BofA SECURITIES

European Viewpoint

Switzerland in ’24: Slowly slowly

19 February 2024

Macro
Europe

Global Economics Rates & FX
BofAS

Evelyn Herrmann
Europe Economist
BofASE (France)
+33 1 8770 0292
evelyn.herrmann@bofa.com

Ronald Man
Rates Strategist
MLI (UK)
+44 20 7995 1143
ronald.man@bofa.com

Kamal Sharma
FX Strategist
MLI (UK)
+44 20 7996 4855
ksharma32@bofa.com

Ruben Segura-Cayuela
Europe Economist
BofA Europe (Madrid)
+34 91 514 3053
ruben.segura-cayuela@bofa.com

See Team Page for List of Analysts

Key takeaways

- Economics: we still think the SNB will start cutting in September, later and less than the ECB.
- Rates: net FX purchases = wider CHF FX-Sofr, richer Saron, wider front-end EUR swap spreads
- FX: Lower CHF is a high conviction view for 2024 as SNB dispenses with need for a strong CHF

Economics: not so fast, please

Swiss inflation and tentative signs of SNB intervention against CHF strengthening have raised questions around particularly early SNB cuts. We think patience is warranted and continue to expect the first cut in September, a quarter after the ECB. Low inflation won’t make the SNB rush. The particular mix of faster than expected disinflation and markets pricing earlier and more cuts elsewhere may have hit its limits. And we still think FX purchases are for abrupt currency moves, only, rather than sustained CHF weakening.

Rates: parting ways for now

The prospect of intervention by the SNB to contain CHF strength would be a parting of ways between the SNB’s balance sheet and that of global central banks, at least on a temporary basis. This could pressure the CHF FX-Sofr basis wider and provide FX-hedged opportunities in the front-end CHF market. Rising CHF liquidity could richen Saron and prompt more issuance of SNB bills if market rates deviate too much from the policy rate. Beyond CHF, net FX purchases could also provide support for front-end EUR swap spreads.

FX: The slow turn towards depreciation

Lower CHF has been one of high conviction trades in 2024 and we have recently made some downward revisions to our profile. We think the case for further structural weakness is a compelling one. The current environment remains fertile ground for carry trade strategies in the absence of a meaningful pick-up in volatility. CHF outperformance over the past years has been almost exclusively driven by the SNB buying vast quantities of CHF as it tapers the balance sheet. The change in language on FX has been slow to deliver a weaker CHF but momentum now appears to be accelerating as policy divergence becomes the dominant theme driving G10 FX. With markets now pricing in a healthy chance of earlier rate cuts, carry remains king and we look for outsized underperformance versus the higher yielding currencies in G10. Of more concern for the medium-term outlook is the sharp deterioration in the Swiss basic balance, we think the risks are for a more precipitous outflow of capital from Swiss asset markets in search of yield. Whilst this is not Japan, it is worthy of keeping on the radar.

Swiss economics: not so fast, please

Investor attention on Swiss franc developments is rising again, as tentative signs have emerged that the SNB may have intervened in the FX market to lean against CHF appreciation. Paired with Swiss inflation at 1.3% yoy in January, this means questions on the potential for particularly early SNB rate cuts are back.

From an economics perspective, we would argue patience is warranted. We stick to our call that the SNB is likely to deliver its first cut in September, a quarter after the ECB, and then move quarterly until September 2025, with risks of fewer cuts.

FX interventions remain a crucial policy instrument. We continue to expect the SNB to step in with purchases at times of abrupt and significant CHF appreciation. On the flipside, we would expect the SNB to proceed with FX selling and balance sheet unwind if the CHF were to weaken significantly from here, or if inflation dynamics require further policy tightening. In the current context, however, FX buying would then appear more likely and balance sheet unwind a tail risk in comparison.

