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April 2023

QCAM MONTHLY

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QCAM Special

A new Look at Liquidity

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Jens Mühlhoff, Board Member
QCAM Currency Asset Management AG

Liquidity deserves a new look given the recent rise in interest rates. In the short-term, holding liquidity is a safe and attractive hedge against prevailing uncertainties, especially the risk of a hard landing. Longer-term, we believe that cash will again produce positive real returns as central banks will be leaning more against inflation. Against that background, the QCAM Money Market Plus (MMP) Product is well positioned to deliver superior returns with a low tolerance for credit and market risk for corporates and investors with USD and other currency denominated liquidity portfolios.

A dismal decade for cash is over

Holding and managing liquidity has been painful and challenging for corporates and investors in the decade after the financial crisis. Nominal short-term interest rates were close and even below zero. Adjusted for inflation, the return on cash was outright negative. Furthermore, in addition to holding down interest rates central banks were buying short-term government bills in large amounts, forcing liquidity managers to take more credit and market risk.

Low interest rates and the quest for yield reduced the appeal of holding cash and made riskier and alternative assets look more attractive. Indeed, while holding cash produced negative real returns below -1% in the 2010s, real returns of risky assets like equity were well above 10% and even long-term government bonds managed to generate positive real returns close to 2% thanks to strong central bank bond buying (see table).

This has all changed with the rapid rise in interest rates last year. In 2022, USD cash rates moved from zero to over 4%, while returns on equity and bonds were deep in the red. 2023 is unlikely to be a simple

Table: US real rates of return on cash, equity and bonds (% p.a. in USD)

	Cash [1]	Equity [2]	Bonds [3]	
1960s	1.8	7.1	0.5	Vietnam war, rising inflation
1970s	0.0	-1.1	-1.2	Oil shock, double-digit inflation
1980s	4.4	12.0	6.8	Volker inflation fight
1990s	2.1	15.4	6.4	High investment & productivity growth
2000s	0.4	-2.6	4.1	Dot-com bubble unwind
2010s	-1.2	12.7	1.7	Financial crisis unwind

1 Fed funds rate minus inflation rate
2 S&P500 total return minus inflation rate
3 10-year US Treasury total return minus inflation rate

Sources: St. Louis Red, Robert Shiller and QCAM continuation of 2022. However, we believe holding liquidity has become more attractive for both short- and longer-term perspectives.

Keep your powder dry

In the short-term, we believe that prevailing uncertainties argue for holding more liquidity than needed for pure business purposes. Yes, inflation has peaked for now and interest rates are coming closer to the top. Economic activity is holding up better than feared and equity markets have recovered some lost ground despite the recent market turmoil. However, central banks are facing a tougher challenge balancing financial stability and inflation control amidst signs of labor market resilience and inflation persistence, while the impact of tighter monetary conditions has not yet fully played out.

As we have argued before, soft landing is a possible outcome, but financial volatility and a hard landing later this year or in early 2024 is a similarly likely scenario. Given the still uncertain financial and economic outlook and lingering geo-political risks, corporates and investors are well advised to keep some extra cash. Moreover, holding cash is likely to generate positive real returns this year with short-term interest rates staying high and likely to rise a bit further yet inflation gradually falling. In the US, we expect a nominal return on cash of around 5% versus inflation below 4% by the end of 2023.

Positive real cash rates to stay

We also expect real returns on cash to remain positive longer term. Following the financial crisis, deleveraging, higher savings and low wage and productivity growth produced a subpar growth and inflation outcome and a significant decline in the real neutral rate of interest (r-star). In response, central banks tried to stimulate the economy by pushing real interest rates below r-star.

In our view, this environment is changing. The period of deleveraging is over, investment is rising, savings are falling and structurally tighter labor markets lead to persistently stronger wage growth. This has two important implications. First, while central banks were trying to raise inflation towards the target level in the past, they will have to lean against the wind to prevent inflation from staying persistently above the target level in the future. Second, r-star itself is likely to rise given tighter savings-investment as well as supply and demand conditions. As a result, central banks will probably have a bias to keep real interest rates above r-star, which itself is rising. In our judgment this means that real cash rates are likely to average between 1% and 2% for the rest of this decade.

A different liquidity management program

The prospect of positive real returns on cash is good news but liquidity management is more than just holding cash. QCAM has been managing USD liquidity for clients since 2012. Starting with just a few hundred million USD, our Money Market Plus Program (MMP) has grown multi billion USD as of today. Over the years, we have consistently outperformed the main USD liquidity benchmarks (see Chart 1). We have achieved this outperformance without taking any extra credit or market risks. Instead, we have focused on top-rated issuers outside the US, notably in Switzerland, which has generated attractive liquidity and hedging premia. We believe that the structural factors behind this outperformance are likely to persist as real short-term interest rates return to positive territory.

How does «MMP» work

MMP is not a typical USD liquidity product as it was developed for clients who have USD liquidity but are located outside of the US, notably in Switzerland. Given QCAM's own location and expertise in the Swiss market, the core of our liquidity investments (more than two thirds) are with top-rated Swiss public-sector entities. We invest only in investment-grade issues with the majority rated A-1+ (56%) and A-1 (35%). Most issuers are also protected by state-level guarantees. Importantly, we exclude all systemic risks (i.e. pure banking exposures not protected by government guaranties). Besides the strong individual credit ratings, we believe that the credit exposure is further supported by Switzerland's healthy financial, fiscal and balance of payments position. In addition to the core holdings in Switzerland, we invest selectively in similar top-rated public-sector issuers in other countries such as Germany, Austria, Denmark, Norway and Japan. Overall, we view the aggregated credit quality of the MMP portfolio comparable to a standard US Treasury liquidity portfolio.

In terms of instruments, our portfolio is a mix of government bills, bank deposits and loans to the public sector and public-sector entities. A large fraction of the assets we buy are loans or securities with maturities between 1 and 6 months (average about 3 months). These assets are by nature less liquid during their term, which creates an attractive premium. As a result, MMP is not suited for investors who need instant liquidity all the time. For our MMP clients, we guarantee daily liquidity with 3 months' notice. Clients who need on occasion faster liquidity have to pay a transparent and market-based discount for the earlier withdrawal. In our view, the higher yield of these assets is an attractive compensation for the reduced liquidity. We estimate that the compensation for the reduced liquidity accounts for more than half of the outperformance of MMP versus a pure US Treasury money market portfolio.

Less than 20% of the assets we buy are USD denominated. However, we take no FX risks and hedge all other currency exposures into USD. The hedging is the second source of performance enhancement thanks to the negative cross currency swap basis of most currencies we hold in our portfolio, especially the CHF (see Chart 2). We estimate that the cross-currency swap basis contributes up to one third to the outperformance of MMP liquidity portfolio.

The negative cross-currency swap basis of the CHF and many other currencies emerged with the financial crisis in 2007 and is based on three factors. First, significantly less market-making and arbitrage by the banking system due to tighter regulations; Second, structurally stronger demand for USD assets due to higher returns and an increased safe haven feature; Third, less supply of USD liquidity by real money investors like foreign central banks and sovereign wealth funds.

The cross-currency swap basis is volatile and we analyse the market carefully to take advantage of attractive situations. However, we expect that the negative cross currency swap basis of the CHF and other currencies will remain a persistent feature in the future even as interest rates increase across all currencies. In particular, we think that bank regulation will remain tight and demand for USD assets will stay strong.

The last feature of MMP is best execution in our clients' interest. QCAM is an independent manager with strong access to a wide range of issuers, FX market makers and competitive pricing. Our interests are 100% aligned with our clients' interest (no principal agent conflicts and hidden fees).

In a nutshell

Money Market Plus «MMP»

Since 2012 QCAM has been managing its Money Market Plus program.

The program has constantly beaten the money market benchmarks for institutional clients without compromising the credit quality of the portfolio, which has always been A-1+ for most of its assets.

Access to a large pool of high-quality counterparties in need of short-term cash and the enhancement of returns by taking advantage of opportunities in the cross currencies swap market are two of the USP's of the program.

This is rounded up by access to excellent pricing terms of QCAM for all necessary transactions, passing these on to its investors as QCAM has no principal agency conflicts.

The program has been managed since 2012 with a superior performance track record and an average asset base of ~2bn USD. It is available in different base currencies.

