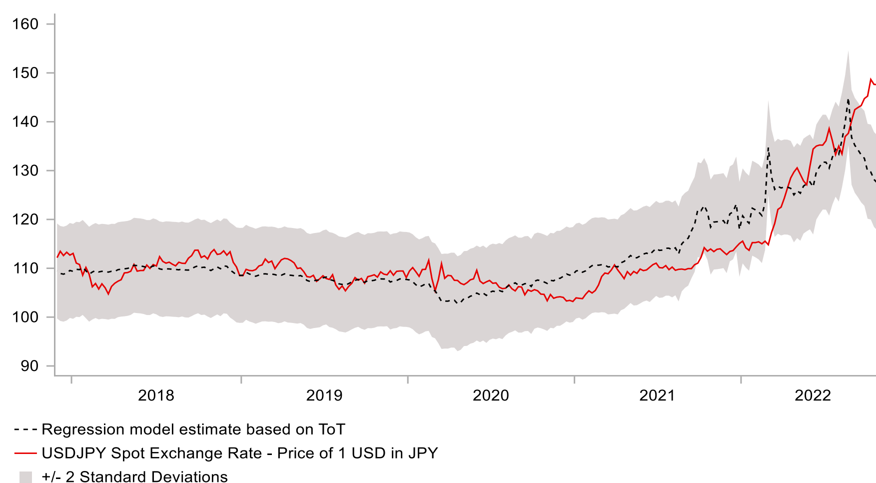
compelling in regard to US inflation, the impact of MoF intervention in September and October could start to become more influential. As stated here before, JPY-buying intervention by both the BoJ and the Fed in June 1998 initially failed in halting the move higher in USD/JPY but when the fundamentals changed, USD/JPY fell very sharply. The Fed cut rates in September 1998 (after USD/JPY hit new post-intervention highs in August) and again in October on Asian financial crisis contagion concerns (via Russia and the collapse of LTCM). USD/JPY collapsed from a high of 134.25 to a low of 111.85 in three trading days in October!

We are not suggesting a repetition of that of course – JPY carry positions are not like they were back then but it highlights where the risks lie if over the coming months the lower inflation trend is confirmed.

We would also highlight the changing terms of trade backdrop for Japan. We will not get a repetition next year of the terms of trade shock that Japan suffered this year. Indeed, our combined yield spread / terms of trade model for USD/JPY (below) clearly shows a turn is already well under way and the implied fair-value is much closer to 130.00 than 140.00 for USD/JPY. Crude oil prices have declined now by about 25% from the peak during the summer while global natural gas prices have also declined since Europe met its stock requirements for covering the winter period. The Japan LNG contract price (JGLA; Bloomberg) has dropped by over 50%, similar to elsewhere, which combined with the crude oil price drop has helped Japan's terms of trade improve.

Where we do not expect an imminent change is with monetary policy in Japan. Governor Kuroda this week gave a speech in Nagoya where he acknowledged that the BoJ were monitoring both upside and downside inflation risks. However, he did also add that inflation remained largely an imported commodity phenomenon and that he saw evidence of inflation pressures easing. The sharp drop in USD/JPY and the risks that the USD-selling momentum continues lead us to hold a bearish bias from here even though the BoJ's monetary stance is unlikely to change any time soon.

RATES SPREAD AND TERMS OF TRADE NOW POINT TO JPY RECOVERY



Source: Bloomberg, Macrobond, MUFG GMR

EUR/USD – BULLISH BIAS

- **Range: 0.9800-1.0800**

The EUR has staged a strong rebound against the USD in recent weeks resulting in EUR/USD moving further above the low from the end of September at 0.9536. The