Inflation well below 2% is probably not a problem for the SNB

Three arguments feature particularly prominently in our thinking: First, Swiss inflation is not on a path that will alarm the SNB. We update our Swiss forecasts today, but our changes are small. After 2.1% yoy in 2023, we expect Swiss inflation at 1.3% in 2024 (-10bp) and 1.2% in 2025 (-10bp), compared to 1.9% and 1.6% in the SNB's forecast, respectively. If inflation continues to move in line with our forecast, we doubt the SNB will be inclined to rush to act against too weak inflation. Remember the central bank's very asymmetric "below 2%" inflation target.

Slowing disinflation and markets adjusting to central banks should help

Second, the particular constellation of disinflation and market pricing of cuts is unlikely to intensify going forward. Disinflation progressed very fast in major developed economies, and faster than in Switzerland itself (see Exhibit 1 for Euro area and Swiss inflation). Markets have priced probably too much too fast in terms of central bank cuts. That, paired with geopolitics, has probably exerted particular pressure on the CHF.

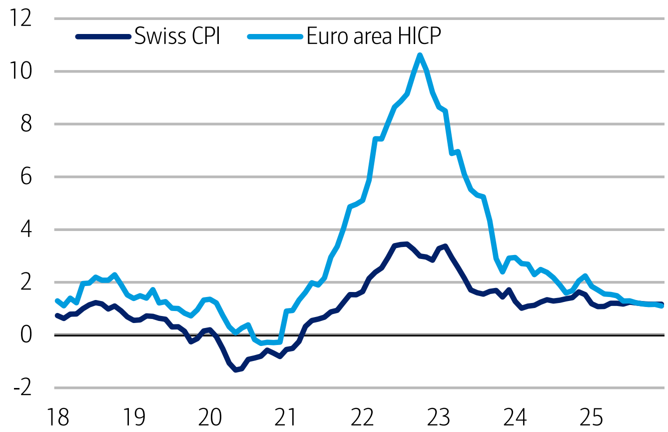
We expect disinflation to slow and markets to gradually come around to central banks' willingness to keep rates on hold for longer. Based on our global team's respective inflation forecasts for the US, Japan, China, the UK and the Euro area, and our FX colleagues' bilateral exchange rate forecasts, acute pressure on the Swiss Real Effective Exchange Rate (REER) should now behind us (Exhibit 2).

Speed and magnitude of CHF moves are the FX intervention trigger

Third, we think the SNB is back in its pre-pandemic modus operandi on the balance sheet. FX buying is an instrument to avoid very fast and large CHF appreciation. But we doubt the SNB is eager to actually provoke broad-based currency weakening. In December's monetary policy press conference, President Jordan referred to financing conditions as "appropriate". In late January, he added that lacklustre global demand, rather than the Swiss franc, was the main challenge to the Swiss corporate sector. To us, that sounds like a central bank that is not ready to ease financing conditions via the exchange rate. The political dimensions of the central bank's balance sheet and its recent losses probably enter the SNB's thinking, too.

Instead, we would expect the SNB to resume unwinding its foreign asset holdings if the currency were to weaken substantially, or if inflation dynamics were to strengthen (in which case we would continue to see tightening via the exchange rate as the preferred option over interest rate hikes).

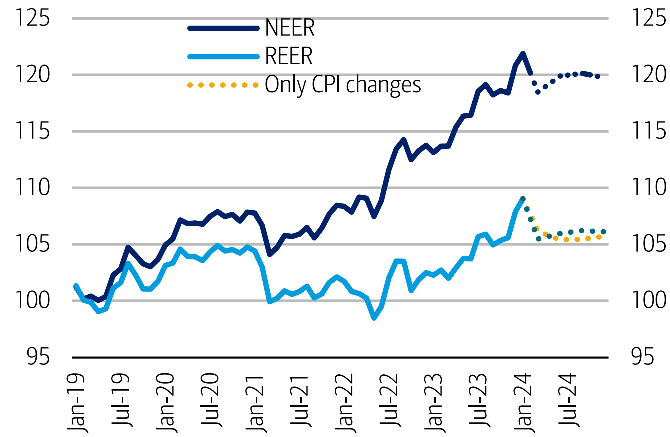
Exhibit 1: Euro area and Swiss headline inflation (%yoy)
Narrowing inflation differentials have not helped the real ffective exchange rate



