PICTET

Bank of Japan, Japanese government bonds and yen

The Japanese monetary tanker is slowly turning

22 SEPTEMBER 2023, CIO OFFICE & MACRO RESEARCH

AUTHORS
DONG CHEN
dochen@pictet.com
LAURÉLINE RENAUD-CHATELAIN
lchatelain@pictet.com
MILÈNE DUMONT
mdumont@pictet.com
LUC LUYET
lluyet@pictet.com

FLASH NOTE

SUMMARY

- While the Bank of Japan (BoJ) is likely to normalise its monetary policy, the pace of normalisation could be very slow in an environment in which the inflation outlook is still highly uncertain. The removal of the yield curve control could only occur in the second half of 2024 after the bank concludes its comprehensive review of monetary policy, while an exit from the negative policy rate may happen months later.
- The Bank of Japan's recent adjustment to its yield curve control sent the yield on 10-year Japanese government bonds (JGBs) higher to 0.74% (on 21 September) and we expect it to continue its ascent towards 0.8% by year-end. As domestic bond yields become more attractive and the cost of hedging foreign currency investments remains elevated, it is plausible that Japanese investors will continue to withdraw from foreign bonds. This could put some upward pressure on some global bond yields.
- The yen is highly sensitive to interest rate differentials. While unsupportive in past quarters, we see scope for a change as major central banks are likely close to being done with their tightening cycles, whereas the Bank of Japan is likely to further normalise its monetary policy.

NOT A MATTER OF "IF", BUT "WHEN"

In a recent flash note, we argued that the Japanese economy may have reached an inflection point in the sense that the economy seems to have moved out the shadow of its balance sheet recession, and the structural changes in corporates' price- and wage-setting behaviours may lead to sustained inflation going forward.

If we are right about these structural shifts in the Japanese economy, then this implies that the extraordinary monetary easing that the BoJ has been applying to the economy since at least 2013 should also come to an end eventually, although the timing is still uncertain. In other words, we believe the BoJ's exit from its extraordinary monetary easing is not a matter of "if", but "when".

Following the BoJ's surprise tweak of its yield curve control (YCC) in July, the market had expected the central bank to stay put for an extended period of time before making any further moves. However, a recent interview by the BoJ Governor Kazuo Ueda raised fresh speculation about possible policy change coming earlier. In that interview, Governor Ueda said that lifting the negative interest rate policy (NIRP) could be one of the policy options if the BoJ becomes confident that Japan has achieved "sustainable price increases accompanied by rising wages". In addition, Governor Ueda did not rule out the possibility that enough information could become available for such a decision before the end of 2023. These comments have led some analysts to move forward their projections for a major BoJ policy shift.

NO COMPELLING REASON TO RUSH

In our view, Governor Ueda's latest comments seem to suggest that the BoJ's policy making approach may have switched from being "persistently behind the curve" to "data dependent", which is a small step towards policy normalisation.

However, while we believe the BoJ will likely eventually remove YCC and NIRP, we do not see any compelling reason for the BoJ to rush to such decisions in the near term. In our view, a premature change in its policy framework, which will almost surely be perceived as policy tightening, could subject the central bank to a greater risk of credibility damage than staying patient.

Most recent discussions about the BoJ's policy moves hinge upon rising inflation in Japan, which touched the highest level in forty years in January 2023 (at 4.2% for core inflation) before moderating. While rising prices, especially those for food, have caused complaints from many Japanese people, we don't think it is actually a "problem" for the BoJ. Unlike in the US and Europe where central banks have been worried about "de-anchoring" of inflation expectations, that is not the case in Japan. Quite the opposite, the BoJ's main concern is still the sustainability of inflation, instead of inflation running too hot for too long.

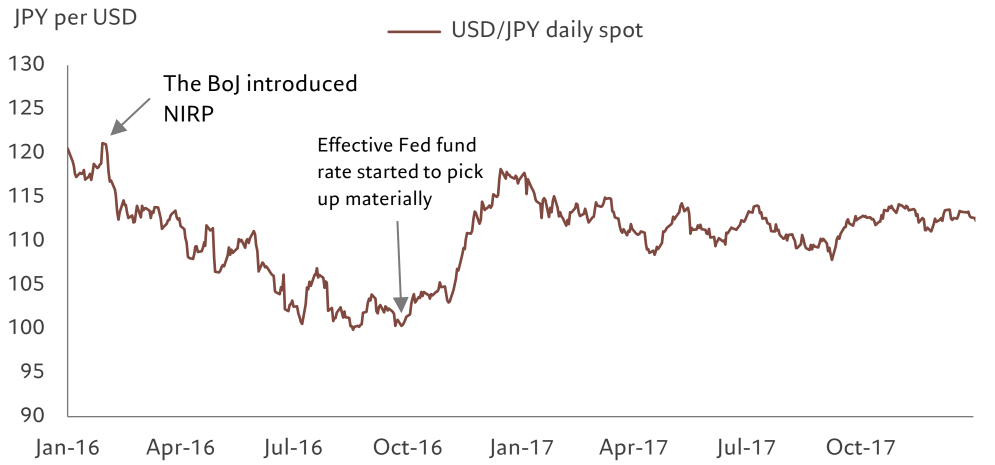
What's more, even if the BoJ wants to tackle inflation, there is no easy way that it can do so without hurting the economy.