Contact us

Please contact us for further information on «MMP» and the fact sheet:
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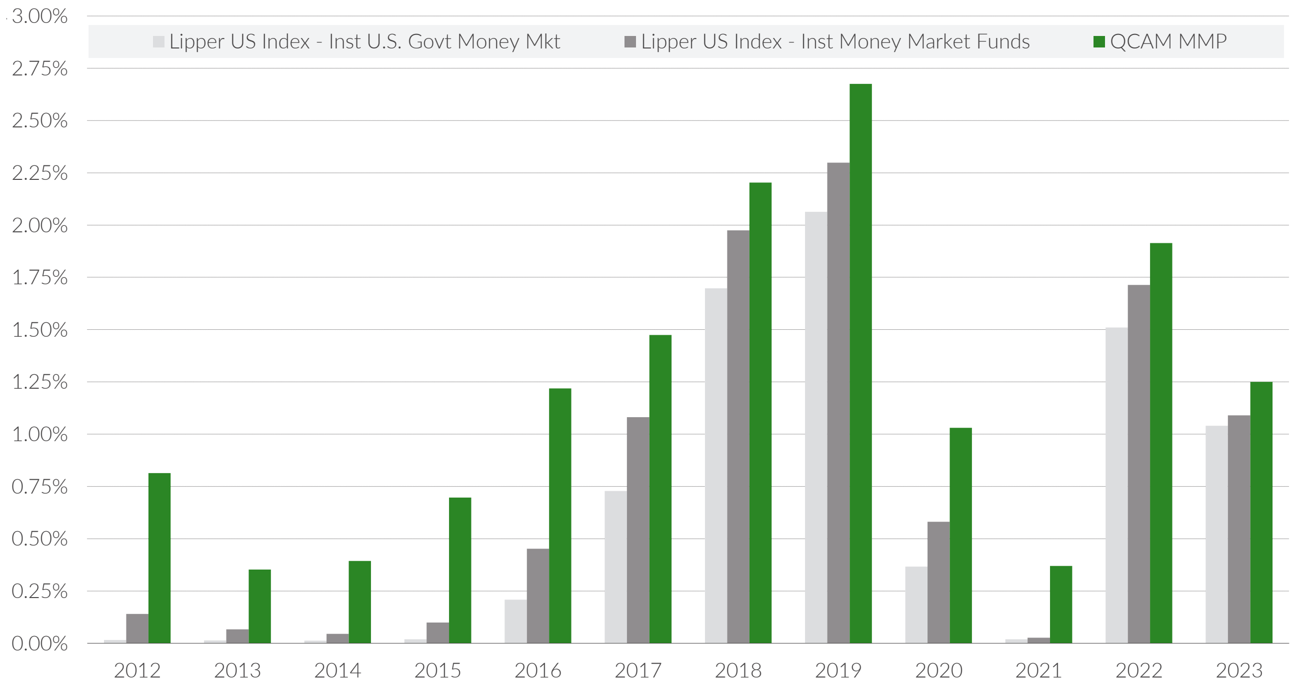
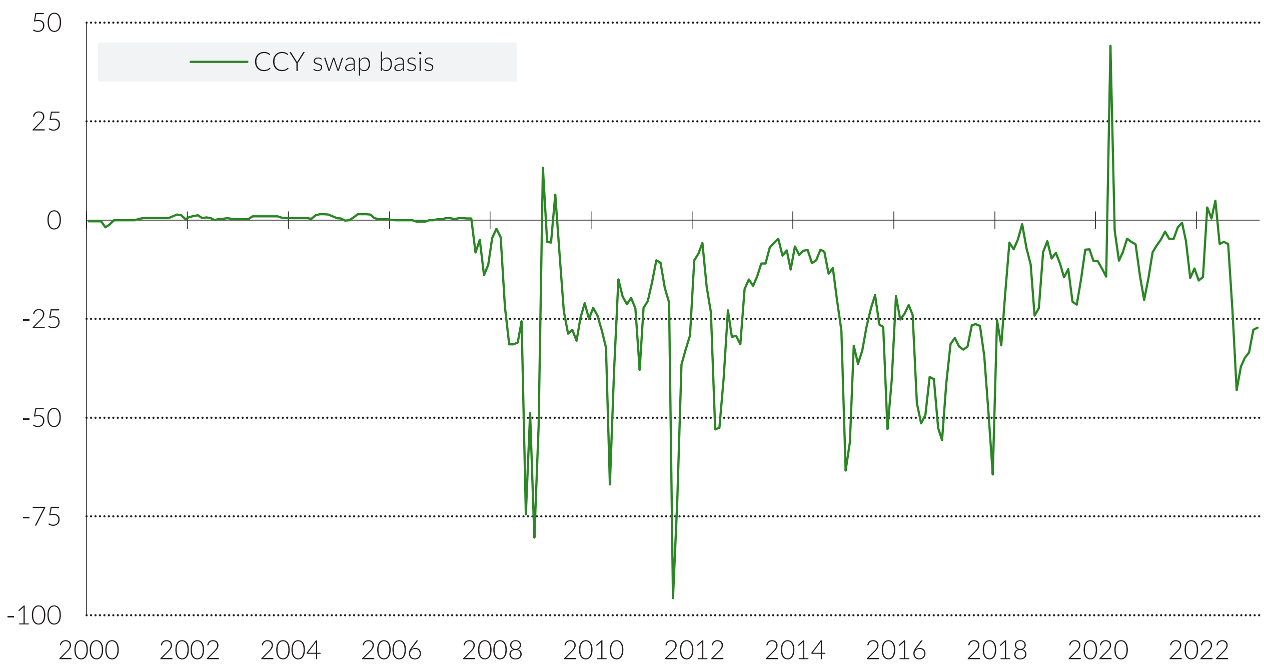
Net returns of USD Liquidity Management Products[1]



[1] Net returns in USD after all fees

Source: Lipper Index Funds and QCAM

CHF cross-currency swap basis (basis points)[2]



[2] 3 months term

Source: JPMorgan and QCAM

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QCAM Insight

Not yet a game changer

Bernhard Eschweiler, Economic Advisor
QCAM Currency Asset Management AG

The banking turmoil in March has failed to trigger a flight-to-quality rally in the USD. This has several reasons, notably the swift policy response that calmed markets and a significant down-shift in Fed terminal rate pricing. In our view, the USD has more near-term downside. However, while the banking woes were quickly contained, the fallout in terms of tighter credit conditions is yet to be seen. This increases the risk of a global recession down the road and could become a game changer that leads to renewed USD strength later in the year.

The USD DXY declined 2.5% in March largely offsetting the earlier gains in February. USD weakness in March was broad based but not uniform. Among the major currencies, the EUR, the JPY, the GBP and the CHF performed best versus the USD, while the commodity currencies and the SEK lagged behind. EM currencies were on balance also up versus the USD but less than the major currencies and with the notable exceptions of the RUB and the TRY.

Looking through the volatility in the first quarter, the USD is down roughly 2% versus all other major currencies and about 1.5% lower versus EM currencies yet the spread of winners and losers is much wider (e.g. GBP up 3.0% versus NOK down 4.4% or BRL up 4.2% versus ZAR down 4.5%). In volatility terms, however, FX moves were still modest versus rates moves. G10 implied currency volatility rose in early March at the height of the banking woes but stayed in the year-to-date range and well below the highs seen in September of last year. In contrast, the implied volatility of US Treasuries and other major government bond markets climbed to new highs last seen during the financial crisis in 2008.

Failed flight to quality

The failure of the USD to rally on the back of the banking woes in early March and the overall modest FX volatility in the face of much increased interest rate volatility has several reasons. First central banks and other authorities moved swiftly to restore financial stability. Such interventions always create moral hazard problems that need to be addressed in the aftermath. In our view, however, moving swiftly and without much conditions was the right thing to do in the eye of the storm.

Second, the banking woes triggered a massive shift in Fed terminal rate pricing. Fed funds futures priced 75bps of additional rate hikes until year at the start of March and now project 50bps of rate cuts until year end. This turn-around in Fed policy expectations more than offset the flight-to-quality forces that usually support the USD in times of increased uncertainty and risk aversion.

Third, global economic activity reports continued to surprise on the upside and reinforced the picture that the recovery following the disruptions caused by the Corona pandemic and the Ukraine war remains intact. Thus, while the banking woes created new uncertainties, they have failed to derail the broader recovery in risk sentiment and the decline of the USD's exceptional safe-haven status.

Last but not least, FX positioning was relatively clean. In particular USD speculative positions were close to neutral. The unusual mix of strong economic data and falling bond yields resulted in indecision and a lack of directional conviction that left limited room for the usual volatility in times of increased uncertainty.

USD with more near-term downside ...