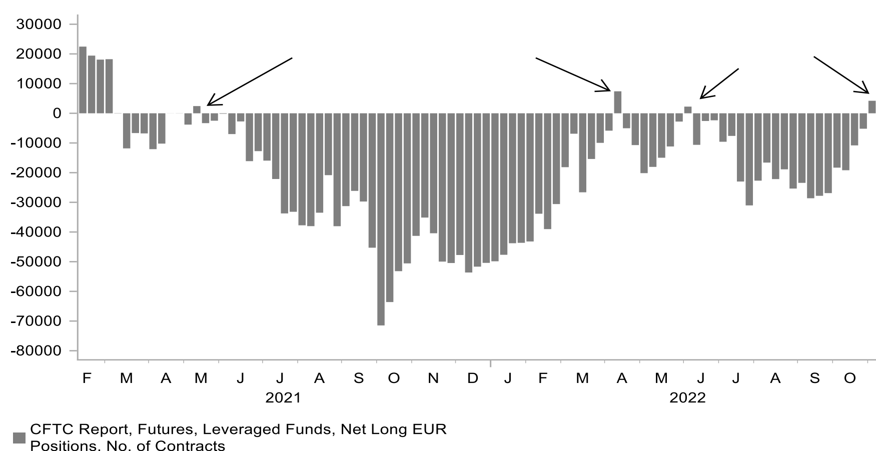
MUFG

down trend that had been in place since the start of the Ukraine conflict from late February has just been broken providing a strong technical signal that the balance of risks has become less favourable for the USD in the near-term. The best-case scenario for the USD in the month ahead is that it begins to consolidate at lower levels against the EUR between 1.0000 and 1.0500. However, there is a heightened risk that the USD sell-off could extend further if EUR/USD breaks above resistance provided by the 200-dma at around 1.0435 that would open the door to a further leg higher towards the next resistance area between 1.0800-1.1100. The pair has not closed above the 200-dma since June 2021.

The pair has been lifted in recent weeks by the broad-based USD sell-off. It has been driven in part by building optimism that inflation pressures in the US have peaked and are now beginning to ease providing more room for the Fed to slow down the pace of rate hikes. We expect the Fed to deliver a smaller 50bps hike at the last FOMC of this year on 14th December followed by a pausing of the rate hike cycle in Q1 of next year as US inflation continues to ease and the US labour market weakens more notably. It should help to ease upward pressure on the USD even if US yields remain at higher levels throughout most of next year. The shift in Fed rate hike expectations has though been partially offset by the ECB's own less hawkish than expected policy update this month. It has encouraged European rate market participants to price in a smaller 50bps hike from the ECB as well at their next meeting on 15th December even as inflation surprised significantly to the upside again in October reaching 10.7%. The ECB's balance sheet is expected to shrink more quickly after the cost of financing on outstanding TLTROs was made less generous. European banks are now expected to repay up around EUR900 billon of funds to the ECB by the end of this year. Faster TLTRO repayment could dampen the need for further hikes next year at the margin.

The EUR is currently benefitting as well from both a paring back of: i) more acute fears over energy-related disruption for European economies over the winter, and ii) elevated pessimism over the outlook for China's economy. It has been triggered by speculation over an easing of China's zero-COVID policy stance by the spring of next year and the rolling out of more government measures to support the beleaguered housing market. The price of natural gas in Europe has remained at much lower levels (~70%) over the past month after dropping sharply since the summer. There has even been renewed chatter recently over fresh peace talks between Ukraine and Russia after Russia continues to give back territory with the latest major setback being the loss of Kherson. In these circumstances, we are shifting to a bullish bias to reflect the recent change in momentum in the FX market.

LEVERAGED FUNDS BUILDING LONG EUR POSITIONS



Source: Bloomberg, Macrobond & MUFG GMR

MUFG

Range**: 7.0000–7.1500**

The Chinese yuan has strengthened against the US dollar back below the 7.0500-level. Both the softened dollar index and the improved risk sentiment for China assets and China economic development ahead helped to pressure USD/CNY lower.

Finally, some improvement happened on China's Covid-19 policy front. On 10th November, China announced 20 measures to optimize the Covid-19 policies, these measures included: i) shortening the quarantine time from "7+3" to "5+3" for close contact and in-bound personnel, ii) "secondary close contact" are no longer determined, iii) cancelling the category of medium-risk area, iv) home isolation for personnel coming from high-risk areas instead of 7-day centralized quarantine, v) cancelling the circuit breaker mechanism for inbound flights and etc. The new Covid-19 policies emphasize strengthening medical resources, promoting the vaccination and Covid-19 drug supply, and rectification of excessive implementation of Covid-19 containment policies by local cities. In addition, China Fund News said that the PBOC and China Banking and Insurance Regulatory Commission (CBIRC) on 11th November jointly issued the "Notice on Providing Better Financial Support for the Real Estate Market for Stable and Healthy Development". The notice emphasizes treating both state-owned and private property companies equally, and aims to provide support for property companies, guaranteeing the delivery of buildings, stabilizing demand, and etc. The measures to address the liquidity challenges faced by developers are a fresh attempt to boost the real estate sector, similar to the bailout for private enterprises in 2018. We think that these new approaches and enhanced measures are likely help to reverse the market's negative expectations on the sector eventually.