One should note that the BoJ's policy was never a significant force behind the inflation dynamics in Japan in the past decade. For example, the current wave of inflation was initially caused by external shocks due to the covid pandemic and then later Russian's invasion of Ukraine. These exogenous price shocks have led to changes in Japanese corporations' price- and wage-setting behaviours, which could lead to structurally higher inflation in Japan going forward. This mechanism, however, has little to do with the BoJ's monetary easing. As a matter of fact, since the BoJ started its massive monetary easing in 2013 as part of the Abenomics, inflation in Japan was never able to rise materially towards the bank's 2% target until the pandemic hit.

Of course, the BoJ's monetary easing has contributed to the weakness in yen, which depreciated by about 35% against the USD since end-2019. Given that 60% of foods and 100% of oil and gas consumed in Japan are imported, the currency weakness has contributed to inflation indirectly. We estimate that out of the roughly 3-percentage-point increase in Japan's core inflation from 2019 to its peak in early 2023, the direct contribution from currency depreciation (through higher import prices measured in yen of foods and energy) was about half a percentage point. In other words, if the BoJ indeed wants to resort to currency appreciation to make a meaningful impact on inflation, say to reduce it by half a percentage point over the coming months, it will have to engineer a yen rally back to levels similar to those at end-2019, which is about 110 yen per dollar.

This may not be either desirable (a big hit to Japanese exporters) or even possible by the BoJ's own efforts. After all, the ultimate driving force behind USDJPY is the US Federal Reserve (Fed) rather than the BoJ. For example, on 29 January 2016, when the BoJ first announced the NIRP, the Japanese yen weakened by about 2% on the day, but then it soon embarked on an eight-month strengthening path, rising from 121 yen per dollar all the way to 100 yen per dollar until the end of September before the trend reversed, only because the effective Federal fund rate started to rise materially before a new hiking cycle took off (*see chart 1*). Hence, curbing inflation is unlikely a driver for the BoJ's policy change.

Chart 1: USD/JPY daily spot rate (Jan 2016-Dec 2017)

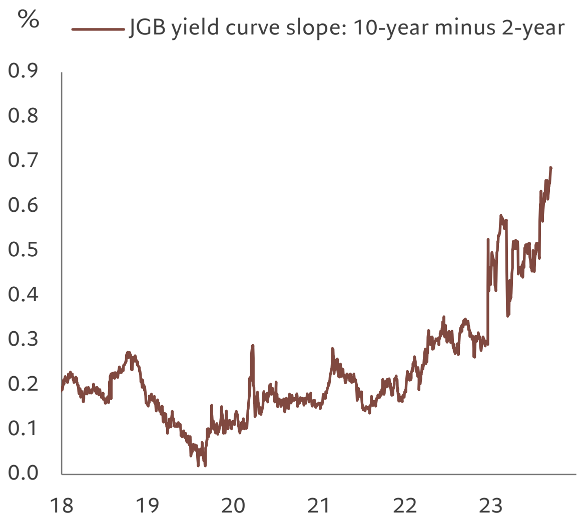


Source: Pictet Wealth Management, Bloomberg Finance LP, 22 September 2023

Another reason that may motivate the BoJ to change is the concerns about the side effects of its monetary policy. In particular, by requiring commercial banks to pay 0.1% per year on part of their reserves parked at the BoJ, the NIRP is eroding the banks' profitability. Indeed, this used to be a worry for the BoJ back in 2018-19. But when the slope of JGB's yield curve started to steepen from late 2019 (*see chart 2A*), accompanied by the widening of the trading band for the 10-year JGBs under YCC, banks' profitability has improved notably, which partly explained the strong performance of Japanese bank stocks since late 2019 (with a short covid interruption in early 2020, *see chart 2B*). Hence, addressing banks' profitability is no longer a pressing issue for the BoJ.

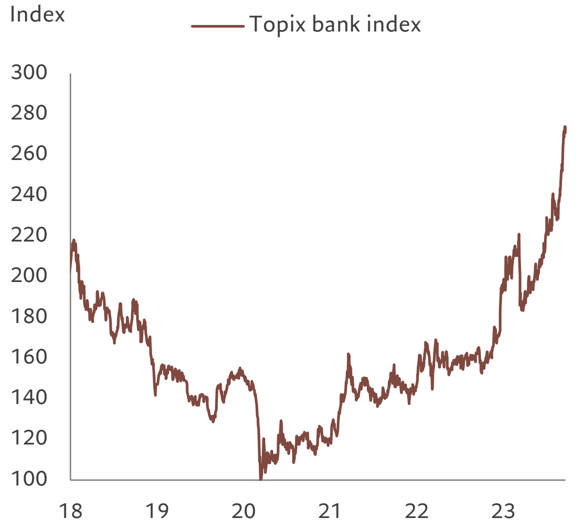
For illustrative purposes. Past performance should not be taken as a guide to or guarantee of future performance. Performances and returns may increase or decrease as a result of currency fluctuations. There can be no assurance that these projections, forecasts or expected returns will be achieved. The projection is not based on simulated past performance.