Going forward, we believe that the USD has more near-term downside potential. First and most importantly, the USD has lost its interest rate advantage. OIS interest rate forward spreads between the USD and the EUR, for example, are back to the levels last seen in mid 2021 before the market started to anticipate Fed tightening (see Chart). Second, we expect the balance of global activity reports to remain firm at least through April and May. Third, there is more evidence that the current account balances of those currencies that suffered terms of trade losses due to the rise in energy prices are now recovering. This is particularly true for the EUR.

... but mind the lag

However, while the banking woes have been calmed quickly, the fallout from tighter credit conditions is yet to be seen. Moreover, there is a risk that inflation will remain more stubborn and lead to renewed monetary tightening by the Fed and other central banks that have started to pause rate hikes for now. In our view, that increases the risk of recession in the US in the second half of the year and we expect that this will also pull down global economic activity.

A wild card is the US debt ceiling. US Federal debt has reached the current ceiling and the Treasury account at the Fed was down to one month of trend deficit in March. Seasonal factors typically result in a budget surplus in April, but that breathing room is likely to be exhausted by the end of June. In our view, Republicans will play tough but ultimately agree to a short-term extension of the debt ceiling into the new fiscal year starting October. This would increase the risk of both a government shut-down and a debt default towards the end of the year, at a time when the risk of recession is already elevated. The result could be the type of uncertainty that typically supports the USD.

One-month OIS rates twelve-months forward spread USD – EUR (bps)

Source: JPMorgan and QCAM

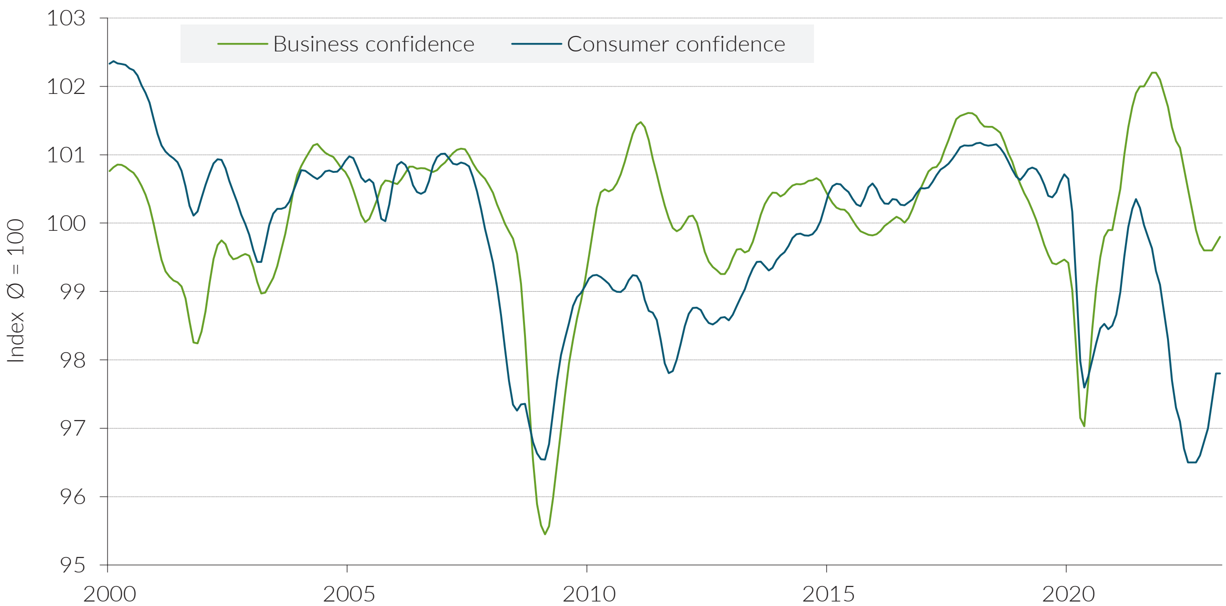
Economy & Interest Rates

The balance of the data for the first quarter was stronger leading to further positive growth revisions. Business sentiment is starting to improve and consumer confidence continues to recover. The banking turmoil in March has been contained but the fallout is likely to be tighter lending conditions, which casts a shadow over the growth outlook later in the year. The disinflation trend remains intact, but latest figures and tight labor markets suggest that progress from here will be slower. Further rate hikes are likely to be limited yet monetary conditions will probably stay tight for longer. As a result, while current economic conditions have clearly improved, the risk of recession later in the year or in early 2024 remains in place.

	Real GDP growth[1]		Unemployment rate[1]		Inflation rate[1]		Current account[2]		Fiscal balance[2]		Public debt[2]	
	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023
Global	3.4	2.7	n.a.	n.a.	7.0	4.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Developed	2.7	1.5	n.a.	n.a.	7.8	4.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
USA	2.1	2.0	3.6	3.8	8.0	4.0	-3.6	-3.5	-4.0	-5.0	122	123
Canada	3.4	1.5	5.5	6.0	6.8	3.0	0.0	-0.5	-1.0	-1.0	102	99
Euro-area	3.5	1.5	6.7	6.5	8.4	5.0	0.0	0.5	-4.0	-3.5	93	91
Sweden	2.5	0.0	7.5	8.5	7.5	6.0	2.0	2.5	0.0	-0.5	33	33
Switzerland	2.5	2.0	2.2	2.0	3.0	2.5	6.0	6.5	0.0	0.0	40	40
UK	4.1	0.5	3.7	4.0	9.1	6.5	-5.0	-4.5	-7.0	-5.0	90	90
Japan	1.0	1.0	2.6	2.5	2.5	2.5	1.0	1.5	-6.0	-4.5	264	262
Australia	3.6	2.5	3.7	4.0	6.5	5.0	3.5	2.5	-4.0	-3.0	57	59
Emerging	3.9	4.0	n.a.	n.a.	6.5	4.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
China	3.0	6.0	5.5	5.0	2.0	2.0	2.1	1.5	-4.0	-3.5	77	84
India	6.8	5.5	n.a.	n.a.	6.9	5.0	-3.5	-3.0	-10.5	-10.0	83	84
Russia	-2.2	0.5	4.1	4.5	13.7	5.5	10.0	4.0	-1.0	-2.0	16	17
Brazil	3.1	0.5	9.5	9.5	9.3	5.0	-1.5	-2.0	-6.0	-10.0	90	92

Source: OECD, IMF World Economic Outlook and QCAM estimates [1] In percent annual average [2] In percent of GDP

OECD business and consumer confidence*



Source: OECD and QCAM *The last observations are QCAM estimates based on other surveys

