Outreach to Swiss corporates on CHF Libor

Executive summary

- The future of the Libor is uncertain.

- SARON is the recommended alternative to the Swiss franc Libor.

- This outreach and your participation will help to identify outstanding issues on a possible transition to SARON, as well as relevant characteristics of a possible term rate based on SARON.

Introduction

The National Working Group on Swiss Franc Reference Rates (NWG) is the key forum to foster the transition to SARON and to discuss the latest international developments. The NWG is co-chaired by a representative of the private sector and a representative of the Swiss National Bank (SNB). The SNB supports the NWG by co-chairing the working group alongside a representative from the private sector. The NWG publishes recommendations based on consensus. Recommendations are not legally binding. The SNB acts as a moderator. Since spring 2016, the NWG has been working on replacing the TOIS fixing with SARON. The former was discontinued at the end of 2017. The NWG will cease to exist once the transition to SARON is materially completed.

In July 2017, Andrew Bailey, chief executive of the UK's Financial Conduct Authority (FCA), gave a speech on the future of the Libor. The FCA, in agreement with central banks and regulatory authorities, intends to no longer persuade, or compel, banks to submit to Libor beyond 2021. At the meeting on 5 October 2017, the working group recommended SARON as the alternative to the Swiss franc Libor. SARON represents the overnight interest rate of the secured funding market for Swiss franc (CHF). SARON covers by far the most liquid segment of the CHF money market, is based on actual transactions and binding quotes, and follows the International Organization of Securities Commissions (IOSCO) Principles. The potential of unsecured alternative rates has been extensively analysed by the NWG.

The NWG is conducting a survey on CHF Libor and SARON. The survey consists of three parts. The first part will help to clarify current use of the CHF Libor. The second part considers aspects relating to a possible term rate based on SARON. The third part is on a possible transition from the CHF Libor to SARON. The aim of the survey is to gather a broader view on the recommendations given so far, and to guide future reform efforts on reference rates in Switzerland. All corporates currently using the CHF Libor are invited to fill out the following questionnaire and send their response to nwg@snb.ch by end-September 2018. The NWG will additionally organise a workshop on this topic. All responses will be handled confidentially, and all evaluations discussed in the NWG or published will be made on a cumulative basis only.

1) Company name

_____

2) What field are you operating in?

_____

3) What is the annual turnover of your company in CHF?

<1m	1m to 5m	5m to 25m	25m to 100m	100m to 1bn	>1bn

4) How many employees do you have?

<10	10 to 50	50 to 250	250 to 500	500 to 1,000	>1,000

5) Do you use Libor or CHF Libor financial instruments?

Yes	No

6) Does your company have a Treasury department?

Yes	No

1. Current use of CHF Libor

a. For which products and purposes is your institution using the CHF Libor?

Please rank the purposes listed below in the column titled classification in order of importance from 1 to 8, with 1 being most important. Use each number only once.

Purpose	Usage (yes/no)	Classification	Comment
a) Short-term lending			
b) Credit facilities			
c) Intra-company transactions			
d) Capital markets (pricing of floaters)			
e) Fair value valuations			
f) Derivatives (CHF Libor-based)			
g) Benchmark for deposits			
h) Other:			

b. If you use derivatives (see point f) above), please explain for which purpose(s)

Purpose	Usage (yes/no)	Comment
a) Fair value hedge		
b) Cash flow hedge		
c) "Synthetic" fixed loan (CHF Libor-based loan in combination with a fixed payer swap)		
d) Other:		

c. What is/are your reason(s) for using the CHF Libor rather than another reference rate?

☐ Market standard

☐ No alternative reference rate is available or known

☐ CHF Libor accepted by tax authorities

☐ CHF Libor is the most suitable reference rate. If so, why?

_____

☐ Other (please give details):

_____

_____

d. Is the CHF Libor the only rate being used for the above-mentioned purposes or are there any other rates used for the same or similar purpose(s)?

Purpose	Other rates
a) Short-term lending	
b) Credit facilities	
c) Intra-company transactions	
d) Capital markets (pricing of floaters)	
e) Fair value valuations	
f) Derivatives (CHF Libor-based)	
g) Benchmark for deposits	
h) Other:	

e. Do you have any further comments regarding the use of the CHF Libor?

_____

_____

2. The need for term fixings and the use of SARON

As the Financial Conduct Authority (FCA) intends to no longer persuade, or compel, banks to submit to Libor after 2021, various stakeholders feel that it is necessary to move away from Libor.

A SARON swap market has now been established in Switzerland. The floating leg in this swap market is based on a compounded SARON, and the cash flow is exchanged at the end of the period. The compounded SARON figures as the reference rate in this swap market, similar to the three-month or six-month CHF Libor in the CHF Libor swap market. See appendix for more information.

a. Which characteristics do you deem important for a reference rate?

