# SIX

Swiss Reference Rates

Internationally, overnight interest rates play a significant role in determining the yield curve. Going forward, the point of departure for Switzerland's yield curve is SARON®, a reference rate based on data from the Swiss franc repo market.

Repo transactions represent an important instrument for banks in their daily liquidity management activities. Repo transactions have become a key pillar of the money markets – even the Swiss National Bank (SNB) uses repo transactions as a means of implementing its monetary policy.

The new reference rate, SARON, will play an influential role in financial markets. The Swiss Reference Rates comprise a total of 32 benchmark rates that cover a term spectrum ranging from overnight (ON) to 12 months (12M) plus two distinct indices for the ON term. The relevant calculations are based on CHF repo transactions concluded in the interbank market as well as on indicative quotes posted on the SIX Repo trading platform.

A reference rate must provide a representative picture of market events, in order for it to be accepted by the market and regularly used for transactions. Between 2015 and 2017 the average daily volume on which SARON is based on amounted from CHF 4 to 8 billion (see chart), about 44% of which is attributable to the volume of CHF repo transactions. The rest is based on the volume of representative tradable quotes. The volume increased during the financial crisis, reaching around CHF 14 billion on average. The decline during the later stages of the crisis was the result of the massive liquidity injections by the SNB, which rendered part of interbank business superfluous. The Swiss Reference Rates rules were drawn up in collaboration with the SNB. SIX can make modifications to the regulations in consultation with the SNB. Calculation and publication of reference rates is carried out by SIX.

Comparison Quote volume vs. Trade volume

bn CHF

■ Quote (10-day-average)
■ Trade (10-day-average)
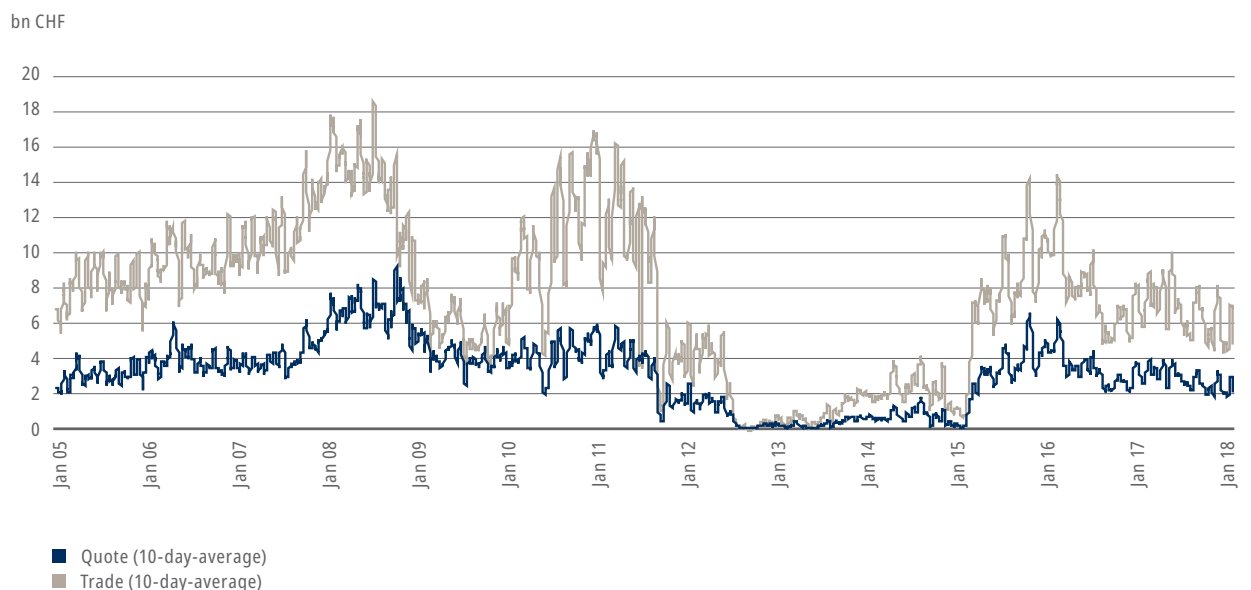
Calculation and publication

Calculation of the Average and Current Rate commences with the initial constellation of the order book. The first publication is made at 8.30 am and the last at the end of the trading day for the given term. The Average and Current indices are calculated once a day at the end of the trading session and then published. This calculation and publication procedure for rates and indices is conducted on all official trading days of the Swiss franc repo market.