Chart 2A: JGB yield curve slope



Source: Pictet Wealth Management, Bloomberg Finance LP, 22 September 2023

Chart 2B: Topix bank index



Source: Pictet Wealth Management, Bloomberg Finance LP, 22 September 2023

Finally, the BoJ could change policy for its own sake. By sticking to YCC, the BoJ is essentially committing itself to buying unlimited amount of JGBs at a fixed price, which could be a headache when the market bets against the BoJ, given the central bank already owns half of all JGBs outstanding. In July, the BoJ surprisingly widened the effective trading band for 10-year JGBs from 50bps to 100bps around zero, which gave the BoJ a lot of flexibility. While the 10-year yield has risen since then, the current level of about 0.7% is still quite far from the new upper limit and thus does not put pressure on the BoJ to buy more. In other words, after what the BoJ has recently done, there is no obvious pressure to push the central bank to make further moves in the near term.

In our view, one truly important consideration for the BoJ is actually messaging. When the large-scale monetary easing first started, the BoJ had conditioned its policy actions to Japan's inflation outlook. Any premature removal of monetary easing could damage the BoJ's credibility if inflation (and the desired wage growth that accompanies it) turns out to disappoint, especially considering how long the central bank has maintained such policies. The latest data on Japanese wage growth shows that while there indeed has been improvement, the pace is still gradual. At 1.3% year-on-year in July, average wage growth for Japanese workers was still only half of what is estimated to be consistent with a 2% core inflation. In our view, the risk-reward for the BoJ to rush to "tighten" policy in the near term does not seem favourable.

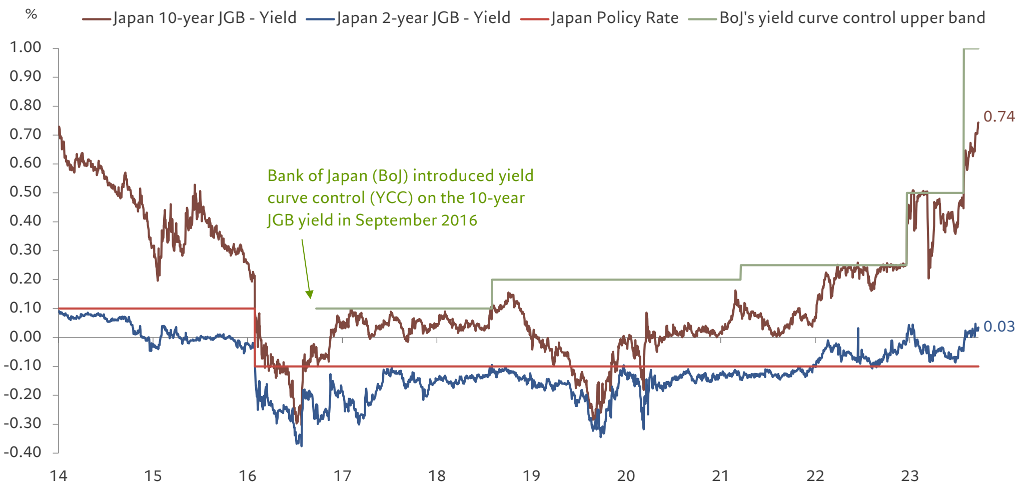
Given these considerations, we continue to hold the view that the BoJ will likely remove the YCC in the second half of 2024 after the bank concludes its comprehensive review of monetary policy, and the removal of NIRP will likely happen even later, possibly in 2025.

In an alternative risk scenario where the BoJ decides to move earlier, we think a possible time could be end of Q1 to early Q2 2024, when more information about the Shunto (spring wage negotiation) result is available.

SEA CHANGE IN THE JAPANESE GOVERNMENT BONDS MARKET

The BoJ's recent adjustment to its YCC not only sent the yield on 10-year JGB higher to 0.74% (on 21 September), but the two-year JGB yield also moved into positive territory, as market participants speculate that the central bank could potentially remove the NIRP in the coming months (*see chart 3*). The latter is not our baseline scenario, but market participants' speculation could push short-term yields up further, especially if Japanese wage growth and core inflation remain sticky.

Chart 3: Two- and 10-year Japanese government bond yields, Japan policy rate and BoJ's yield curve control upper trading band



Source: Pictet Wealth Management, FactSet, as of 21.09.2023

Looking at the year-to-date movements of the Japanese sovereign bonds yield curve, the slope of the yield curve has steepened, with long-term yields moving up more than short-term ones, because these are still largely anchored by NIRP (*see chart 2A*). By deciding to conduct YCC with more flexibility by widening the 10-year JGB yield trading range, the BoJ has sparked a slow normalisation of JGBs market. In this context, we expect the 10-year JGB yield to continue its ascent towards 0.8% by year-end.