Following the roll-out of 20 measures, multiple places across China, including Beijing, Shanghai, Guangdong, Hainan, Gansu, Qinghai, Jiangsu and Jiangxi provinces, Xinjiang Uygur Autonomous Region and Inner Mongolia Autonomous Region have further detailed the implementation of optimized Covid-19 measures, according to China's local media. For instance, Shanghai announced on 13th November to decrease the frequency of nucleic acid testing for local primary and middle school students at school to three times every week from five times a week, as well as rolled out other more precise Covid-19 control and prevention measures. Beijing authorities also urged more precise measures to be taken on quarantine, transport, nucleic acid testing, flow of personnel, medical services, vaccination, in service enterprises and on campuses.

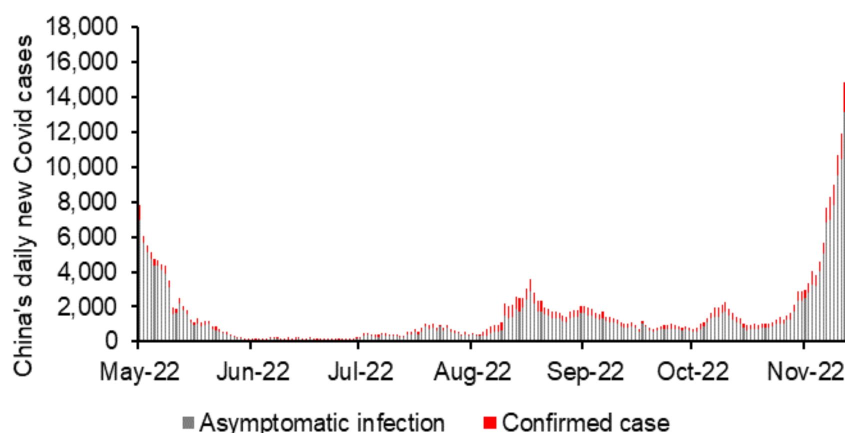
Despite the positive development on policies from national to local levels, the fact that China's daily confirmed cases rose to 16,200 on 13th November, and the current new daily cases are spreading in many parts of the country including in the economically active eastern region, near-term Covid-19 management can be a challenging task. At a press conference held on 12th November, a spokesperson from the China's National Health Commission (NHC) stressed that the 20 measures "do not mean we can slacken our response or even simply end Covid-19 restrictions and lie flat."

The latest measures helped to boost investors' confidence in China, with Chinese equity benchmark CSI 300 Index soaring by 1% and the onshore and offshore Chinese yuan rising by 0.7% and 0.8% against the dollar respectively on 14th November. But the economic data in the near-term highlighted that economic momentum remains weak. Recently released negative export growth, below-50 manufacturing- and non-manufacturing PMIs, and worse-than-expected credit numbers all suggested that the China's economic momentum was trending downward in October.

We are constructively positive on China's medium growth (5.1% for 2023) as we believe that policies will stabilize and revive economic activities, and expect

USD/CNY to decline to 6.7500 by the end of 2023. However, rising new Covid-19 confirmed cases are likely to trigger swings in sentiment towards the yuan and remains a downside risk in the near-term.

CHINA'S COVID REGURGENCE REMAINS A DOWNSIDE RISK TO THE CNY



Source: CEIC, MUFG GMR

KEY RISK FACTORS IN THE MONTHS AHEAD

- The sharpest correction lower in the US dollar since the bull-run began in May 2021 clearly changes the risk-reward balance for USD/JPY. Higher USD/JPY has been synonymous with the global inflation shock and this turn could result in a sharper than expected drop as long positions are squeezed from the market. A sharp rebound in USD/JPY is less likely but a strong rally in risk and strong US data could see a sharp near-term bounce given the scale of the drop that has unfolded in just three weeks of trading.
- The main downside risk to our bullish EUR/USD bias in the month ahead would be a sharper sell-off for risk assets triggered by intensified fears over a hard landing for the global economy. It would trigger a renewed safe haven bid into the USD pulling EUR/USD back below parity and towards year to date lows. The most likely triggers would be a stronger US CPI report for November followed by a hawkish Fed policy update next month.
- The latest policies in Covid response and property market should be positive to China's market, but we still need to wait and see if the measures can actually boost economic activities and business & consumption sentiments, given the challenge that national and local governments are facing: rising daily new confirmed cases. Loosening Covid-19 containment policies itself would imply a further rise of the daily cases. The steep increase in Covid-19 cases could incur some setbacks on Covid-19 containment policies, which in turn might bring uncertainties as well.