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 2: Swiss nominal and real effective exchange rates (2019=100)
The CHF has probably reached its peak against a small basked (USD, CNY, GBP, JPY and EUR) in both nominal and real terms



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Rates: parting ways for now

SNB balance sheet to rise while Fed set to stabilise…

The prospect of intervention by the SNB to contain CHF strength would be a parting of ways between the SNB's balance sheet and that of global central banks, including the US Federal Reserve, at least on a temporary basis. The sustainability of such divergence would be a function of the Swiss Franc's strength and the economic outlook, including inflation dynamics. An increase in FX purchases by the SNB would lead to an increase in CHF reserves on the central bank's balance sheet, all else being equal. This would contrast with the expected stabilisation of the US Federal Reserve's balance sheet as our US team expects the central bank to end QT this year, which points to a stabilisation of reserve levels.

… which could pressure the CHF FX-Sofr basis wider

Structurally, more CHF reserves vs USD reserves is a source of widening pressures on the CHF FX-Sofr basis (Exhibit 3). The latest SNB auction yields and associated dates indicate 1M and 3M SNB bills offered a -1bp and +7bp pickup over their respective USD counterparts. In our view, this pickup is somewhat tight. But a wider CHF FX-Sofr basis from the different liquidity trajectories could increase FX-hedged pickup opportunities in the front-end CHF market.

Rising liquidity to richen Saron…

An increase in CHF liquidity means the Swiss banking system would become more cash rich. This could reduce Swiss bank cash demand in the CHF repo market and would be a source of richening pressure on Saron, making the Saron-SNB policy rate spread more negative (Exhibit 4).

… and may prompt more issuance of SNB bills

The risk is that the Saron-SNB policy rate spread becomes sufficiently large that the SNB deems it necessary to guide market rates back towards its policy rate. One way for the SNB to potentially achieve this is to increase net issuance of SNB bills: the SNB recently used net bill issuance to reduce sight deposits as it exited policy rates in 3Q 2022 (Exhibit 5). Demand for increased SNB bill issuance may also be supported by a wider CHF FX-Sofr basis as discussed above.

Rising balance sheet means more FX assets…

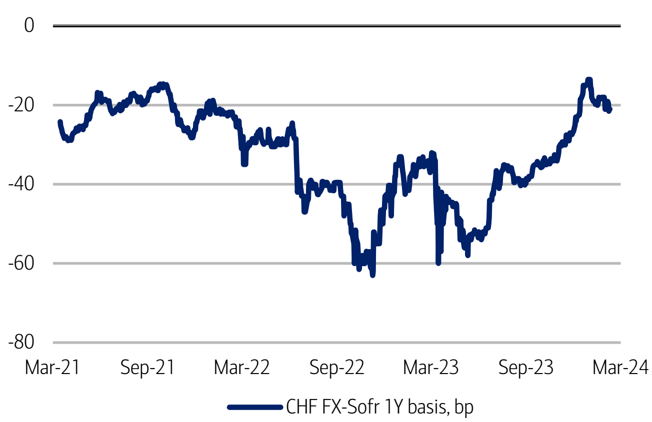
Increased FX intervention by the SNB would also mean a larger foreign currency investment portfolio. The market value of the SNB's foreign currency investment holdings fell c. 30% from its peak in January 2022 to December 2023, equivalent to c. CHF 300bn (Exhibit 6). This decline was driven by both mark to market losses and net selling of FX assets (Exhibit 7).

… and may support front-end EUR swap spreads

The prospect of net FX purchases by the SNB may be a source of support for front-end EUR swap spreads. Euro assets as a share of the SNB's foreign currency investment have generally been stable at just below 40%, while government bonds (across all currencies) has also been stable at just less than 65% in the past two years (Exhibit 8). As the average duration of the SNB's bond portfolio was 4.4 years in 2022, to the extent the SNB does not make significant compositional changes to its foreign asset portfolio, we expect the impact of net purchases to be most evident at the front-end of the curve,. This would support our view of less tightening in front end euro swap spreads vs the back end.