As a consequence of intensive purchases, the BoJ is the largest holder of JGBs, holding 48.5% of the total JGBs market in Q2 2023. Pension funds and insurance are structural holders with a stable share around 6.3% and 17.3%, respectively. Japanese banks are the ones that sold their holdings since the start of BoJ's quantitative easing, and they now hold a share of only 8%, compared with over 35% ten years ago. This partly explains why Japanese banks' profits were not too negatively impacted by the recent rise in Japanese sovereign bond yields.

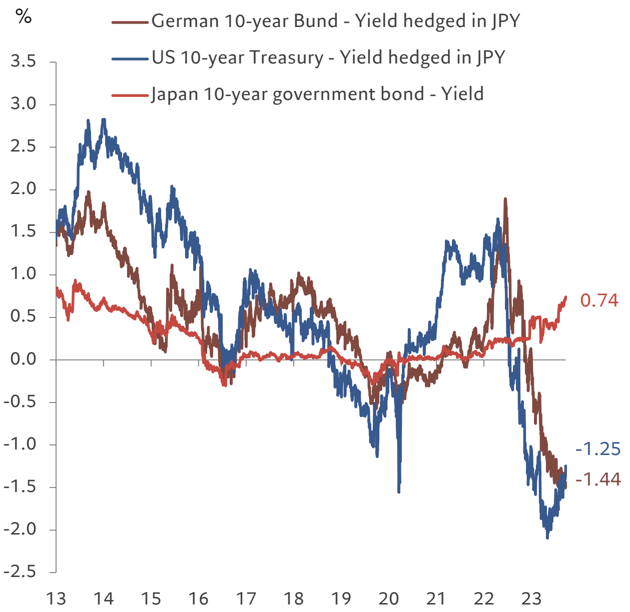
The composition of Japanese investors' holdings of foreign bonds has also changed in recent years. Japanese bond investors have reduced their holdings of US Treasury bonds since late 2021, from a peak at USD1.3 trn to USD1.1trn in July this year. Similar disinvestments of foreign bonds were seen in 2022, as Japanese investors faced rising costs of hedging their foreign currency investments into yen, both due to the yen weakness against the main developed market currencies and the widening interest rate differential. As of 21 September, the 10-year Japanese government

For illustrative purposes. Past performance should not be taken as a guide to or guarantee of future performance. Performances and returns may increase or decrease as a result of currency fluctuations. There can be no assurance that these projections, forecasts or expected returns will be achieved. The projection is not based on simulated past performance.

bond yielded 0.74%, while a 10-year US Treasury bond hedged into Japanese yen was offering a negative yield of -1.25% and a 10-year Bund -1.44% (*see chart 4A*). Similarly, euro and US dollar investment grade corporate bonds yields now appear less attractive to Japanese investors when hedged into yen than the yields offered by investment grade Japanese corporate bonds.

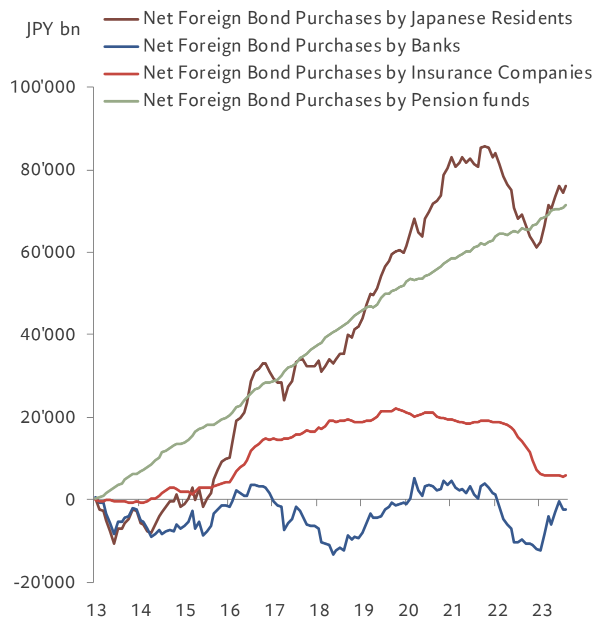
Nevertheless, as the yield of on US Treasury bonds hedged into yen became less negative throughout 2023, Japanese investors' exposure to US Treasuries has rebounded slightly. Overall, Japanese residents have again been net buyers of corporate and government foreign bonds in 2023 after disinvesting sharply in 2022 (*see chart 4B*).

Chart 4A:10-year US, German and Japanese sovereign bond yields



Source: Pictet Wealth Management, FactSet, Bloomberg Finance L.P, as of 21.09.2023

Chart 4B: Net foreign bonds purchases by Japanese residents (cumulative since 01.01.2013)



Source: Pictet Wealth Management, FactSet, as of 15.09.2023

In conclusion, it is plausible that Japanese investors will continue to withdraw from foreign bonds market as domestic bond yields become more attractive and the cost of hedging currency exposure remains elevated. This could put some upward pressure on some global bond yields, depending on the extent of Japanese residents' holdings. For example, the share of US Treasury bonds held by Japanese investors represents 4% of the total outstanding, so a small, but not unsignificant share.