MUFG

Global Markets Research

FX

Head of Research, Global Markets EMEA
and International Securities

DEREK HALPENNY
Managing Director
T: +44 (0)20 7577 1887 E: Derek.Halpenny@uk.mufg.jp

Head of Global Markets Research, Asia

LIN LI
Managing Director
T: +852 2862 7005 E: Lin_Li@hk.mufg.jp

Head of Commodities, ESG and Emerging Markets
Research – EMEA

EHSAN KHOMAN
Director
T: +971 4 387 5033   E: Ehsan.Khoman@ae.mufg.jp

Senior Currency Analyst (Asean)

JEFF NG
Associate
T: +65 6918 5536 E: Jeff.Ng@sg.mufg.jp

Senior Currency Analyst (Europe)

LEE HARDMAN
Vice President
T: +44 (0)20 7577 1965   E: Lee.Hardman@uk.mufg.jp

Research Associate

KARMAN LI
Associate
T: +852 2862 7838 E: Karman_KM_Li@hk.mufg.jp

Analyst

RAMYA RS
Analyst
T: +971 4 387 5031   E: Ramya.Rs@ae.mufg.jp

Fixed Income

Head of U.S. Macro Strategy

GEORGE GONCALVES
Director
T: + 1-212-405-6687 E: George.Goncalves@mufgsecurities.com

Credit Strategy

Financial Credit (Europe)

CARLO MAREELS
Director
T: +44 (0)20 7577 2927 E: Carlo.Mareels@mufgsecurities.com

Investment Grade Healthcare, TMT, Consumer (US)

ERIC RUFF
Director
T: +1 212 405 7489 E: Eric.Ruff @mufgsecurities.com

High Yield (US)

BILL MATTHEWS
Director
T: +1 212 405 7486 E: Bill.Matthews@mufgsecurities.com

Investment Grade TMT, Consumer, Retail (US)

ANDREW MYERS
Vice President
T: +1 212 405 7497 E: Andrew.Myers@mufgsecurities.com

CERTIFICATION

The author(s) mentioned on the cover of this report hereby certify(ies) (or, where multiple authors are responsible, individually certify with respect to each security that the author covers in this report) that the views expressed in this report accurately reflect their personal views about the subject company(ies) and its (their) securities, and also certify(ies) that they have not been, are not, and will not be receiving direct or indirect compensation in exchange for expressing any specific recommendation(s) or view(s) in this report.

DISCLAIMERS

This report has been prepared by the Global Markets Research, US Rates and Credit Strategy desks within MUFG Bank , Ltd. ("MUBK") and MUFG Securities EMEA plc ("MUS(EMEA)") and may be distributed to you either by MUBK, MUS(EMEA) or by another subsidiary of the Mitsubishi UFJ Financial Group ("MUFG").