Please rank the characteristics listed below in order of importance from 1 to 11, with 1 being most important. Use each number only once.

Characteristic	Classification
a) Official fixing (calculated by an independent administrator as opposed to observed market prices by individual banks)	
b) Same methodology across currencies	
c) Unsecured rate	
d) Secured rate	
e) Transparency: calculation methodology is transparent	
f) Robustness: based on a large set of transactions or actionable quotes	
g) Governance: based on an independent administrator	
h) Variety of tenors (SN-12M) suitable for each purpose	
i) Payment predetermined at the start of the period	
j) Reference rate reflects the ex ante expectation at the	

beginning of the period (forward-looking rate)	
k) other (please give details):	

b. The 3M CHF Libor is often used as a reference rate for different products in Switzerland. At starting point t_0, the 3M Libor is known for the first interest rate period (repricing period) of 3 months, but unknown for future periods.

SARON is an overnight rate, therefore the repricing is on a daily basis. SARON is known at starting point t_0 but in contrast to Libor, only for a period of one day instead of 3 month for 3M Libor based contracts. If the interest payment frequency is set to 3 month for SARON based contracts, the interest payment at the end of the period is the result of the daily compounded SARON rates within this period. This method is called "compounded SARON backward looking" and is used in the SARON swap market. Hence, the payment is not predetermined at the start of the payment / fixing period but evolves over time during that period (see examples a) and c) in the appendix). Would this "compounded SARON backward looking" method pose any difficulties for you? If so, why and in which areas?

_____

_____

c. If you could choose between contracts based on different floating rates, which one(s) would you prefer and why? Please also indicate the reason(s) why some contracts are not preferred (see examples a) – c) in the appendix)

	Rate design	Official fixing available	Payment predetermined at the start of the period	Swap market currently available with the same floating rate	Preferred (yes / no)	Reason
a)	Reflecting the ex post actual movements in rates	yes	no	yes		
b)	Reflecting the ex post actual movements in rates	yes	yes	no		
c)	Reflecting the ex ante expectation in rates at the beginning of the period	no	yes	no		

d. Do you believe a term reference rate is necessary? If so, what products should it be applied to?

_____

_____

e. Are there particular products / purposes for which it would be difficult to use an overnight rate?

_____

_____

f. Is an official fixing of a term reference rate necessary, or could it also be derived and offered by the banks (e.g. from observable market prices)? Explain your preference.

_____

_____

g. Would several term fixings (e.g. one-month, three-month, and six-month) be necessary, or is a single term fixing acceptable? If several fixings are necessary, why and which ones?

_____

_____

h. Is it important that the term rate reflects the ex ante expectation of interest rates? If so, why?

_____

_____

i. Is it important that the payment is predetermined at the start of the period? If so, why?

_____

_____

j. Do you have a preference as regards the construction of a potential forward-looking term reference rate?

_____

_____

k. Do you have any further comments regarding the need for term fixings and the use of SARON?

_____

_____

3. Transitional issues

a. Do you see any major obstacles that could prevent a transition from CHF Libor to SARON or a SARON-based reference rate? If so, which? What would need to change to allow you to make the transition (external factors, internal systems, etc.)?

_____

_____

_____

b. For the purposes listed below, how much time would your institution realistically need to complete the transition?

Purpose	No. of months
a) Short-term lending	
b) Credit facilities	
c) Intra-company transactions	
d) Capital markets (pricing of floaters)	
e) Fair value valuations	
f) Derivatives (CHF Libor-based)	
g) ERP system, IT systems	
h) Tax systems/structures	
i) Other:	

c. Do you think the transition would have an adverse impact on your institution? If so, why and on which of the purposes a) – i) listed above?

_____

_____

d. What issues might arise as part of an effort to convert legacy CHF Libor contracts to reference SARON?

_____

_____

e. Should the transition be a phased approach or a big bang? Explain your preference.

_____

_____

f. Which elements are a prerequisite for your institution to facilitating a smooth transition?

_____

_____

g. Is the consistency with reference rates being developed in other international markets relevant for you? If so, why?

_____

_____

h. Would you prefer to wait for international solutions, with the potential consequence that any national implementation may be postponed?

_____

_____

i. Has your institution already reacted in any way to the uncertainty surrounding the future of Libor? If so, how?

_____

_____

j. Do you have any further comments regarding the transition from CHF Libor to SARON?