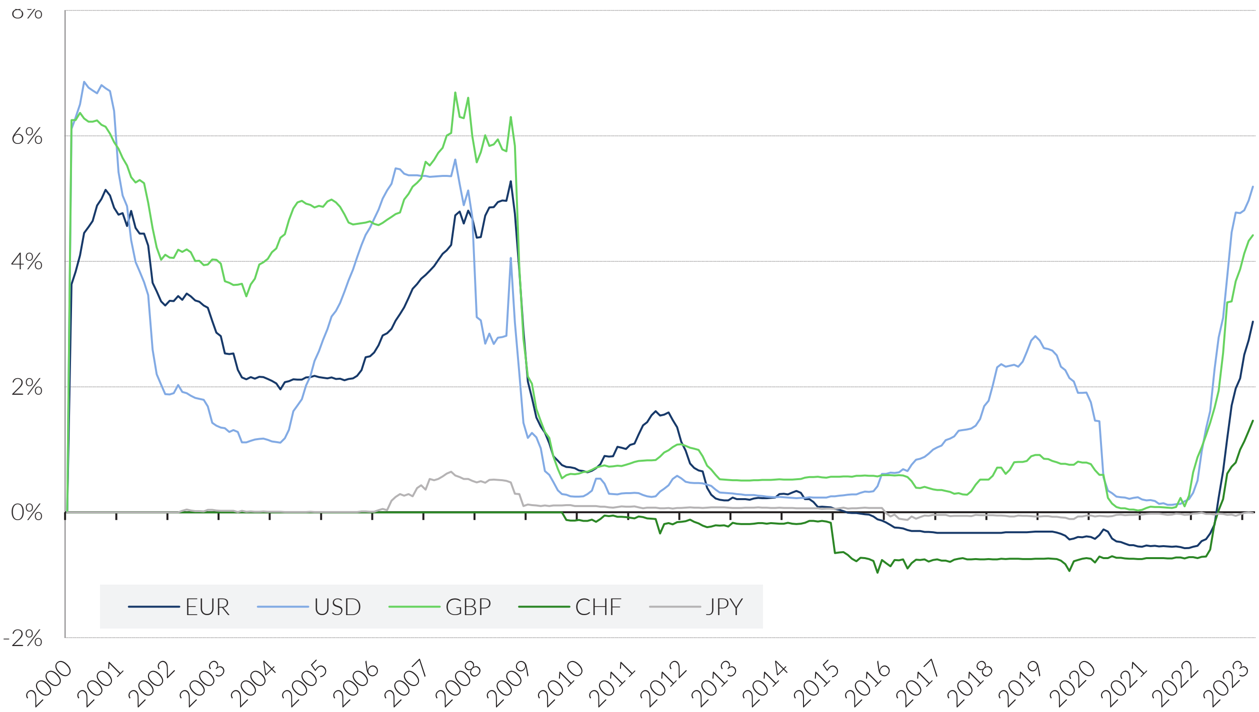
Interest Rates

Interest Rate Level Overview

	Short Term Interest Rate (3month OIS)					Long Term Interest Rate (10year Swap)				
	Current	1M ago	3M ago	12M ago	Ø 3 years	Current	1M ago	3M ago	12M ago	Ø 3 years
USD	4.95%	4.97%	4.61%	0.73%	1.18%	3.41%	3.98%	3.68%	2.45%	1.96%
EUR	3.05%	2.85%	2.17%	-0.46%	0.05%	2.91%	3.28%	2.99%	1.20%	0.87%
JPY	-0.01%	0.00%	-0.03%	-0.01%	-0.03%	0.64%	0.82%	0.87%	0.31%	0.20%
GBP	4.31%	4.19%	3.78%	0.92%	1.01%	3.37%	3.78%	3.69%	1.65%	1.40%
CHF	1.46%	1.33%	1.01%	-0.72%	-0.35%	1.92%	2.02%	1.90%	0.89%	0.48%
AUD	3.66%	3.75%	3.22%	0.18%	0.87%	3.82%	4.45%	4.43%	3.11%	2.32%
CAD	4.49%	4.57%	4.45%	0.97%	1.27%	3.26%	3.75%	3.63%	2.93%	2.26%
SEK	3.14%	3.14%	2.78%	0.03%	0.45%	2.78%	3.26%	3.01%	1.91%	1.36%
RUB	7.60%	7.60%	7.55%	21.47%	7.44%	10.55%	10.58%	11.72%	14.17%	8.61%
BRL	12.67%	12.84%	12.81%	11.70%	7.12%	12.63%	13.66%	13.13%	11.17%	10.30%
CNY	2.24%	2.33%	2.02%	2.16%	2.16%	2.95%	3.10%	2.89%	2.57%	2.74%
TRY	14.80%	9.10%	10.45%	16.19%	0.00%	38.04%	38.04%	38.04%	28.07%	18.46%
INR	6.74%	6.77%	6.56%	3.81%	4.39%	6.45%	6.74%	6.55%	6.31%	5.89%

Source: QCAM Currency Asset Management, as of April 5th, 2023

3-month Libor



Source: QCAM Currency Asset Management, as of end of March 2023

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FX Markets

FX Performance vs. PPP

The USD fell back in March after the rebound in February. The EUR, JPY, GBP and CHF performed best. EM currencies also recovered versus the USD with the notable exceptions of the RUB and the TKY. The overall speculative USD position was around neutral but the CAD has become oversold. Short-term interest rates rose further but forwards suggest that the peak is close. Still, forward hedging versus the USD remains costly from the perspective of EUR, JPY and CHF. Actual and implied FX volatilities were mixed but on balance higher and remain with a few exceptions above their 5-year averages. PPP estimates continued to diverge in line with diverging inflation trends, yet the USD remains overvalued versus all major currencies.

Overview

	Current Exchange Rate	Performance[1]				Purchasing Power Parity[2]		
		YTD	1M	12M	5 years	PPP	Neutral Range	Deviation[3]
EURUSD	1.087	1.48%	2.48%	-1.92%	-11.57%	1.24	1.11 - 1.37	-12%
USDJPY	132.770	1.34%	-2.24%	9.22%	24.76%	96.00	85.06 - 106.94	38%
GBPUSD	1.235	2.07%	2.05%	-6.02%	-11.91%	1.57	1.40 - 1.74	-21%
EURCHF	0.993	0.59%	-0.07%	-2.81%	-15.56%	0.93	0.88 - 0.99	7%
USDCHF	0.914	-0.88%	-2.51%	-0.91%	-4.52%	0.80	0.71 - 0.89	14%
GBPCHF	1.129	1.23%	-0.48%	-6.85%	-15.86%	1.10	1.00- 1.20	3%
CHFJPY	145.273	2.21%	0.26%	10.22%	30.66%	95.45	84.44 - 106.46	52%
AUDUSD	0.670	-1.76%	-0.78%	-10.63%	-12.72%	0.76	0.67 - 0.85	-12%
USDCAD	1.352	-0.05%	-0.69%	8.34%	4.81%	1.20	1.11 - 1.28	13%
USDSEK	10.349	-0.63%	-0.73%	10.57%	23.84%	8.18	7.25 - 9.12	27%
EURSEK	11.248	0.83%	1.73%	8.44%	9.51%	8.81	8.26 - 9.35	28%
USDRUB	77.626	6.03%	3.39%	-4.25%	35.43%	59.03	46.13 - 71.93	32%
USDBRL	5.066	-4.18%	-2.97%	7.07%	53.35%	3.87	3.21 - 4.53	31%
USDCNY	6.868	-0.64%	-1.14%	8.14%	9.57%	7.73	7.44 - 8.01	-11%
USDTRY	19.187	2.53%	1.62%	30.71%	386.69%	14.32	11.28 - 17.36	34%
USDINR	82.125	-0.70%	-0.62%	8.18%	26.07%	70.37	65.41 - 75.33	17%
USD-DXY	102.506	-0.98%	-2.25%	4.27%	13.93%	86.01	80.27 - 91.75	19%

[1] Performance over the respective period of time, in percent

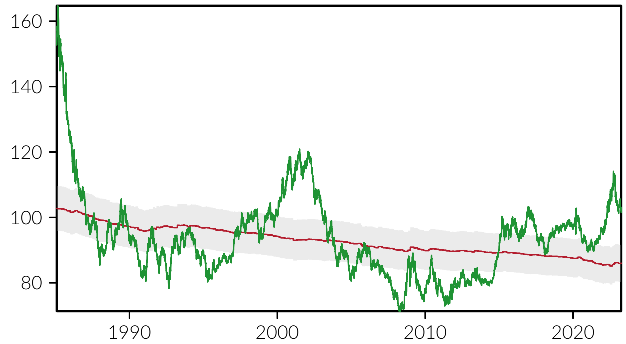
[2] Purchasing power parity (PPP) is estimated based on the relative development of inflation rates in two currency markets; the neutral range is determined by ± 1 standard deviation of the historical variation around the PPP value.

[3] Deviation of the current spot rate from PPP, in percent.

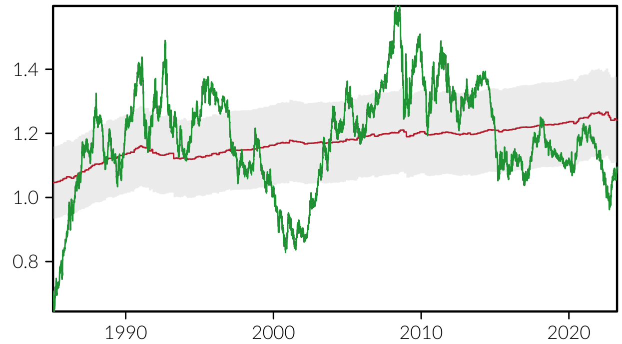
Source: QCAM Currency Asset Management, as of April 5th, 2023