SAR Swiss Average Rate®

The Average Rate is an ongoing, volume-weighted reading based on the transactions concluded and reference prices posted on the given trading day. The reference price is calculated on the basis of quotes available in the order book of the SIX Repo electronic trading platform, provided they lie within the parameters of the quote filter. The quote filter is parameterised in a way that limits the possibilities for manipulation to an absolute minimum. The Average Rate is continually calculated in realtime and published every ten minutes. In addition,

a fixing is conducted three times a day at 12 pm, 4 pm and at 6 pm. These fixings serve as a reference reading for derivative financial products and the valuation of financial assets. SARON differs from its predecessor, the Repo Overnight Index (SNB), primarily due to its stability. The latter index was not furnished with a trade filter and did not take quotes into account in the calculation. A comparison of the movements in the SARON and TOIS fixings over the past years shows that SARON's volatility was considerably lower (see chart). The volatility of the TOIS fixing was six times higher on average, especially during the most turbulent phase of the crisis, following the collapse of Lehman Brothers. In calmer times, the TOIS fixing's volatility only diverges from that of SARON at month-end, as a result of the change in month. Swap sellers (fixed rate receivers) using the TOIS suffered heavy losses. Depending on the reason for concluding a swap (hedging interest rate risk, speculating on changes in interest rates or taking advantage of opportunities for arbitrage), the SARON Swap can offer advantages. Swaps based on the SARON 6 pm fixing are cleared through EUREX Clearing and LCH.

Comparison TOIS fixing vs. SARON 12 noon fixing

Values in %

- SARON 12 noon fixing
- TOIS fixing
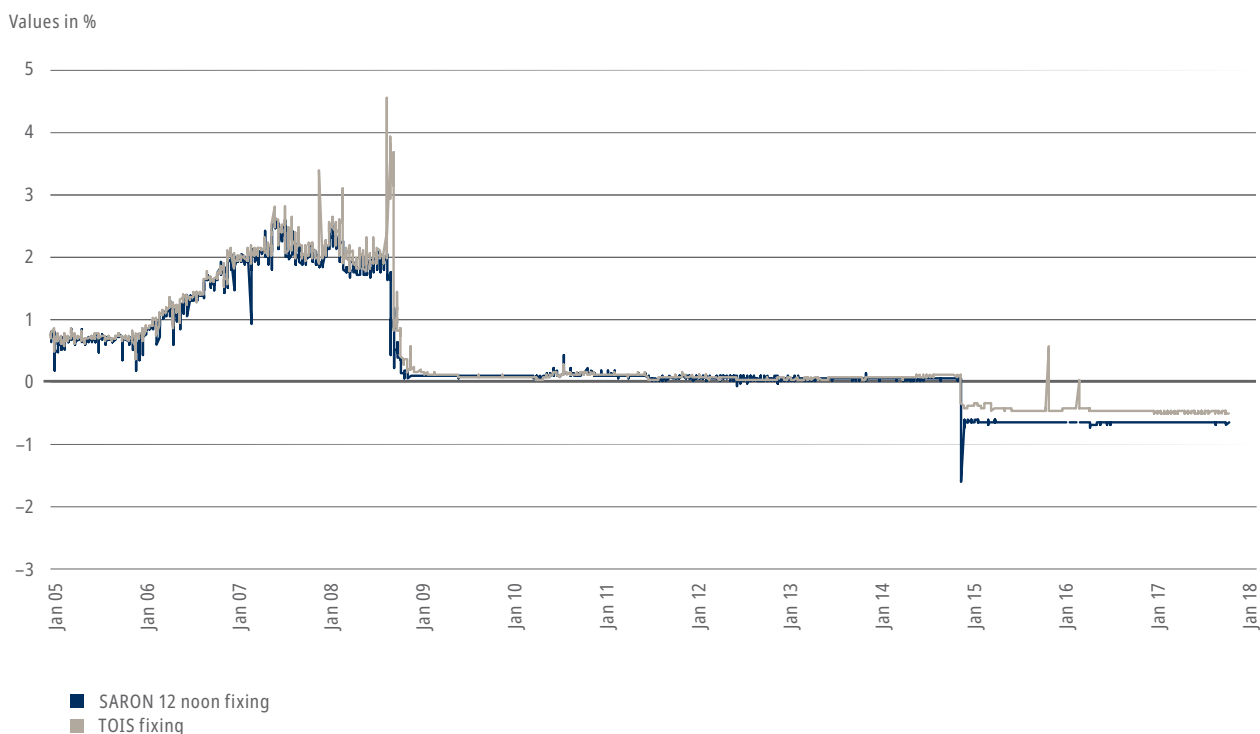
SCR Swiss Current Rate®

The Current Rate is based on the price of a transaction or, alternatively, specific quotes. In contrast to the way in which the Average Rate is calculated, volume is not taken into account. Possibilities for manipulation of the Current Rate are also minimised through the application of appropriate filtering criteria. Calculation of the Current Rate is made every three minutes and the result is published immediately thereafter. The Current Rate reflects the latest pricing in the money market and is an indicator of short-term changes.

Swiss Average Index (SAION®)
Swiss Current Index (SCION®)

The Swiss Average Index and Swiss Current Index are based on the daily yields as indicated in SARON and SCRON®, respectively, and take into account interest payments received on overnight transactions. These indices can serve as the underlying index for Structured Products and ETFs. They are calculated and published once a day at the end of the trading day.