_____

_____

Outreach to Swiss corporates on CHF Libor (4 June 2018)

Appendix

SARON Compounded Rate

The SARON compounded rate is a backward-looking average of SARON rates, measured through compounding of daily SARON Fixings at the end of the desired period.

$$\left[\prod_{i=1}^{d_o} \left(1 + \frac{SARON_i \times n_i}{360} \right) - 1 \right] \times \frac{360}{d}$$

where

"$\mathbf{d_0}$", for any Calculation Period, is the number of Zurich Banking Days in the relevant Calculation Period;

"$\mathbf{i}$" is a series of whole numbers from one to d_0, each representing the relevant Zurich Banking Days in chronological order from, and including, the first Zurich Banking Day in the relevant Calculation Period;

"$\mathbf{SARON_i}$"; for any day "i" in the relevant Calculation Period, is a reference rate equal to the rate for overnight repo transactions in Swiss Francs which appears on the Thomson Reuters Screen SARON.S under the heading 'CLSFIX' at or after 6:00 p.m., Zurich time, in respect of that day;
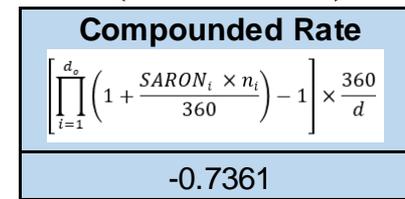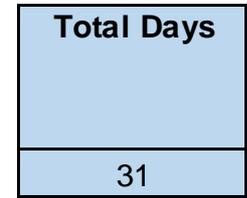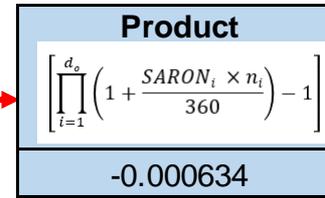
"$\mathbf{n_i}$", is the number of calendar days in the relevant Calculation Period on which the rate is $SARON_i$; and

"$\mathbf{d}$" is the number of calendar days in the relevant Calculation Period.
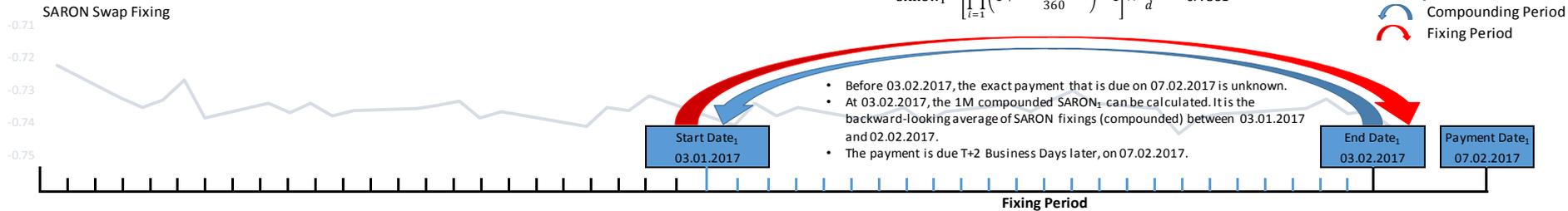
Example

1 MONTH-CHF-SARON-OIS-COMPOUND

Product

$$\left[\prod_{i=1}^{d_o} \left(1 + \frac{SARON_i \times n_i}{360} \right) - 1 \right]$$

-0.000634

Total Days

31

Start Day	End Day	Fixing Date	SARON	Rate Factor $\left(1 + \frac{SARON_i \times n_i}{360}\right)$	Days n_i
03.01.2017	04.01.2017	03.01.2017	-0.740938	0.999979	1
04.01.2017	05.01.2017	04.01.2017	-0.734146	0.999980	1
05.01.2017	06.01.2017	05.01.2017	-0.738064	0.999979	1
06.01.2017	09.01.2017	06.01.2017	-0.735494	0.999939	3
09.01.2017	10.01.2017	09.01.2017	-0.739017	0.999979	1
10.01.2017	11.01.2017	10.01.2017	-0.737801	0.999980	1
11.01.2017	12.01.2017	11.01.2017	-0.735276	0.999980	1
12.01.2017	13.01.2017	12.01.2017	-0.740026	0.999979	1
13.01.2017	16.01.2017	13.01.2017	-0.73668	0.999939	3
16.01.2017	17.01.2017	16.01.2017	-0.734525	0.999980	1
17.01.2017	18.01.2017	17.01.2017	-0.736624	0.999980	1
18.01.2017	19.01.2017	18.01.2017	-0.732999	0.999980	1
19.01.2017	20.01.2017	19.01.2017	-0.730291	0.999980	1
20.01.2017	23.01.2017	20.01.2017	-0.734027	0.999939	3
23.01.2017	24.01.2017	23.01.2017	-0.73571	0.999980	1
24.01.2017	25.01.2017	24.01.2017	-0.743469	0.999979	1
25.01.2017	26.01.2017	25.01.2017	-0.738585	0.999979	1
26.01.2017	27.01.2017	26.01.2017	-0.737318	0.999980	1
27.01.2017	30.01.2017	27.01.2017	-0.736893	0.999939	3
30.01.2017	31.01.2017	30.01.2017	-0.735858	0.999980	1
31.01.2017	01.02.2017	31.01.2017	-0.732656	0.999980	1
01.02.2017	02.02.2017	01.02.2017	-0.737202	0.999980	1
02.02.2017	03.02.2017	02.02.2017	-0.736327	0.999980	1