Purchasing Power Parity

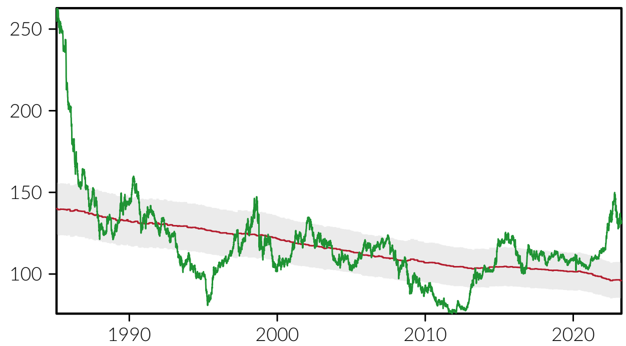
DXY



EURUSD

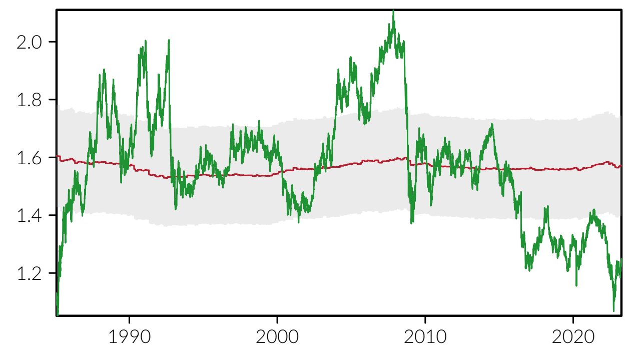


USDJPY

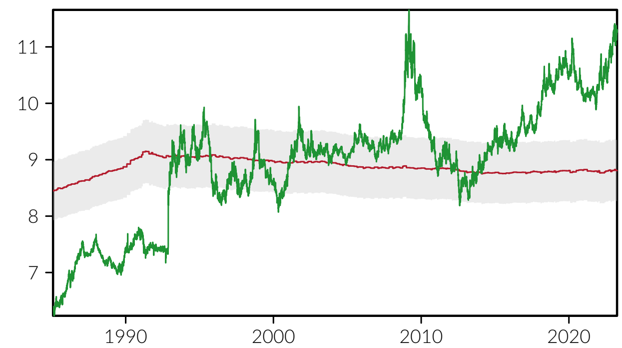


EURCHF

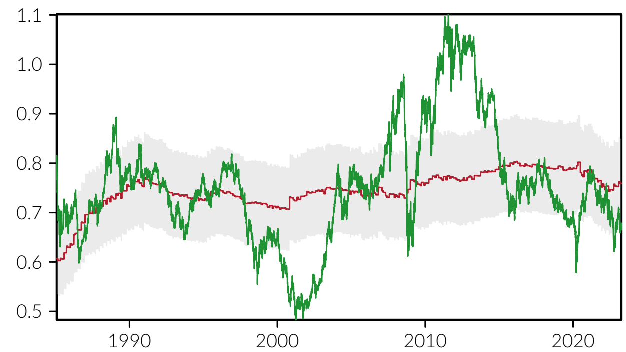
GBPUSD



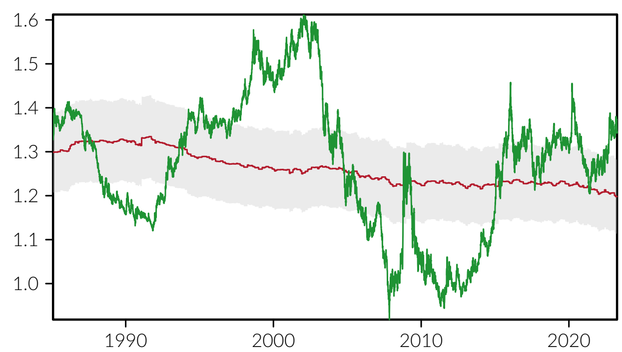
EURSEK



AUDUSD



USDCAD



Source: QCAM Currency Asset Management, as of April 5th, 2023.

PPP Spot Neutral Range

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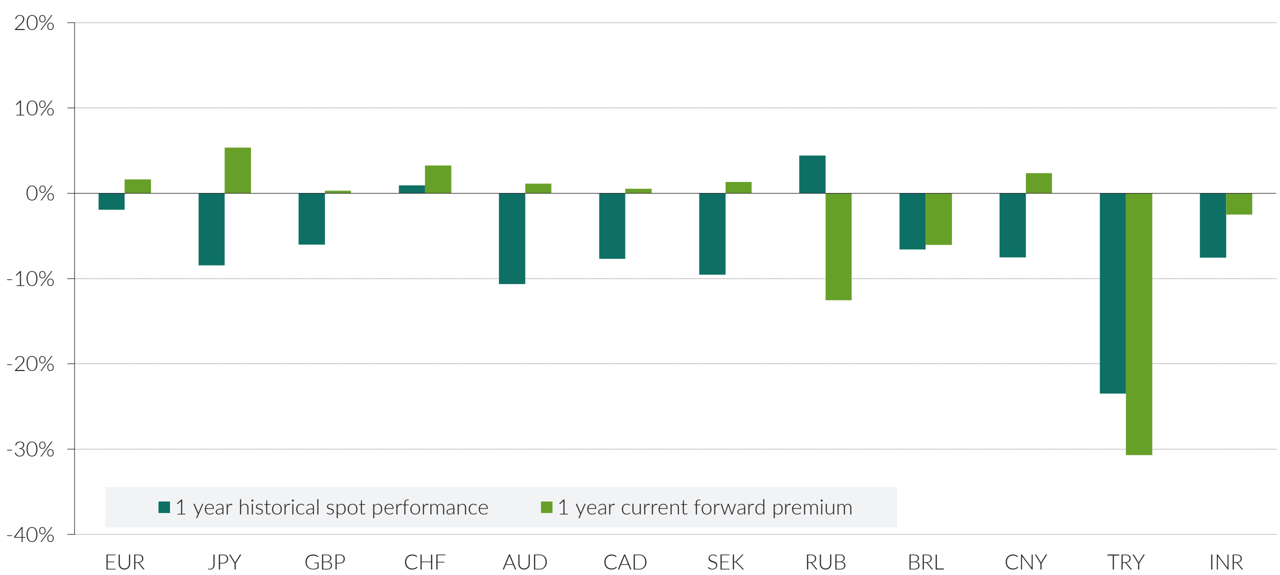
FX Spot vs Forwards

FX Forwards Level and Premium

	Current Exchange Rate	Forward Level			Premium p.a.		
		1M	3M	12M	1M	3M	12M
EURUSD	1.087	1.0887	1.0925	1.1045	2.01%	2.03%	1.60%
USDJPY	132.770	132.1203	130.9905	126.0391	-5.18%	-5.24%	-4.99%
GBPUSD	1.235	1.2356	1.2370	1.2387	0.75%	0.70%	0.31%
EURCHF	0.993	0.9918	0.9887	0.9775	-1.86%	-1.84%	-1.57%
USDCHF	0.914	0.9109	0.9048	0.8849	-3.87%	-3.84%	-3.11%
GBPCHF	1.129	1.1258	1.1196	1.0964	-3.12%	-3.15%	-2.82%
CHFJPY	145.273	145.0918	144.7473	142.4124	-1.32%	-1.42%	-1.94%
AUDUSD	0.670	0.6706	0.6722	0.6776	1.29%	1.32%	1.13%
USDCAD	1.352	1.3517	1.3503	1.3452	-0.52%	-0.58%	-0.51%
USDSEK	10.349	10.3313	10.3000	10.2132	-2.06%	-1.85%	-1.29%
EURSEK	11.248	11.2476	11.2528	11.2806	-0.05%	0.17%	0.28%
USDRUB	77.626	78.6282	80.5885	88.7482	15.49%	15.10%	14.09%
USDBRL	5.066	5.0915	5.1519	5.3933	6.07%	6.64%	6.36%
USDCNY	6.868	6.8515	6.8166	6.7090	-2.80%	-2.90%	-2.25%
USDTRY	19.187	19.8970	22.2098	27.6891	44.38%	62.32%	43.58%
USDINR	82.125	82.2845	82.5895	84.2200	2.13%	2.24%	2.51%