INTEREST RATE DIFFERENTIAL LIKELY TO TURN LESS NEGATIVE FOR YEN

Over the years, the Japanese yen has shown a particularly tight relationship with interest-rate differentials (*see chart 5A*). The global rise in interest rates have therefore heavily penalised the low-yielding yen, which has moved to more than two-decade lows in trade-weighted terms.

For illustrative purposes. Past performance should not be taken as a guide to or guarantee of future performance. Performances and returns may increase or decrease as a result of currency fluctuations. There can be no assurance that these projections, forecasts or expected returns will be achieved. The projection is not based on simulated past performance.

However, there are reasons to believe that the trend may turn more favourable for the yen over the medium term.

First, part of the reasons behind the weakness of the yen has been the ultra-accommodative monetary stance of the Bank of Japan. As there are growing prospects that inflation could achieve the 2% target in a sustainable manner, the Bank of Japan may gradually normalise its monetary policy, which would likely put a floor on Japanese real interest rates.

Second, the Ministry of Finance looks close to curbing the yen's weakness, as confirmed by strong warning against speculative moves in early September. The historical high price of gasoline in Japan (fuelled by rising oil price and the weak yen) also strengthens the case for renewed FX intervention by Japanese authorities.

Third, outside of Japan, major central banks are likely reaching the end of their tightening cycles on the back of abating inflationary pressure. Coupled with downside risks in economic activity linked to monetary tightening, real interest rates could face some downward pressure in the coming months.

It is also worth highlighting that given the yen's long-term undervaluation and elevated pessimism about the yen, the medium-term risk-reward looks more attractive for a long yen position.

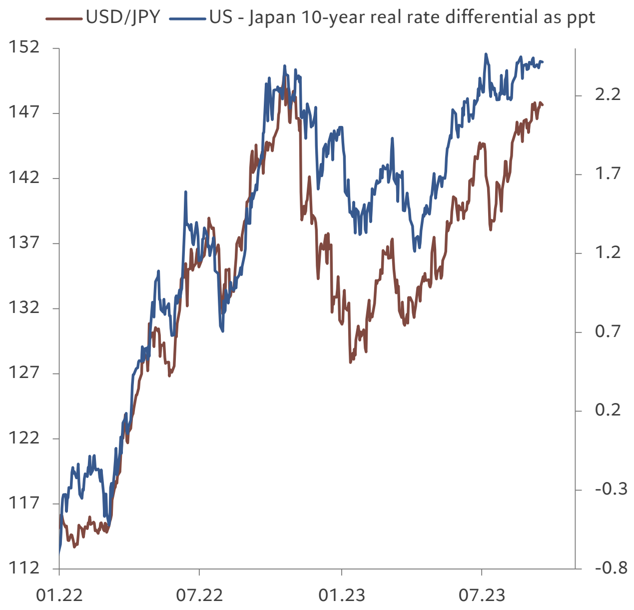
That said, we acknowledge that the Bank of Japan's potential monetary normalisation may be quite underwhelming as the large public debt (roughly 250% of GDP) may constrain the magnitude of rate hikes. Furthermore, inflation in major developed economies could prove structurally stronger than in the previous decades, which may limit the magnitude of easing cycles for major central banks. The Fed's recent updated median projections for the policy rate tend to confirm such a view.

Beside a narrowing of monetary policy divergence, a sustained decline of risky assets may be needed to provide stronger support to the yen (relative to other currencies), given its usual negative correlation to risky assets (*see chart 5B*).

Looking at other drivers, capital flows may not help the yen much in the short term. The Japanese trade balance remains highly sensitive to oil price gyrations. While the restarting of nuclear plants after the 2011 disaster could help the trade balance, the impact could be more visible in the medium term. While primary income (a large component of the Japanese current account) has moved significantly higher since 2021, a large part seems to come from a rise in reinvested earning which has limited bearing on the yen. What's more, the structural deficits in foreign direct investment flows should remain a drag on the yen. That said, portfolio investment flows may turn more supportive for the yen should the BoJ reduce its bond purchases and if higher domestic rates attract Japanese investors. Overall, balance of payments flows may support the yen but most likely in the medium term.

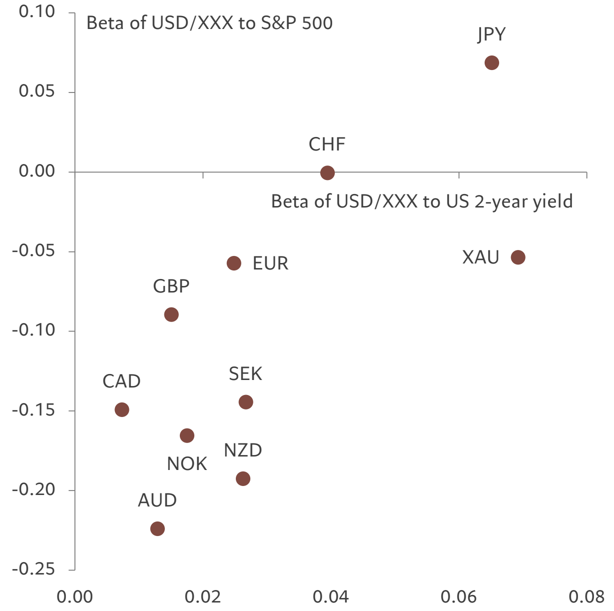
To sum up, in the short term, based on our assumption that US economic activity should weaken in the coming months, we see scope for a stronger yen on the back of downward market revisions to the Fed's rate path, explaining our 3-month projection on USD/JPY at JPY141.