Exhibit 3: CHF 1Y FX-Sofr basis

Different balance sheet outlook vs Fed gives scope for widening

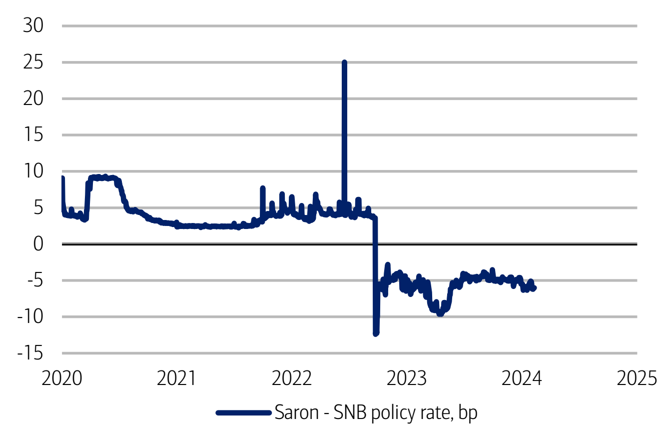


Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 4: Saron-SNB policy rate

More CHF liquidity would put richening pressure on Saron

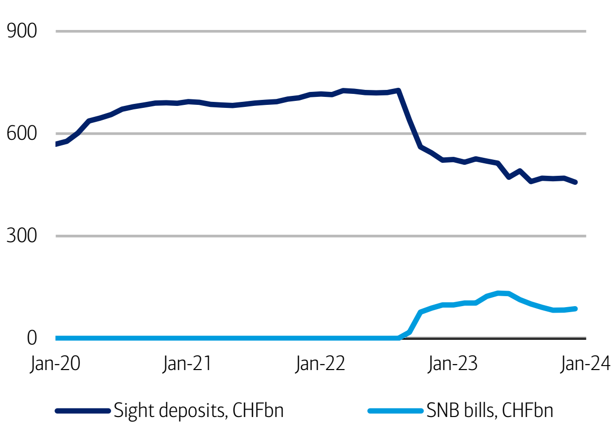


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 5: Sight deposits and SNB bills

SNB issued bills to reduce sight deposits recently

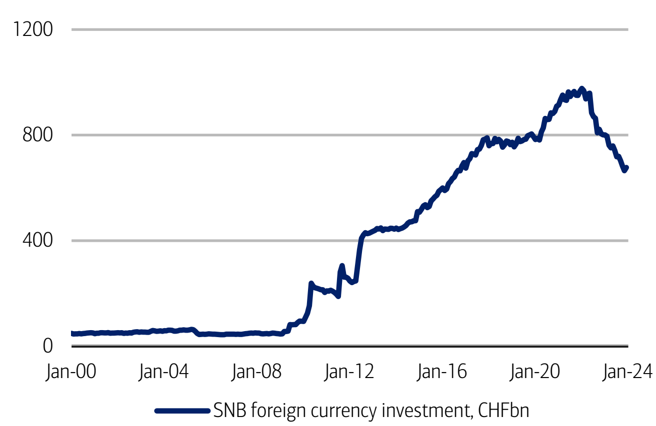


Source: SNB

BofA GLOBAL RESEARCH

Exhibit 6: SNB foreign currency investment

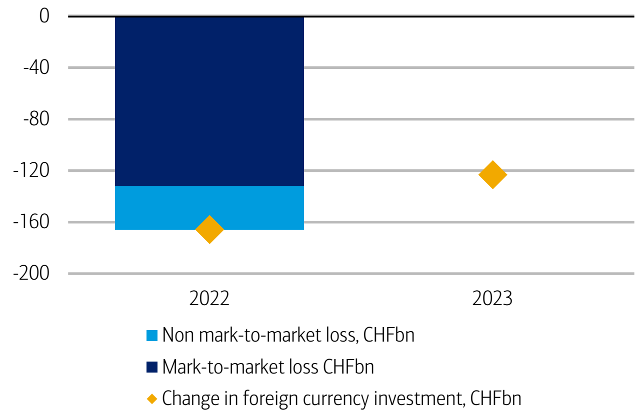
Foreign currency investment down c. 30% from its peak