Historical Spot Performance and Current Forward Premium vs. the US Dollar



Source: QCAM Currency Asset Management, as of April 5th, 2023

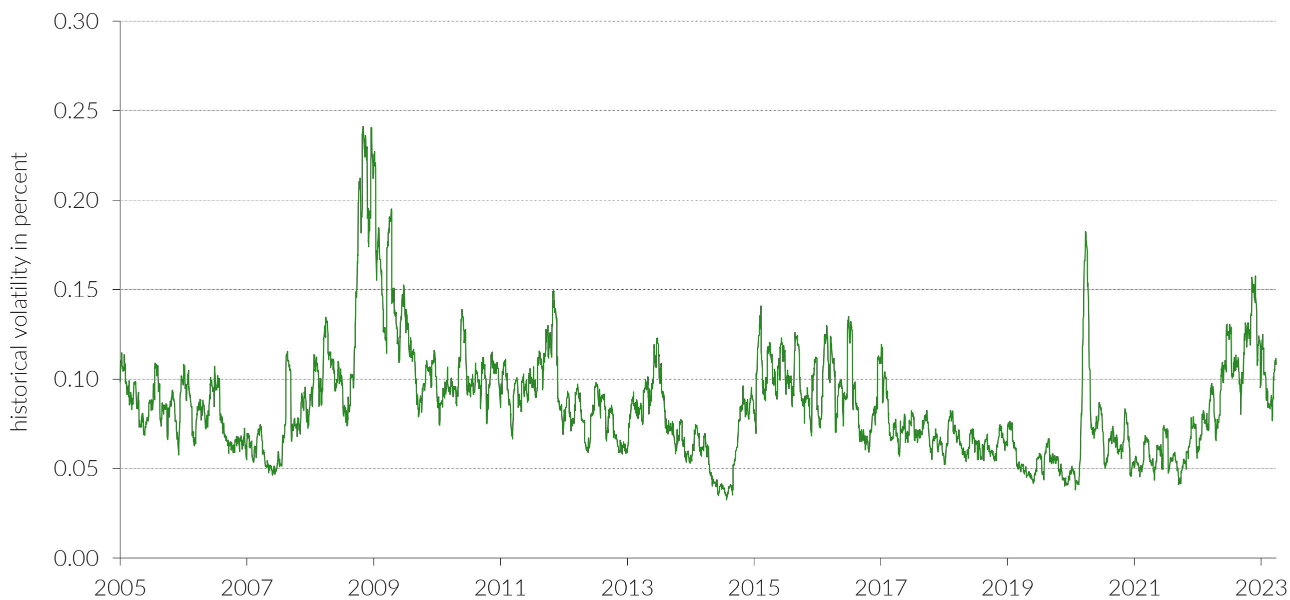
FX Volatility

Historical vs. Implied Volatility

	Current Exchange Rate	Historical Volatility [1]				Implied Volatility [2]			
		Current	1M	12M	Ø 5 years	Current	1M	12M	Ø 5 years
EURUSD	1.087	9.01%	7.86%	9.23%	6.92%	8.05%	7.98%	7.48%	6.97%
USDJPY	132.770	12.72%	16.83%	6.98%	7.56%	12.13%	11.83%	8.60%	7.79%
GBPUSD	1.235	10.49%	11.03%	7.11%	9.03%	9.23%	9.85%	8.05%	9.24%
EURCHF	0.993	6.24%	5.37%	8.35%	4.69%	6.40%	5.68%	6.63%	5.33%
USDCHF	0.914	9.97%	8.20%	7.60%	6.97%	8.07%	8.07%	7.00%	6.83%
GBPCHF	1.129	7.41%	7.20%	6.71%	8.03%	7.45%	7.68%	7.08%	8.46%
CHFJPY	145.273	12.40%	14.56%	7.31%	6.91%	11.38%	10.88%	8.28%	7.28%
AUDUSD	0.670	12.89%	13.88%	11.76%	9.81%	11.53%	12.38%	10.53%	9.76%
USDCAD	1.352	6.90%	7.87%	7.56%	6.85%	7.05%	7.20%	7.25%	6.82%
USDSEK	10.349	13.87%	13.40%	15.02%	9.84%	12.48%	12.35%	11.78%	9.75%
EURSEK	11.248	8.84%	8.47%	9.21%	6.03%	8.13%	7.73%	7.60%	6.34%
USDRUB	77.626	15.60%	25.16%	94.22%	19.85%	31.95%	41.25%	62.00%	19.86%
USDBRL	5.066	14.03%	15.80%	14.39%	15.62%	16.95%	17.80%	18.53%	17.00%
USDCNY	6.868	7.01%	6.86%	2.97%	4.93%	6.43%	6.55%	4.03%	5.48%
USDTRY	19.187	0.93%	1.11%	17.78%	17.55%	38.50%	16.98%	31.48%	20.80%
USDINR	82.125	4.60%	4.40%	6.18%	5.54%	5.40%	5.43%	6.03%	6.32%

[1] Realised 3-month volatility (annualised)   [2] Market implied 3-month volatility (annualised)

QCAM Volatility Indicator[3]



[3] The QCAM volatility indicator measures general volatility in global FX markets; the indicator is based on historical volatility of the main exchange rates, which are weighted by trading volume.

Source: QCAM Currency Asset Management, as of April 5th, 2023

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FX Analytics

QCAM has developed an analytical framework to take scalable exchange rate positions. The QCAM exchange rate strategy for each currency pair has three principal components:

- **Macro**
- **Business Sentiment**
- **Technical**

The positioning signals from each component are aggregated into an overall positioning score for each currency pair. This score is used for the dynamic exposure management.

The Macro component consists typically of economic growth, balance of payments, fiscal and monetary policy and in some cases commodity fundamentals. The positions are either discretionary or model driven.

The Business Sentiment component is a rule-based framework built on business surveys.

The Technical component consists primarily of the technical analysis of daily exchange rates (trend following and mean reversion). We also consider speculative futures positions and the deviation of exchange rates from purchasing power parity.

The summary table below and the following pages show the QCAM strategy framework and the positioning for the major currency pairs actively covered by QCAM. The tables break each of the three strategies into subcomponents with an indication of the current impact. The charts show the respective exchange rate with past QCAM positions and their scale

Current positioning

There have been several signal changes since the last Monthly which increased on balance the overall short USD position. The discretionary Macro position shifted from short CHF vs. the EUR to long the CHF vs. the USD. Notable was the shift of Business Sentiment to long JPY vs. the USD. The balance of all strategies is short USD versus the EUR, the JPY, the CAD and the CHF. The GBP is close to neutral versus the USD and the EUR is modestly long vs. the SEK and slightly short vs. the CHF.

Overview[1]

	Macro	Business Sentiment	Technical	Comment
EURUSD	+	++	+	All signals remained long EUR with the balance 3/4 long EUR.
USDJPY	–/–	––	0	Business Sentiment and the Macro interest rate model went long JPY
EURCHF	0	––	+	Macro shifted to neutral CHF vs. the EUR and long CHF vs. the USD and Technical went short CHF vs. EUR. The balance of all positions is half long CHF vs. the USD and slightly long CHF vs. the EUR
USDCHF	–	––	+	
GBPUSD	0	–	+	All signals remained unchanged, leaving the overall GBP position at a small net short
EURSEK	+/0	++	0	The Macro interest rate model and Technical went neutral reducing the overall short to half
USDCAD	0/–	––	0	Technical went to neutral reducing the overall CAD position to a half long

[1] The signs relate to the first currency of the exchange rate pair ; ++ or –– mean 100% long or short; */* means split position.

Source: QCAM Currency Asset Management

EURUSD

We keep the long EUR Macro position. We think the EUR recovery trend (broad USD downtrend) is unbroken and was supported by the terminal rate repricing following the banking woes in March (see main story page 1). We also see more support for the EUR from the decline in energy costs and, thus, a recovery of the current account balance. The Business Sentiment and Technical signals also remain long EUR, resulting in an overall 3/4 long EUR position.

	FX Factors	EUR Impact	Comment
Macro	Current Account Balances	0/+	The surge in energy prices pushed the Euro-area's current account into deficit, but is now starting to recover
	Fiscal Balances	0	Euro-area and US fiscal deficits are both on the rise
	Interest Rate Differentials	0/+	The USD-EUR interest rate differential is declining on reduced Fed terminal rate pricing
	Oil prices	0	Oil price likely to stay in range
Sentiment	Business Sentiment	+	The momentum in Euro-area surveys remains stronger versus US surveys
	Risk Sentiment	0/+	Uncertainties related to an energy crisis and risk aversion are both declining
Technical	Price Action	+	Price technicals stayed long EUR
	Spec Positions	0/–	Net long EUR positions remained unchanged
	PPP Valuation	+	EUR undervaluation is around 12%

