

Rule-based Currency Hedging Strategies - Base Currency CHF

Model Portfolio (USD, EUR, GBP & JPY) with +/- 10% Hedge Ratio Deviation [Benchmark Hedge Ratio = 90%]

Strategy objectives

Increased hedging costs (due to interest rate differentials) combined with a 'strong' CHF are important strategic currency management considerations for many Swiss-based investors.

Credit Suisse rule-based hedging strategy provides:

- A disciplined 'rational' framework to document (small) strategic adjustments to passive hedge ratios using a diversified approach
- An intuitive link between hedging cost, valuation and hedge ratio
- An opportunity to add value over a static passive approach with limited risk
- An attractive back test from 1995 to-date, also during the 'SNB float'
- A similar concept to 'smart beta' strategies popular in equity and bond markets
- A flexible approach; can be tailored to specific client preferences, currency exposures and/or constraints

Strategy description

The currency hedging solution illustrated in this document applies a low turnover, rule-based approach to determine the strategic hedge ratios to apply to each of the four main currency exposures inherent in a typical investment portfolio for Swiss-based investors, i.e. USD (60%), EUR (30%), GBP (5%) and JPY (5%).

The hedge ratio recommendations are derived using 50% Credit Suisse Fair Value Signals (a currency valuation technique²) and 50% Hedge Cost Signals (a proprietary measure of the relative and absolute levels of interest rate differentials of foreign currencies versus the Swiss Franc) to determine the deviation from a pre-determined benchmark hedge ratio (here 90%) within a pre-specified range (here +/- 10%).

For example,

- If CHF overvalued, reduce hedge ratio
- If CHF hedge costs high, reduce hedge ratio

Hedge ratios are adjusted on a monthly basis, however intra-month adjustments can occur, when changes in foreign exchange spot, or interest rates, trigger a significant change to the recommended hedge ratios.

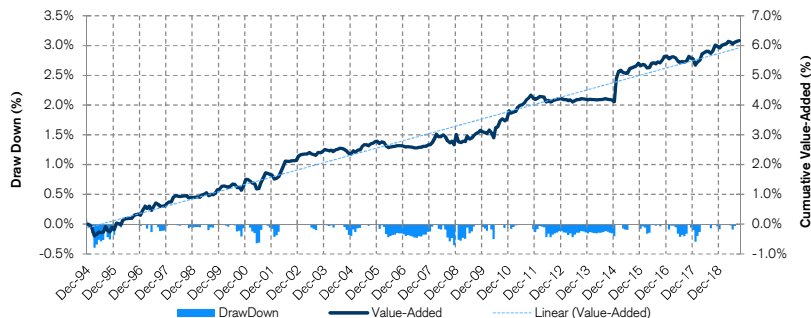
Strategy correlations (excess return)

	3 years	1995
MSCI World (unhedged)	0.29	-0.10
MSCI World (hedged)	-0.11	-0.02
Citibank GBI (unhedged)	0.55	-0.18
Citibank GBI (hedged)	-0.16	0.16

Contact information

Credit Suisse Asset Management (Switzerland) Ltd
Currency Management Solutions
+41 44 332 90 73 / +41 44 333 30 32
currency.overlay@credit-suisse.com

Simulated excess model portfolio performance in percent - gross of fees¹⁾



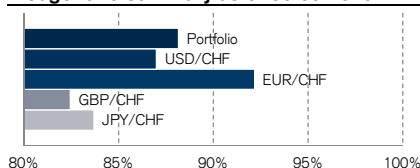
Gross performance in %¹⁾

	1 month	3 months	YTD	1 year	3 years	5 years	1995
Rule-based hedging +/- 10%	-0.59	-1.07	-1.23	-1.51	-5.72	-4.41	-0.70
90% passive hedge benchmark	-0.62	-1.19	-1.47	-1.86	-6.47	-6.38	-6.87