Source: SNB

BofA GLOBAL RESEARCH

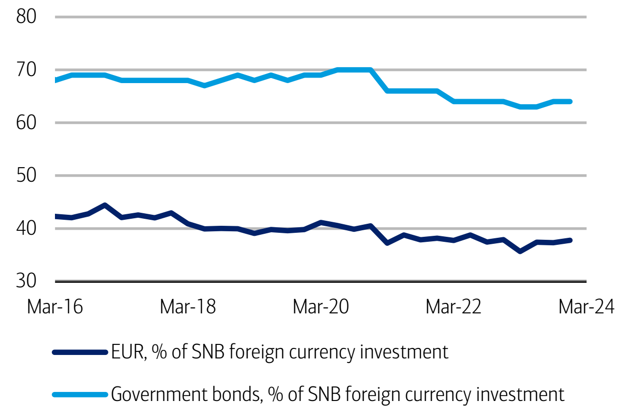
Exhibit 7: Change in foreign currency investment
Mark-to-market loss and net selling drove recent decline



Source: SNB

BofA GLOBAL RESEARCH

Exhibit 8: EUR and gov bond share of SNB foreign currency investment
Allocation has been somewhat stable in past 2 years



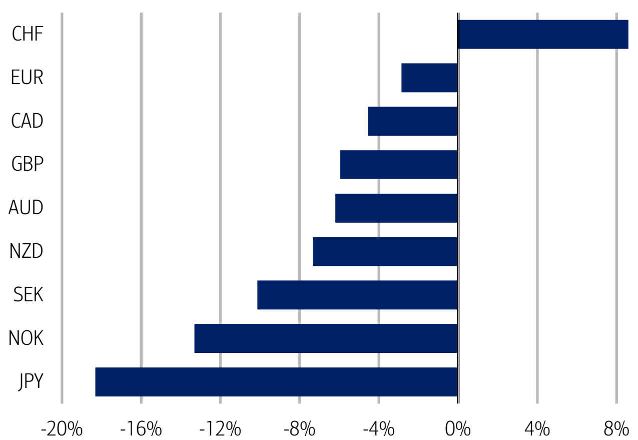
Source: SNB

BofA GLOBAL RESEARCH

CHF: End of the Show

For the past two calendar years, the CHF appeared to be defying gravity, making it the only G10 currency to have outperformed USD through that period as shown in Exhibit 9. Sustained currency outperformance over a multi-period window is not unusual providing it has a strong fundamental basis to do so. Exhibit 9 also shows how JPY has systematically underperformed the USD over the same period, despite many of our models showing significant undervaluation versus USD. However, as our Japanese strategy team have discussed, Yen depreciation is taken place under a confluence of events including carry and structural deterioration in the balance of payments (see: FX Watch: Japan BoP: Signs of acceleration in Japan's structural outflow).

Exhibit 9: G10 FX Performance vs USD, 2022-2023
CHF has consistently outperformed USD over last 2yrs



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 10: Deviation in CHF Nominal TWI from 15Yr Moving Avg
CHF has become increasingly overvalued over past 2Yrs

Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

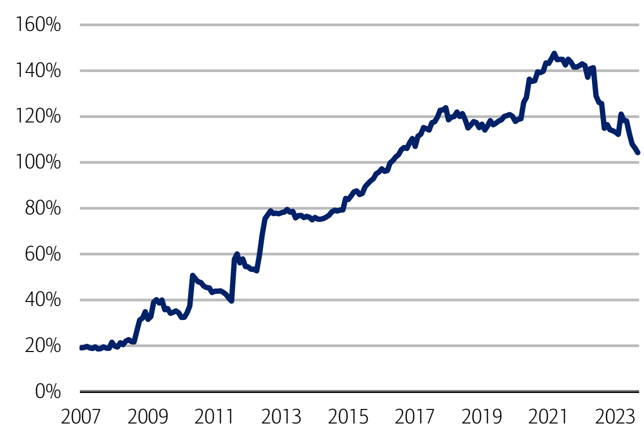
For CHF, the circle is much harder to square. A currency with the lowest policy rates and at one point the most negative; a traditional counter-cyclical currency; and one which is significantly overvalued. Focusing on the last point, Exhibit 10 shows the deviation of CHF nominal TWI from its 15Yr moving average. As the Exhibit shows, a nominal recalibration of the TWI has been taking place since 2016 with overvaluation falling to 16%. However, since 2022, the overvaluation has widened to nearly 30% based on this metric.