EURUSD and QCAM Strategic Positioning

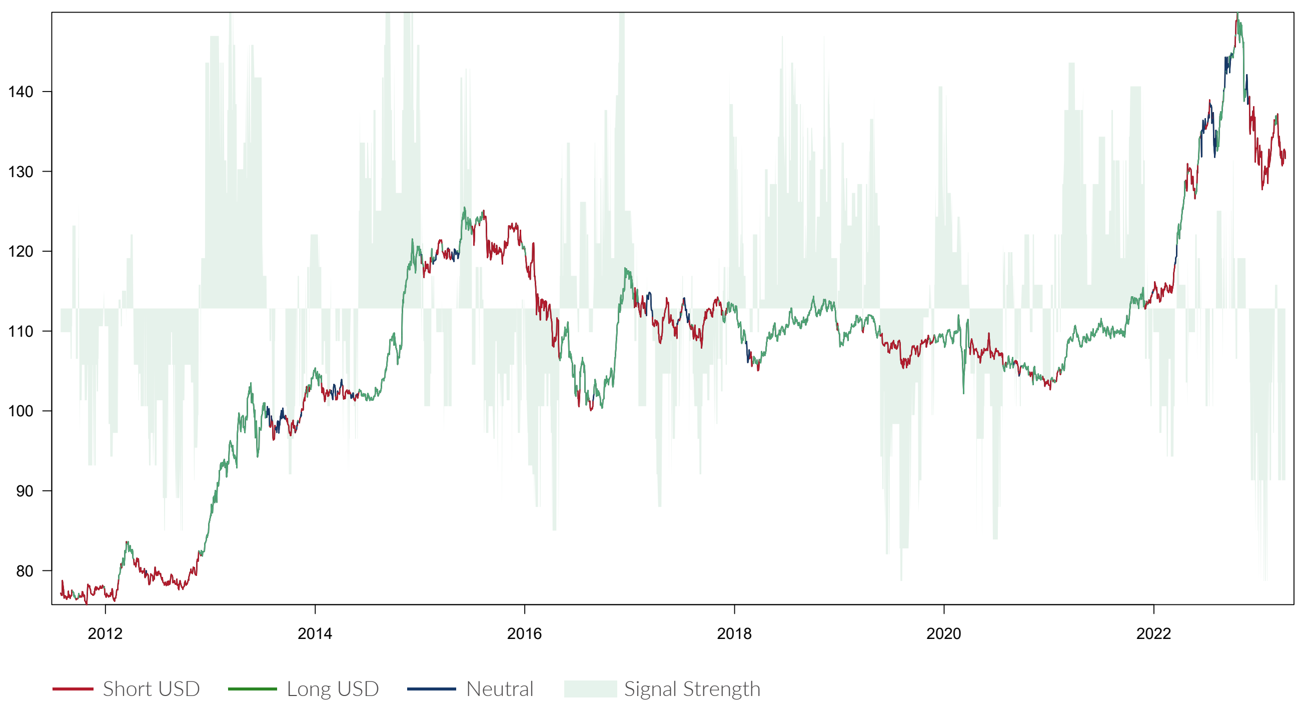
Source: QCAM Currency Asset Management

USDJPY

The economy remains on the Corona recovery path, while inflation stays persistently above 2%. Against that background the BoJ has more catch-up to do to normalize monetary policy. The current account cushion declined last year but is now recovering as energy prices have dropped to levels from before the Ukraine war. Business Sentiment and the Macro interest rate model moved to long JPY, shifting the overall position back to half long JPY.

	FX Factors	JPY Impact	Comment
Macro	Current Account Balances	0/+	The Japanese surplus has declined on rising energy prices but likely to recover in 2023
	FDI Flows	–	Net outflows have increased to the pre-Corona level
	Interest Rate Differentials	0/+	JPY rates remain low, but pressure on the BoJ to adjust policy is mounting
Sentiment	Business Sentiment	+	Momentum of Japanese Business Sentiment accelerated versus US surveys
	Risk Sentiment	0	Changes in risk sentiment had limited impact since last year
Technical	Price Action	0	Technicals are neutral
	Spec Positions	0	Net short JPY position increased but not at critical level
	PPP Valuation	+	The JPY is currently about 38% undervalued

USDJPY and QCAM Strategic Positioning



Source: QCAM Currency Asset Management

QCAM Currency Asset Management

EURCHF

We shifted the CHF Macro position to neutral vs. the EUR as we believe the CHF will gain more versus the USD than lose vs. the EUR. The Swiss economy remains fundamentally sound. However, just like the CHF outperformed last year when global uncertainty was high, we believe the CHF will underperform as global risk aversion declines. The SNB remains determined to fight inflation, but the interest rate policy trails the ECB. Business Sentiment stayed long CHF and Technical shifted to short CHF.

	FX Factors	CHF Impact	Comment
Macro	Current Account Balances	+	Surplus remains steady support for CHF
	Interest Rate Differentials	0	SNB rate policy trails behind the ECB
	SNB Policy Intervention	0	The SNB is not actively in the market
Sentiment	Business Sentiment	+	Swiss economy ahead of the Euro-area economy in the surveys
	Risk Sentiment	0	The Credit Swiss crisis had no material impact on risk sentiment
Technical	Price Action	–	Technical moved to short CHF
	Spec Positions	0	Net CHF position close to neutral
	PPP Valuation	0	The CHF is 7% undervalued versus the EUR

EURCHF and QCAM Strategic Positioning

Source: QCAM Currency Asset Management

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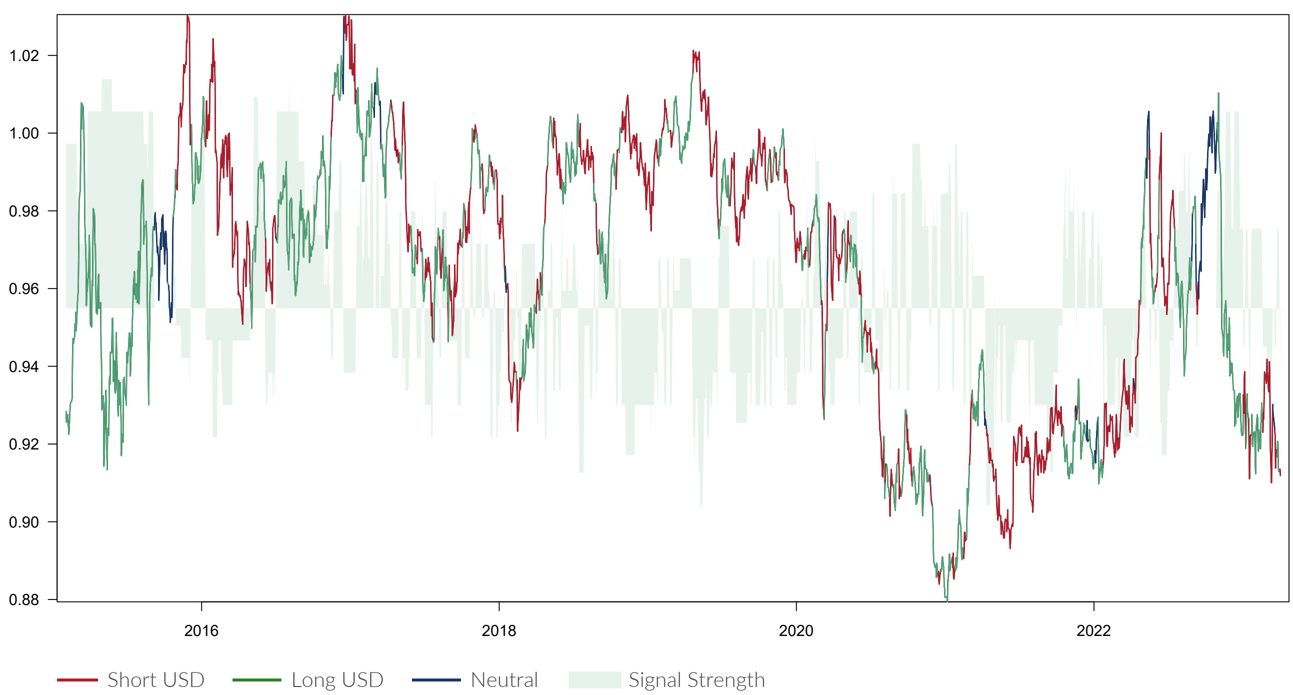
USDCHF

Our Macro positions in EURCHF (long) and EURUSD (neutral) imply long CHF vs. the USD. The Swiss economy remains fundamentally sound, but we believe the main push for the CHF will come from a stronger EUR. Business Sentiment stayed long CHF and Technical stayed short CHF. The balance of all three strategies is half long CHF.