Chart 5A: USD/JPY vs. real interest rates differential



Source: Pictet Wealth Management, Refinitiv, as of 21.09.2023

Chart 5B: Sensitivity to S&P 500 and US 2-year rate



Source: Pictet Wealth Management, Refinitiv, as of 21.09.2023

For illustrative purposes. Past performance should not be taken as a guide to or guarantee of future performance. Performances and returns may increase or decrease as a result of currency fluctuations. There can be no assurance that these projections, forecasts or expected returns will be achieved. The projection is not based on simulated past performance.

DISCLAIMERS

Distributors: Banque Pictet & Cie SA, Route des Acacias 60, 1211 Geneva 73, Switzerland and Bank Pictet & Cie (Europe) AG, Neue Mainzer Str. 1 60311 Frankfurt am Main Germany.

Banque Pictet & Cie SA is established in Switzerland, exclusively licensed under Swiss Law and therefore subject to the supervision of the Swiss Financial Market Supervisory Authority (FINMA).

Bank Pictet & Cie (Europe) AG is established in Germany, authorised and regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht, the German Federal Financial Supervisory Authority (Bafin).

This marketing communication is not intended for persons who are citizens of, domiciled or resident in, or entities registered in a country or a jurisdiction in which its distribution, publication, provision or use would violate current laws and regulations.

The information, data and analysis furnished in this document are disclosed for information purposes only. They do not amount to any type of recommendation, either general or tailored to the personal circumstances of any person. Unless specifically stated otherwise, all price information is indicative only. No entity of the Pictet Group may be held liable for them, nor do they constitute an offer or an invitation to buy, sell or subscribe to securities or other financial instruments. The information contained herein is the result neither of financial analysis within the meaning of the Swiss Bankers Association's Directives on the Independence of Financial Research, nor of investment research for the purposes of the relevant EU MiFID provisions. All information and opinions expressed in this document were obtained from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made as to its accuracy or completeness.

Except for any obligations that any entity of the Pictet Group might have towards the addressee, the addressee should consider the suitability of the transaction to individual objectives and independently assess, with a professional advisor, the specific financial risks as well as legal, regulatory, credit, tax and accounting consequences.

Furthermore, the information, opinions and estimates in this document reflect an evaluation as of the date of initial publication and may be changed without notice. The Pictet Group is not under any obligation to update or keep current the information contained herein. In case this document refers to the value and income of one or more securities or financial instruments, it is based on rates from the customary sources of financial information that may fluctuate. The market value of financial instruments may vary on the basis of economic, financial or political changes, currency fluctuations, the remaining term, market conditions, the volatility and solvency of the issuer or the benchmark issuer. Some investments may not be readily realizable since the market in the securities can be illiquid. Moreover, exchange rates may have a positive or negative effect on the value, the price or the income of the securities or the related investments mentioned in this document. When investing in emerging countries, please note that the political and economic situation in those countries is significantly less stable than in industrialized countries. They are much more exposed to the risks of rapid political change and economic setbacks.

Past performance must not be considered an indicator or guarantee of future performance, and the addressees of this document are fully responsible for any investments they make. No express or implied warranty is given as to future performance. Moreover, forecasts are not a reliable indicator of future performance. The content of this document can only be read and/or used by its addressee. The Pictet Group is not liable for the use, transmission or exploitation of the content of this document. Therefore, any form of reproduction, copying, disclosure, modification and/or publication of the content is under the sole liability of the addressee of this document, and no liability whatsoever will be incurred by the Pictet Group. The addressee of this document agrees to comply with the applicable laws and regulations in the jurisdictions where they use the information reproduced in this document.

This marketing publication is issued by Banque Pictet & Cie SA. This marketing publication and its content may be cited provided that the source is indicated.

Distributor: Bank Pictet & Cie (Europe) AG, London branch ("Pictet London Branch")

This is a marketing communication distributed by Pictet London Branch.

This document sets forth neither a personal recommendation tailored to the needs, objectives and financial situation of any individual or company (investment advice as defined in the Financial Conduct Authority's Handbook of rules and guidance (the "FCA Handbook")), nor the results of investment research within the meaning of the FCA Handbook. Moreover, it does not constitute an offer, or an invitation to buy, sell or subscribe to securities or other financial instruments, nor is it meant as a proposal for the conclusion of any type of agreement. Furthermore, this document should not be considered a suitability report as Pictet London Branch has not received all the necessary information on the recipient to complete its suitability assessment that covers the recipient's knowledge and experience, tolerance to risk, sustainability preferences, if any, investment needs and the recipient's ability to absorb financial risk. Should its addressee decide to proceed to any transaction in relation to a financial product referred to herein, this will be in his sole responsibility, and the suitability/appropriateness of the transaction and other financial, legal and tax aspects should be assessed by an expert.