We have discussed at length why and how the CHF currently finds itself in this situation. This is no accident: the SNB made a strategic decision to start selling its huge balance sheet (denominated in foreign assets from intervention proceeds) which stood at 143% at the end of 2022. The politics around the size of the balance sheet are well documented but until 2022, the SNB appeared in no hurry to taper the size. A perfect storm of geopolitical risks and rising inflation provided the backdrop for them to dispense with concerns about CHF strength and actively encourage FX strength as a tool to ringfence the economy from global inflationary pressures. Selling the balance sheet (selling FX/buying CHF) perhaps saved the SNB from making the more painful decision to ramp up interest rates in the quantum seen by its peers.

Fast forward to December 2023 and the new enhanced FX language suggests that the SNB feels its job is done. Now the focus turns to the impact that CHF strength has had on the domestic corporate sector. The January FX reserves data shows that the process of balance sheet tapering has come to the end for now with our analysis suggesting that the SNB were active in selling CHF (FX Watch: CHF: SNB has been Intervening). The intent is clear and we think this should encourage investors who are bearish CHF. Whilst SNB intervention is an important part of our bearish call, we are also focused on two other drivers: carry and Swiss balance of payments.

Exhibit 11:SNB Balance Sheet, %GDP

SNB has reduced the size of b/s over past 2-years.

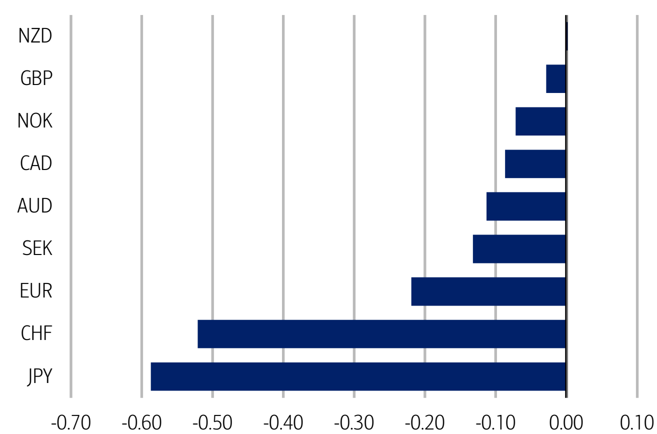


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 12: 3mth vol adj carry versus USD