	FX Factors	CHF Impact	Comment
Macro	Current Account Balances	+	Surplus remains steady support for CHF
	Interest Rate Differentials	0/+	The USD-CHF interest rate differential is declining on reduced Fed terminal rate pricing
	SNB Policy Intervention	0	The SNB is not actively in the market
Sentiment	Business Sentiment	++	Swiss surveys are firmer than US surveys
	Risk Sentiment	0	The Credit Swiss crisis had no material impact on risk sentiment
Technical	Price Action	–	Technical remains short CHF
	Spec Positions	0	Net CHF position close to neutral
	PPP Valuation	+	CHF is about 14% undervalued versus USD

USDCHF and QCAM Strategic Positioning



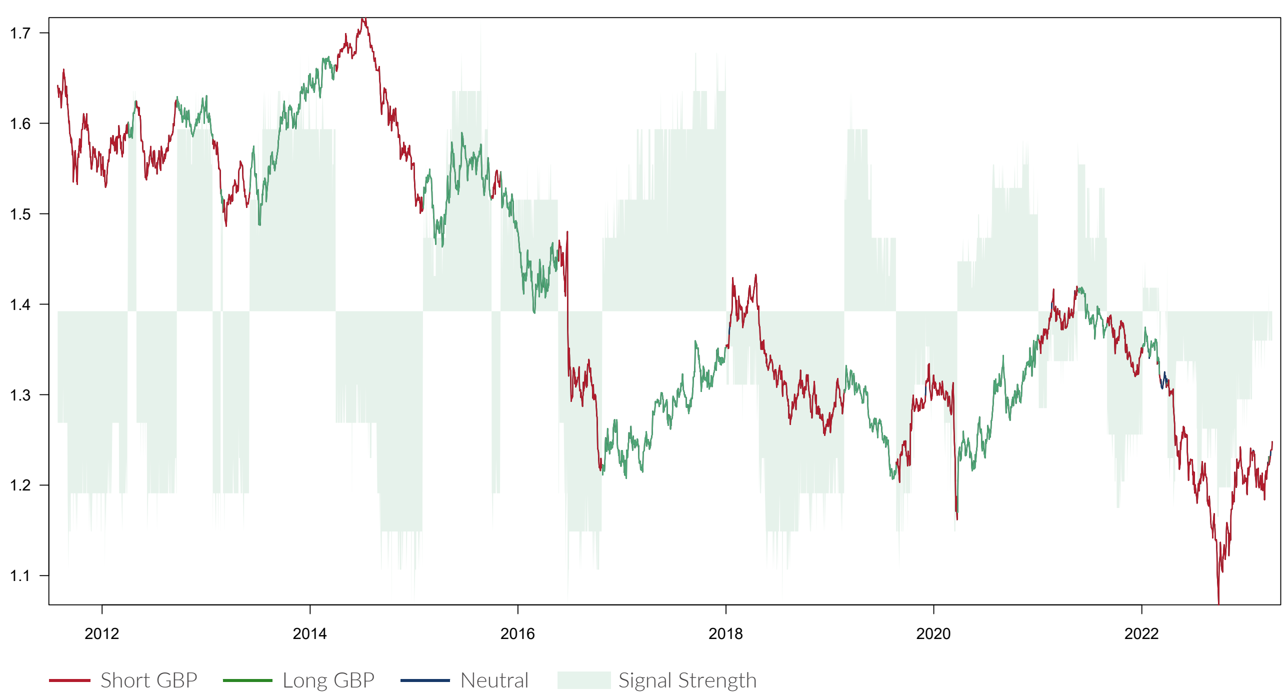
Source: QCAM Currency Asset Management

GBPUSD

We remain fundamentally bearish on the GBP given the negative Brexit fallout, growing stagflationary pressures and policy uncertainty. We maintain our neutral Macro position, given the decline in global risk aversion. Business Sentiment remains short GBP, while Technical stayed long GBP. The balance of all our strategies is close to neutral.

	FX Factors	GBP Impact	Comment
Macro	Current Account Balances	0/–	The UK has like the US a twin deficit problem, but the current account deficit is widening faster
	Interest Rate Differentials	0/–	UK interest rates remain below US rates
	Oil Price	0	Oil price likely to stabilize in wider range
Sentiment	Business Sentiment	–	Momentum in UK surveys remains below US surveys
	Risk Sentiment	–	Politcal uncertainty remains despite leadership change
Technical	Price Action	+	Technicals remain long GBP
	Spec Positions	0	Net GBP position close to neutral
	PPP Valuation	0/+	The GBP is 21% undervalued

GBPUSD and QCAM Strategic Positioning



Source: QCAM Currency Asset Management

EURSEK

The Swedish economy is showing more signs of strain as the property slump is growing and spreading to other parts of the economy. On the other hand, the Riksbank is determined to slow inflation. On balance we keep the discretionary Macro position at short SEK versus the EUR. The interest rate Macro model and Technical went neutral SEK, while Business Sentiment stayed short SEK. The balance of all strategy positions remains half short SEK.

	FX Factors	SEK Impact	Comment
Macro	Current Account Balances	0/+	Sweden's surplus suffers less terms of trade losses compared to the Euro area
	Interest Rate Differentials	0	The Macro interest rate model went neutral SEK
Sentiment	Business Sentiment	–	Surveys remained short SEK
	Risk Sentiment	–	Concerns over the property slump remain significant
Technical	Price Action	0	Technicals went neutral SEK
	PPP Valuation	+	The SEK is roughly 28% undervalued versus the EUR

EURSEK and QCAM Strategic Positioning

Source: QCAM Currency Asset Management

QCAM Currency Asset Management

USDCAD

Canada's fundamental position remains solid although the current account dipped back into deficit and the adjustment in housing to higher interest rates creates some strains. Inflation is a bit lower than in the US and the BoC has paused the tightening process. Our discretionary Macro position stays neutral but the Macro oil price model remained long CAD as forecasts are above current prices. Business Sentiment also stayed long CAD, while Technical moved to neutral. As a result, the overall position declined to half long CAD.

	FX Factors	CAD Impact	Comment
Macro	Current Account Balances	0	Canada's current account fell back into deficit but remains small versus the US deficit
	Oil Prices	+	The Macro oil price model is long CAD
	Interest Rate Differentials	0	CAD short-term and long-term rates are moving closely in line with US rates
	USD DXY Trend	0	Negative correlation with USD is small
Sentiment	Business Sentiment	+	Canada has stronger momentum versus the US in the surveys
	Risk Sentiment	0	No particular risk drivers at the moment
Technical	Price Action	0	Technicals went neutral
	Spec Positions	+	Net short CAD position increased to possible inflection point
	PPP Valuation	0	CAD is about 13% undervalued versus the USD

USDCAD and QCAM Strategic Positioning

Source: QCAM Currency Asset Management

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QCAM Products and Services

Our edge derives from a focus on professional currency management, the absolute transparency and the careful examination of risk. It is our mission to offer our clients innovative transparent solutions, in a thoughtful and risk-controlled environment, and to surpass investment goals.

Currency Overlay

Risks under control – opportunities in sight: QCAM Currency Overlay offers customised solutions for individual needs and investment goals. Our Passive Overlay focuses on risk management, reduction of transaction costs and the customer specific management of resulting cash flows.
Our Dynamic Overlay aims to generate returns based on QCAM´s proprietary FX Analytics, embedded in a strict risk budgeting framework.

FX Best Execution

With larger foreign currency transactions, even a small difference in pricing leads to a major impact on costs and revenues. While it is unattainable for most players to keep the full overview of the deals available in the market, independence and transparency are essential. We carry out a Transaction Cost Analysis for our clients to evaluate potential cost savings. Also, QCAM assists its clients in the design of an optimal mulitbank-setup and conducts clients FX transactions transparently, independently and in the client’s best interests.

Money Market Plus

QCAM’s Money Market Plus Strategy «MMP» enhances yield via the use of the FX interbank swap-market. Also, we take advantage from excellent conditions which we receive from our large pool of partner banks and highly rated debtors for money market and currency transactions QCAM’s MMP strategy has outperformed its peers for many years on a constant basis.

FX Alpha

Currencies as an attractive portfolio diversification via QCAM FX BIAS. The focus on QCAM’s Business Intelligence Alpha Strategy is on business indicators which we have successfully used for many years. The strategy is market-neutral, no specific market environment necessary. Diversification via a pool of eight different currencies and their respective trading signals.

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QCAM Profile

About us

QCAM Currency Asset Management AG is an independent financial services provider with a specific focus on currency and liquidity management. QCAM brings together a team of internationally experienced Currency and Asset Management specialists, who are managing assets of institutional clients of approx. USD 5 billion.

Our core competences are Currency Overlay Services, FX Transaction Execution according to „Best Execution“ principles, FX Alpha and Liquidity Management.

Long-standing customers of QCAM are pension funds, family offices, investment funds, companies, NGOs and HNWIs.

Headquarters

Zug, Switzerland

Founded

2005

Regulation

FINMA since 2007
SEC since 2014

Independent and Transparent

- Interests directly aligned with those of our clients
- Client focused solutions, tailored to each individuals requirements
- Independent selection of suitable external services providers
- No principal-agent conflicts
- Transparent fee model – no hidden costs
- Transparent reporting

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Content, concept, and layout:
QCAM Currency Asset Management AG, Zug
Editorial deadline: April 6th, 2023
Market data: April 5th, 2023

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