Any information contained in this document is disclosed for information purposes only, and neither the producer nor the distributor can be held liable for any fluctuation of the price of the securities. No express or implied warranty is given as to future performance. The opinions expressed reflect an objective evaluation of information available to the general public, such as rates from customary sources of financial information. The market value of securities mentioned may vary on the basis of economic, financial or political changes, the remaining term, market conditions, the volatility and solvency of the issuer or the benchmark issuer. Moreover, exchange rates may have a positive or negative effect on the value, the price or the income of the securities or the related investments mentioned in this document. It is also expressly noted that forecasts are not a reliable indicator of future performance, while past performance is not a reliable indicator of future results.

You shall only take investment decisions when you fully understand the relevant financial product and the involved risks. In particular, the relevant product documentation (such as the issuance program, final terms, prospectus, simplified prospectus and key (investor) information document), as well as Appendix 4: Risk Warnings Relating to Trading in Financial Instruments of the Terms and Conditions of Pictet London Branch, shall be read. Structured products are complex financial products and involve a high degree of risk. The value of structured products depends not only on the performance of the underlying asset(s), but also on the credit rating of the issuer. Furthermore, the investor is exposed to the risk of default of the issuer/guarantor.

In respect of any product documentation, including key information documents of

Packaged Retail and Insurance-based Investment Products ("KIDs"), please note that these may change without notice. You should therefore ensure that you review the latest version of them prior to confirming to Pictet London your decision to invest. If you have been provided with a link to access the respective KID/other product document, you should therefore click on the link immediately before confirming to Pictet London Branch your decision to invest, in order to review the most recent version of the respective KID/other product document. If you have not been provided with a link to access the relevant document, or if you are in any doubt as to what the latest version of the respective KID/other product document is, or where it can be found, please ask your usual Pictet London Branch contact.

Pictet London Branch is not the manufacturer of the product(s) and the KID/other product document is provided by a third party. The KID/other product document is obtained from sources believed to be reliable. Pictet London Branch does not make any guarantee or warranty as to the correctness and accuracy of the data contained in the KID/other product document. Pictet London Branch may not be held liable for an investment decision or other transaction made based on reliance on, or use of, the data contained in the KID/other product document.

By subscribing to the product(s) proposed herein, you acknowledge that you have (i) received, in good time, read and understood any relevant documentation linked to the product(s), including, as the case may be, the respective KID/other product document; (ii) taken note of the product(s) restrictions; and (iii) meet the applicable subjective and objective eligibility conditions to invest in the product(s).

Pictet London Branch may, if necessary, rely on these acknowledgements and receive your orders, to transmit them to another professional, or to execute them, according to the relevant clauses of your mandate, as well as the Terms and Conditions of Pictet London Branch.

The content of this document shall only be read and/or used by its addressee. Any form of reproduction, copying, disclosure, modification and/or publication in any form or by any means whatsoever is not permitted without the prior written consent of Pictet London Branch and no liability whatsoever will be incurred by Pictet London Branch. The addressee of this document agrees to comply with the applicable laws and regulations in the jurisdictions where they use the information provided in this document.

Pictet London Branch is a branch of Bank Pictet & Cie (Europe) AG. Bank Pictet & Cie (Europe) AG is a credit institution incorporated in Germany and registered with the Handelsregister, the German Commercial Register under the no. HRB 131080. Its head office is at Neue Mainzer Str. 1, 60311 Frankfurt am Main, Germany. Bank Pictet & Cie (Europe) AG is authorised and regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht, the German Federal Financial Supervisory Authority (BaFIN)

Pictet London Branch is registered as a UK establishment with Companies House (establishment number BR016925) and its UK establishment office address is Stratton House, 6th Floor, 5 Stratton Street, London W1J 8LA. Authorised by the Prudential Regulation Authority (PRA) and subject to regulation by the Financial Conduct Authority (FCA) and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request.

Distributors: Bank Pictet & Cie (Asia) Ltd ("BPCAL") in Singapore and/or Banque Pictet & Cie SA, Hong Kong Branch ("Pictet HK Branch") in Hong Kong.

The information, tools and material presented in this document are provided for information purposes only and are not to be used or considered as an offer, an invitation to offer or solicitation to buy, sell or subscribe for any securities, commodities, derivatives, (in respect of Singapore only) futures, or other financial instruments (collectively referred to as "Investments") or to enter into any legal relations, nor as advice or recommendation with respect to any Investments. This document is intended for general circulation and it is not directed at any particular person. This document does not have regard to the specific investment objectives, financial situation and/or the particular needs of any recipient of this document. Investors should seek independent financial advice regarding the appropriateness of investing in any Investments or adopting any strategies discussed in this document, taking into account the specific investment objectives, financial situation or particular needs of the investor, before making a commitment to invest.