Yield profile of the money market indices

Description	YTD	1 year back	3 years back	5 years back	Since 30.12.1999
SAION®	− 0.7437%	− 0.7437%	− 2.1718%	− 2.2032%	0.56%
SCION®	− 0.7353%	− 0.7353%	− 2.1639%	− 2.1988%	0.54%

Money Market Performance (Overnight)
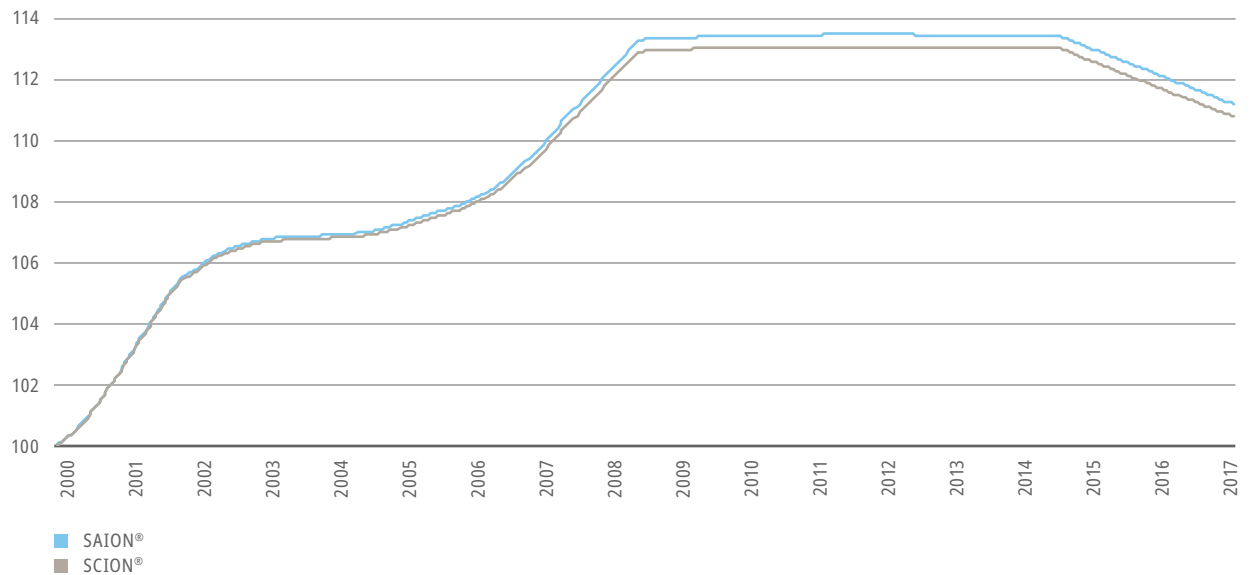
- SAION®
- SCION®

Overview Swiss Reference Rates

Terms to maturity	Average Rates	Current Rates	Average Indices	Current Indices
Overnight ON	SARON	SCRON	SAION	SCION
Tom/Next TN	SARTN	SCRTN		
Spot/Next SN	SARSN	SCRSN		
1 Week 1W	SAR1W	SCR1W		
2 Weeks 2W	SAR2W	SCR2W		
3 Weeks 3W	SAR3W	SCR3W		
1 Month 1M	SAR1M	SCR1M		
2 Months 2M	SAR2M	SCR2M		
3 Months 3M	SAR3M	SCR3M		
6 Months 6M	SAR6M	SCR6M		
9 Months 9M	SAR9M	SCR9M		
12 Months 12M	SAR12M	SCR12M		
IMM March Contract	SARMAR	SCRMAR		
IMM June Contract	SARJUN	SCRJUN		
IMM September Contract	SARSEP	SCRSEP		
IMM December Contract	SARDEC	SCRDEC		

Overview

	SARON	SCRON	SAION	SCION
Name	Swiss Average Rate ON	Swiss Current Rate ON	Swiss Average Index ON	Swiss Current Index ON
ISIN	CH0049613687	CH0049613901	CH0100517157	CH0100484986
Bloomberg-/Reuters-Ticker	SSARON/SARON.S	SSCRON/SCRON.S	SAION/.SAION	SCION/.SCION
Definition	Volume-weighted average interest rate	Snapshot of the latest intraday market price	Performance as calculated on the basis of the Swiss Average Rate	Performance as calculated on the basis of the Swiss Current Rate
Fixing-Time	12 pm 4 pm 6 pm	No fixing	No fixing	No fixing
Fixings	SRFXON1 SRFXON2 SRFXON3	–	–	–
Clearing		EUREX LCH –	–	–
Initial peg	None	None	30.12.1999 = 100	30.12.1999 = 100
Historical data since	30.06.1999	30.06.1999	30.06.1999	30.06.1999
Introduction	25.08.2009	25.08.2009	25.08.2009	25.08.2009
Publication start	Daily at 8.30 am	Daily at 8.30 am	–	–
Publication interval	Every 10 minutes	Every 3 minutes	1x per day (at close of trading)	1x per day (at close of trading)

The foregoing information applies analogously to the reference rates for other terms. Indices are calculated only for the overnight (ON) term.

Please visit our website for further information: www.six-group.com/indices

All used data are on a yearly basis as of 29.12.2017. Source: SIX Swiss Exchange Ltd