Legal entities and branches

The securities related businesses within MUFG (together referred to in this presentation as "MUFG Securities") are: (1) MUFG SECURITIES EMEA PLC ("MUS(EMEA)") which is authorised in the United Kingdom by the Prudential Regulation Authority ("PRA") and regulated by the Financial Conduct Authority ("FCA") and the PRA (FS Registration Number 124512). MUS(EMEA) has a branch office that is registered at Level 3, East Wing, The Gate, Dubai International Financial Centre, PO Box 506894, Dubai, UAE ("Dubai Branch"). The Dubai Branch is authorised to operate in the Dubai International Financial Centre ("DIFC") as a Non-DIFC Entity (Commercial License Number CL1656) and is regulated by the Dubai Financial Services Authority (Reference Number F002623); (2) (MUFG Securities (Europe) N.V. ("MUS (EU)") which is authorized and regulated in the Netherlands by the Dutch Authority for the Financial Markets (AFM) and also regulated by De Nederlandsche Bank (DNB). MUS (EU) Paris Branch is regulated in France by the Autorité de contrôle prudentiel et de résolution (ACPR) and the Autorité des marchés financiers (AMF); (3) MUFG SECURITIES AMERICAS INC. ("MUS(USA)") which is registered in the United States with the Securities and Exchange Commission ("SEC") and regulated by the Financial Industry Regulatory Authority ("FINRA") (SEC# 8-43026; CRD# 19685); (4) MUFG SECURITIES (CANADA), LTD. ("MUS(CAN)") which is registered in Canada with the Ontario Securities Commission ("OSC") and regulated by the Investment Industry Regulatory Organization of Canada ("IIROC"); (5) MUFG SECURITIES ASIA LIMITED ("MUS(ASIA)") which is incorporated in Hong Kong, licensed under the Hong Kong Securities and Futures Ordinance and regulated by the Hong Kong Securities and Futures Commission (Central Entity Number AAA889). MUS(ASIA) is registered as a foreign company under the Corporations Act 2001 of Australia ARBN No. 169 329 453; and (6) MUFG Securities Asia (Singapore) Limited ("MUS(SPR)") which is licensed as an approved merchant bank by the Monetary Authority of Singapore. In respect of the financial services provided to wholesale clients in Australia, MUS(ASIA), MUS(EMEA), MUS(USA) and MUS(SPR) are each exempt from the requirement to hold an Australian financial services licence under the Corporations Act 2001 of Australia under the Australian Securities and Investments Commission Class Order Exemption CO 03/1099, CO 03/1103, CO 03/1100, and CO 03/1102, respectively. Each of MUS(ASIA), MUS(EMEA), MUS(USA), MUS(CAN), and MUS(SPR) are regulated under the laws of Hong Kong, the United Kingdom, the United States, Canada and Singapore respectively, which differ from Australian laws.

MUFG Bank Ltd ("MUBK"), is a limited liability stock company incorporated in Japan and registered in the Tokyo Legal Affairs Bureau (company no. 0100-01-008846). MUBK's head office is at 7-1 Marunouchi 2-Chome, Chiyoda-Ku, Tokyo 100-8388, Japan. MUBK's London branch is at Ropemaker Place, 25 Ropemaker Street, London EC2Y 9AN, and is registered as a UK establishment in the UK register of companies (registered no. BR002013). MUBK is authorised and regulated by the Japanese Financial Services Agency. MUBK's London branch is authorised by the UK Prudential Regulation Authority ("PRA") and regulated by the UK Financial Conduct Authority ("FCA") with limited regulation by the PRA.

General disclosures

This report is for information purposes only and should not be construed as investment research as defined by MIFID 2 or a solicitation of any offer to buy or sell any security, commodity, futures contract or related derivative (hereafter "instrument") or to participate in any trading strategy. This report does not constitute a personal recommendation and does not take into account the individual financial circumstances, needs or objectives of the recipients. Recipients should therefore seek their own financial, legal, tax or other advice before deciding to invest in any of the instruments mentioned in this report.

Certain information contained in this report has been obtained or derived from third party sources and such information is believed to be correct and reliable but has not been independently verified. MUFG Securities does not make any guarantee, representation, warranty or undertaking, express or implied, as to the fairness, accuracy, reliability, completeness, adequacy or appropriateness of any information or comments contained in this report. Furthermore the information may not be current due to, among other things, changes in the financial markets or economic environment. MUFG Securities has no obligation to update any such information contained in this report.

This report is not intended to forecast or predict future events. Past performance is not a guarantee or indication of future results. Any prices provided herein (other than those identified as being historical) are indicative only and do not represent firm quotes as to either price or size.

This report is proprietary to MUFG Securities and may not be quoted, circulated or otherwise referred to without our prior written consent. Notwithstanding this, MUFG Securities shall not be liable in any manner whatsoever for any consequences or loss (including but not limited to any direct, indirect or consequential loss, loss of profits and damages) arising from any reliance on or usage of this report and accepts no legal responsibility to any investor who directly or indirectly receives this material.

Country and region specific disclosures

This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or is located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to any law, regulation or rule.