Simulated excess performance statistics by currency pair since 1995¹⁾

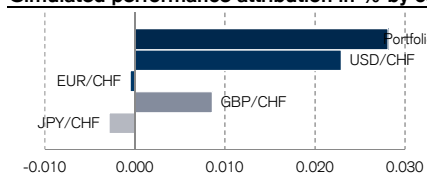
Model Portfolio	10% Allocation	Portfolio	USD/CHF	EUR/CHF	GBP/CHF	JPY/CHF
Ann. Return (net of TC)		0.25%	0.32%	0.14%	0.17%	0.11%
Ann. Risk		0.32%	0.46%	0.32%	0.40%	0.60%
Information Ratio		0.77	0.69	0.44	0.43	0.19
% Positive Months		58%	57%	50%	49%	51%
Best Month		0.77%	0.70%	1.07%	1.10%	1.02%
Worst Month		-0.25%	-0.44%	-0.18%	-0.20%	-0.70%
Maximum DrawDown		-0.40%	-0.75%	-0.55%	-1.28%	-2.26%
Transaction Costs (p.a.)		0.03%				

Hedge ratio summary as of 30.09.2019



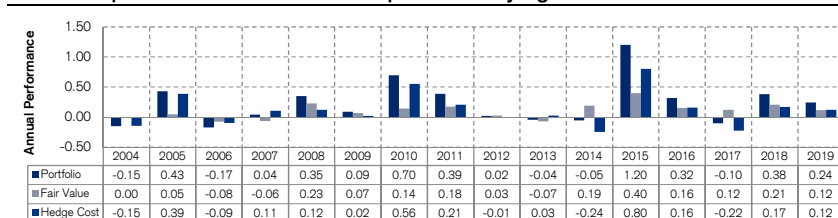
	Benchmark	Deviation	H. Ratio	Last Month
Portfolio	90.0%	-1.8%	88.2%	87.8%
USD/CHF	90.0%	-3.0%	87.0%	86.3%
EUR/CHF	90.0%	2.2%	92.2%	92.3%
GBP/CHF	90.0%	-7.5%	82.5%	82.5%
JPY/CHF	90.0%	-6.3%	83.7%	83.9%

Simulated performance attribution in % by currency pair¹⁾



	Sep-19	1 year	5 years	1995
Portfolio	0.03	0.35	1.97	6.16
USD/CHF	0.02	0.27	1.46	4.77
EUR/CHF	0.00	0.05	0.43	1.05
GBP/CHF	0.01	0.01	0.07	0.21
JPY/CHF	0.00	0.02	0.02	0.14

Simulated performance attribution in % per annum by signal since 2004¹⁾



1) Historical performance indications and financial market scenarios are no reliable indicators of future performance. Performance figures provided are for illustrative purposes only and are based on simulations using Credit Suisse Asset Management's data and pro-forma track record for this rule-based hedging program. This performance simulations are stated gross of any potential fees and is computed using a fixed underlying portfolio exposure to foreign currencies of USD 60%, EUR 30%, GBP 5% and JPY 5%, and a maximum hedge ratio deviation of +/-10%. Transaction costs used in the simulations are estimated by Credit Suisse Asset Management and may be inaccurate, or not reflect actual trading conditions in the past. The results displayed does not reflect the reinvestment of earnings. Note that the pro-forma track record of the model is purely indicative and hypothetical and does not constitute any guarantee of actual future performance of this currency hedging program. Human intervention or risk management processes intended to reduce losses are not reflected in the strategy simulation and if applied could reduce (or change) the indicated outcomes significantly.

2) For a detailed description on how these currency valuations are being derived, please refer to "Equilibrium exchange rates: Credit Suisse Fair Value Update 2013"

The "Important Information" mentioned at the end of this document also applies to this page

Sources: Credit Suisse, otherwise specified

Contact

CREDIT SUISSE ASSET MANAGEMENT (Switzerland) Ltd.
Currency Management Solutions
+41 44 332 90 73 / +41 44 333 30 32
currency.overlay@credit-suisse.com

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