CHF is being undermined by carry

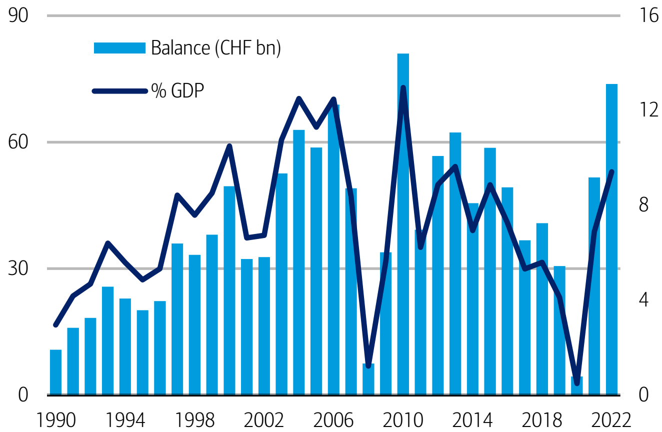


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Our base case scenario for 2024 has been premised on the following: a global soft-landing; steepening of the US yield curve and a benign outlook for risk. If we are correct that CHF has reverted to tracking its traditional anchors, then this backdrop should be bearish for the currency. So far, 2024 has not played out as we have expected: central banks have pushed back against market pricing for rate cuts against the backdrop of resilient growth particularly in the US. Of more significance for CHF has been the lack of vol response to this recalibration. The result is that G10 FX has been a fertile ground for carry trades on a vol adjusted basis. Exhibit 12 show 3mth vol adjusted carry for G10 FX versus USD. CHF along with JPY are the standout currencies for choice as funders. Taken in isolation, the appeal of CHF as a funding currency is visible and because of the concerns over CHF strength, we doubt that the SNB will engage in the type of exercise that has the market pare back rate cut expectations across G10. Quite the opposite. This should mean that CHF as a funding currency will be increasingly reinforced through this year, and with the risk that the SNB must move earlier than later if a June ECB rate cut weighs on EUR/CHF.

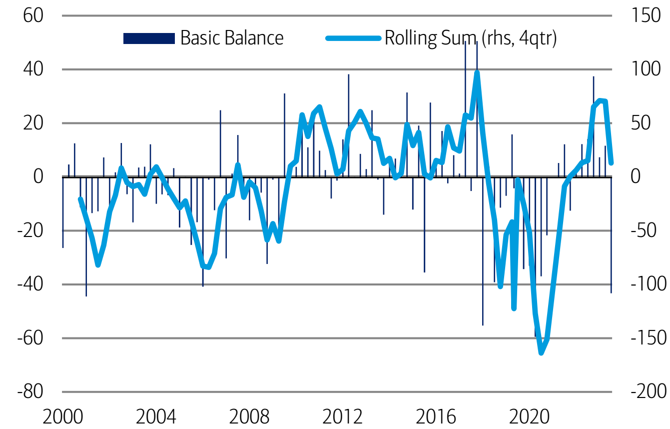
Exhibit 13: Swiss current account balance
Current account has remained robust



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 14: Swiss basic balance
BB is negative on current quarter basis, trend is deteriorating

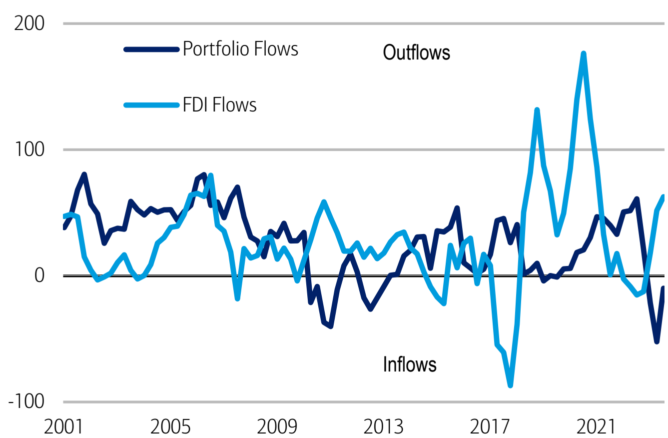


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

More substantively, one of the medium-term pillars for CHF has been the large current account surplus which currently stands at nearly 10% GDP. This has been a consistent even through the years of significant CHF overvaluation. What is notable is that this surplus has been driven by rising goods exports, a sector which should be the most sensitive to FX trends. However, this is not the news in the balance of payments report. The flows channel is showing worry signs of mounting outflow pressure from both the FDI and portfolio balances. This is shown in Exhibit 15 where we look at the FDI & portfolio balances on a 4qtr rolling sum basis. There are renewed signs that FDI outflows are accelerating once more. Exhibit 16 shows the combined impact on the financial account.