BPCAL/Pictet HK Branch has not taken any steps to ensure that the Investments referred to in this document are suitable for any particular investor, and accepts no fiduciary duties to any investor in this regard, except as required by applicable laws and regulations. Furthermore, BPCAL/Pictet HK Branch makes no representations and gives no advice concerning the appropriate accounting treatment or possible tax consequences of any Investment. Any investor interested in buying or making any Investment should conduct its own investigation and analysis of the Investment and consult with its own professional adviser(s) as to any Investment including the risks involved.

This document is not to be relied upon in substitution for the exercise of independent judgment. The value and income of any Investment mentioned in this document may fall as well rise. The market value may be affected by, amongst other things, changes in economic, financial, political factors, time to maturity, market conditions and volatility, and the credit quality of any issuer or reference issuer. Furthermore, foreign currency rates of exchange may have a positive or adverse effect on the value, price or income of any Investment mentioned in this document. Accordingly, investors must be willing and able to assume all risks and may receive back less than originally invested.

Past performance should not be taken as an indication or guarantee of future performance and no representation or warranty, expressed or implied, is made by BPCAL/Pictet HK Branch regarding future performance.

This document does not constitute the investment policy of BPCAL/Pictet HK Branch, or an investment recommendation, and merely contains the different assumptions, views and analytical methods of the analysts who prepared them. Furthermore, the information, opinions and estimates expressed herein reflect a judgment at its original date of publication and are subject to change without notice and without any obligation on BPCAL/Pictet HK Branch to update any of them. BPCAL/Pictet HK Branch may have issued or distributed other reports or documents that are inconsistent with, and reach different conclusions from, the information presented in this document.

While the information and opinions presented herein are from sources believed to be reliable, BPCAL/Pictet HK Branch is not able to, and do not make any representation or warranty as to its accuracy or completeness. Accordingly, BPCAL/Pictet HK Branch accepts no liability for loss arising from the use of or reliance on this document presented for information purposes only. BPCAL/Pictet HK Branch reserves the right to act upon or use any of the information in this document at any time, including before its publication herein.

BPCAL/Pictet HK Branch and its affiliates (or employees thereof) may or may not have long or short positions in, and buy or sell, or otherwise have interest in, any of the Investments mentioned herein, and may or may not have relationships with the issuers of or entities connected with Investments mentioned in this document. BPCAL/Pictet HK Branch and their affiliates (or employees thereof) may act inconsistently with the information and/or opinions presented in this document.

The information used to prepare this document and/or any part of such information, may have been provided or circulated to employees and/or one or more clients of BPCAL/Pictet HK Branch before this document was received by you and such information may have been acted upon by such recipients or by BPCAL/Pictet HK Branch.

This document is provided solely for the information of the intended recipient only and should not be reproduced, published, circulated or disclosed in whole or in part to any other person without the prior written consent of BPCAL/Pictet HK Branch.

Singapore

This document is not directed to, or intended for distribution, publication to or use by, persons who are not accredited investors, expert investors or institutional investors as defined in section 4A of the Securities and Futures Act 2001 ("SFA") or any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or would subject BPCAL and any of its affiliates or related corporations to any prospectus or registration requirements.

BPCAL is a wholesale bank regulated by the Monetary Authority of Singapore ("MAS") under the Banking Act 1970 of Singapore, an exempt financial adviser under the Financial Advisers Act 2001 of Singapore ("FAA") and an exempt capital markets licence holder under the SFA. Please contact BPCAL in Singapore in respect of any matters arising from, or in connection with this document.

Hong Kong

This document is not directed to, or intended for distribution, publication to or use by, persons who are not "professional investors" within the meaning of the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong) and any rules made thereunder (the "SFO") or any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or would subject Pictet HK Branch and any of its affiliates or related corporations to any prospectus or registration requirements. If you do not want Pictet HK Branch to use your personal information for marketing purposes, you can request Pictet HK Branch to stop doing so without incurring any charge to you.

In distributing an investment product as agent for a third party service provider, Pictet HK Branch distributes the product for the third party service provider and the product is a product of the third party service provider but not Pictet HK Branch. In respect of an eligible dispute (as defined in the Terms of Reference for the Financial Dispute Resolution Centre in relation to the Financial Dispute Resolution Scheme) arising between Pictet HK Branch and you out of the selling process or processing of the related transaction, Pictet HK Branch is required to enter into a Financial Dispute Resolution Scheme process with you; however any dispute over the contractual terms of the product should be resolved directly between the third party service provider and you.

Banque Pictet & Cie SA is a limited liability company incorporated in Switzerland. It is an authorized institution within the meaning of the Banking Ordinance and a registered institution (CE No.: BMG891) under the SFO carrying on Type 1 (dealing in securities), Type 4 (advising on securities) and Type 9 (asset management) regulated activities. The registered address of Pictet HK Branch is 9/F., Chater House, 8 Connaught Road Central, Hong Kong.

Warning: The contents of this document have not been reviewed by any regulatory authority in Hong Kong. You are advised to exercise caution in relation to the offer. If you are in any doubt about any of the contents of this document, you should obtain independent professional advice. Please contact Pictet HK Branch in Hong Kong in respect of any matters arising from, or in connection with this document.