In this regard, please note the following in relation to the jurisdictions in which MUFG Securities has a local presence:

• *United Kingdom / European Economic Area (EEA): This report is intended for distribution to a "professional client" or "eligible counterparty" as those terms are defined in the rules of the FCA and PRA. In other EEA countries, this report is intended only for persons regarded as professional investors (or equivalent) in their home jurisdiction.*

• *United States of America: This report, when distributed by MUS(USA), is intended for Institutional Investors ("Institutional Accounts" as defined by FINRA Rule 4512(c)). When distributed by a non-US affiliate of MUS(USA), this report is intended for distribution solely to "major U.S. institutional investors" or "U.S. institutional investors" pursuant to Rule 15a-6 under the U.S. Securities Exchange Act of 1934, as amended. Securities referenced in this report may have been underwritten by MUS(USA) and/or its affiliates. Nothing*

in this report should be considered an offer or solicitation of an offer to buy or sell securities or any other financial product or a commitment of any kind with respect to any transaction.

IRS Circular 230 Disclosure: MUFG Securities does not provide tax advice. Accordingly, any discussion of U.S. tax matters included herein (including any attachments) is not intended or written to be used, and cannot be used, in connection with the promotion, marketing or recommendation by anyone not affiliated with MUS(USA) of any of the matters addressed herein or for the purpose of avoiding U.S. tax-related penalties.

• Hong Kong: This report is only intended for distribution to a "professional investor" as that term is defined in the Securities and Futures Ordinance and should not be passed onto any other person.

• Singapore: This report is only intended for distribution to an "institutional investor", "accredited investor" or "expert investor" as those terms are defined under regulation 2 of the Financial Advisers Regulation. It is solely for the use of such investors and shall not be distributed, forwarded, passed on or disseminated to any other person. Investors should note that, as a result of exemptions that apply when this report is distributed to "accredited investors" and "expert investors", MUSS is exempt from complying with certain requirements under the Financial Advisers Act, including section 25 of the Financial Advisers Act (which requires a financial adviser to disclose all material information on certain investment products), section 27 (which requires a financial adviser to have a reasonable basis for making recommendations on investments) and section 36 (which requires a financial adviser to disclose any interests that it holds in securities that it recommends).

• Canada: When distributed in Canada, this report is distributed by MUS(EMEA) or MUSA. MUS(EMEA) operates under an International Dealer Exemption from registration with the securities regulators in Alberta, British Columbia, Manitoba, Ontario and Québec. MUSA operates under an International Dealer Exemption from registration with the securities regulators in all Canadian Provinces and Territories. This report is only intended for a "permitted client" as that term is defined under the National Instrument 31-103 in Canada and is not intended for re-distribution to any other person. The information contained herein is not, and under no circumstances is to be construed as, a prospectus, an advertisement, a public offering, an offer to sell securities described herein, or solicitation of an offer to buy securities described herein, in Canada or any province or territory thereof. Under no circumstance is the information contained herein to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient.

• Japan: This Note, when distributed by MUFG Securities affiliates located outside of Japan, is intended for distribution in accordance with Article 58-2 of the Financial Instruments Exchange Act 1948 ("FIEA") i) to a "Financial Instruments Business Operator" engaged in "Securities-Related Business" as defined in the FIEA or ii) to the government, the Bank of Japan, a qualified financial institution defined in Article 209 of the Cabinet Office Ordinance Concerning Financial Instruments Business, Etc., or an Investment Manager.

When distributed by Mitsubishi UFJ Morgan Stanley Securities Co., Ltd., this Note is intended for distribution to a "Professional Investor (tokutei-toushika)" as defined in the FIEA.

• United Arab Emirates: This report is only intended for distribution to a "Professional Client" or "Market Counterparty" as those terms are defined under the rules of the Dubai Financial Services Authority and only a person meeting the criteria for these terms should act upon this report.

• Australia: This Note is only intended for distribution to persons in Australia who are sophisticated or professional investors for the purposes of section 708 of the Corporations Act of Australia, and are wholesale clients for the purposes of section 761G of the Corporations Act of Australia. This Note is not intended to be distributed or passed on, directly or indirectly, to any other class of persons in Australia.

Other jurisdictions:

MUFG Securities also relies on local registrations or regulatory exemptions in order to undertake certain securities business in other countries. In Thailand, MUS(EMEA) has a derivatives dealer registration with the Securities and Exchange Commission, Thailand. In Canada, MUS(EMEA) and MUS(USA) each operate under an international dealer exemption registered with the securities regulators. MUS(EMEA) operates under the exemption in Alberta, Quebec, Ontario, British Columbia and Manitoba. MUS(USA) operates under the exemption in all Canadian Provinces and Territories..

2022 Mitsubishi UFJ Financial Group