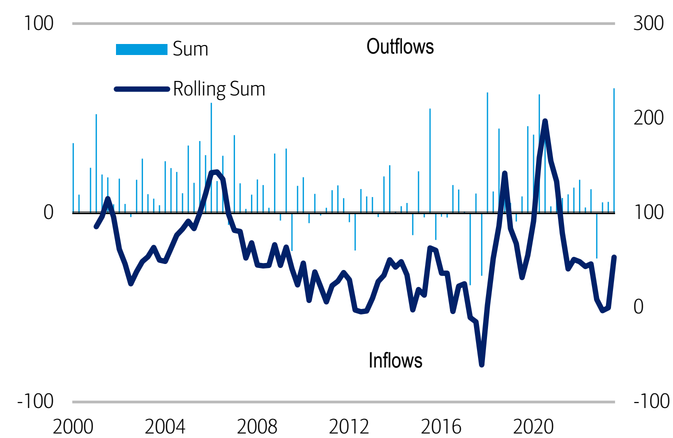
Exhibit 15: Swiss Net FDI & Portfolio Balance (4qtr rolling sum, CHF bn)
Switzerland recording net FDI outflows and small portfolio inflows



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 16: Combined Net FDI & Portfolio Flows (CHF bn)
Worry signs in financial account with large surge in Q3 '23



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

A large part of the positive CHF story has been its robust basic balance surplus and the consequent inflows which would provide significant support for the currency. In some ways, investors were prepared to overlook significant overvaluation due to the health external backdrop. If this dynamic is turning and the FX space is dominated by carry, then the case for medium-term CHF weakness is a compelling one.

Disclosures

Important Disclosures

Due to the nature of strategic analysis, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

BofA Securities fixed income analysts regularly interact with sales and trading desk personnel in connection with their research, including to ascertain pricing and liquidity in the fixed income markets.

Other Important Disclosures

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

This report may refer to fixed income securities or other financial instruments that may not be offered or sold in one or more states or jurisdictions, or to certain categories of investors, including retail investors. Readers of this report are advised that any discussion, recommendation or other mention of such instruments is not a solicitation or offer to transact in such instruments. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor for information relating to such instruments.

Rule 144A securities may be offered or sold only to persons in the U.S. who are Qualified Institutional Buyers within the meaning of Rule 144A under the Securities Act of 1933, as amended.

SECURITIES OR OTHER FINANCIAL INSTRUMENTS DISCUSSED HEREIN MAY BE RATED BELOW INVESTMENT GRADE AND SHOULD THEREFORE ONLY BE CONSIDERED FOR INCLUSION IN ACCOUNTS QUALIFIED FOR SPECULATIVE INVESTMENT.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

The securities or other financial instruments discussed in this report may be traded over-the-counter. Retail sales and/or distribution of this report may be made only in states where these instruments are exempt from registration or have been qualified for sale.

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

This report, and the securities or other financial instruments discussed herein, may not be eligible for distribution or sale in all countries or to certain categories of investors, including retail investors.

Individuals identified as economists do not function as research analysts under U.S. law and reports prepared by them are not research reports under applicable U.S. rules and regulations. Macroeconomic analysis is considered investment research for purposes of distribution in the U.K. under the rules of the Financial Conduct Authority.

Refer to BofA Global Research policies relating to conflicts of interest.

"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.

Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofaml.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the Electronic

Communications Disclaimers for further information.
This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.
This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.
Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.
Futures and options are not appropriate for all investors. Such financial instruments may expire worthless. Before investing in futures or options, clients must receive the appropriate risk disclosure documents. Investment strategies explained in this report may not be appropriate at all times. Costs of such strategies do not include commission or margin expenses.
BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.
This report may contain a trading idea or recommendation which highlights a specific identified near-term catalyst or event impacting a security, issuer, industry sector or the market generally that presents a transaction opportunity, but does not have any impact on the analyst's particular "Overweight" or "Underweight" rating (which is based on a three month trade horizon). Trading ideas and recommendations may differ directionally from the analyst's rating on a security or issuer because they reflect the impact of a near-term catalyst or event.
Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. Investors in such securities and instruments effectively assume currency risk.
BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.
BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.
In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Copyright and General Information:

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.
This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.
Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.
The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.
All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.
Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

Research Analysts

BofA Euro Economics

Evelyn Herrmann
Europe Economist
BofASE (France)
evelyn.herrmann@bofa.com

Ronald Man
Rates Strategist
MLI (UK)
ronald.man@bofa.com

Kamal Sharma
FX Strategist
MLI (UK)
ksharma32@bofa.com

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.