Compounded Rate

$$\left[\prod_{i=1}^{d_o} \left(1 + \frac{SARON_i \times n_i}{360} \right) - 1 \right] \times \frac{360}{d}$$
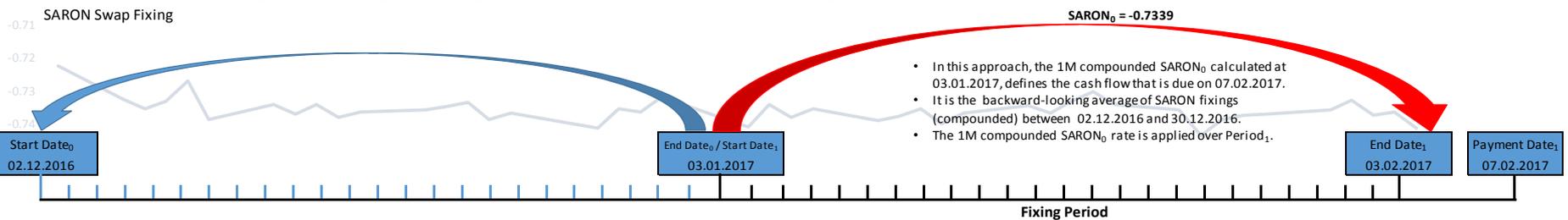
-0.7361

- This example shows how a 1 Month Compounded SARON rate is calculated. The same calculation can be done over a period of 90 days or one year to get a 3M or 12M compounded SARON rate.
- First, for every daily 6:00 p.m. SARON Fixing, a rate factor is calculated.
- Afterwards, the products over all rate factors is calculated.
- Finally, the rate is adjusted on a 360-days basis.
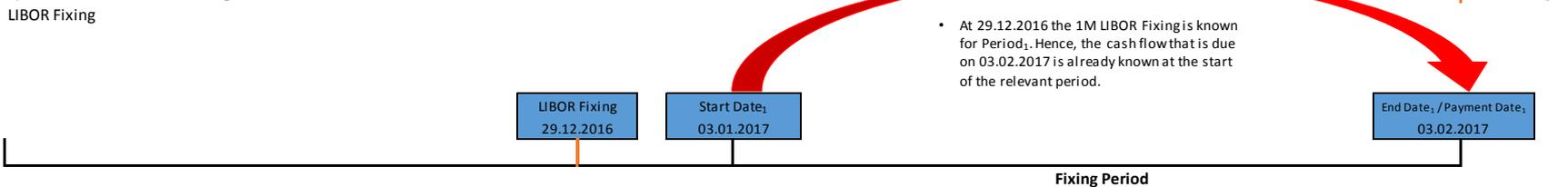
SARON compounded and LIBOR Fixing Examples

a) Ex-post / Backward looking at the end of the Fixing Period / Compounded SARON backward looking
SARON Swap Fixing

$$SARON_1 = \left[\prod_{i=1}^{d_o} \left(1 + \frac{SARON_i \times n_i}{360} \right) - 1 \right] \times \frac{360}{d} = -0.7361$$

SARON Fixings
Compounding Period
Fixing Period

- Before 03.02.2017, the exact payment that is due on 07.02.2017 is unknown.
- At 03.02.2017, the 1M compounded $SARON_1$ can be calculated. It is the backward-looking average of SARON fixings (compounded) between 03.01.2017 and 02.02.2017.
- The payment is due T+2 Business Days later, on 07.02.2017.

Start Date$_1$	End Date$_1$	Payment Date$_1$
03.01.2017	03.02.2017	07.02.2017

Fixing Period

b) Ex-post / Backward looking at the beginning of the Fixing Period / Compounded SARON forward looking
SARON Swap Fixing

$SARON_0$ = -0.7339

- In this approach, the 1M compounded $SARON_0$ calculated at 03.01.2017, defines the cash flow that is due on 07.02.2017.
- It is the backward-looking average of SARON fixings (compounded) between 02.12.2016 and 30.12.2016.
- The 1M compounded $SARON_0$ rate is applied over Period$_1$.

Start Date$_0$	End Date$_0$ / Start Date$_1$	End Date$_1$	Payment Date$_1$
02.12.2016	03.01.2017	03.02.2017	07.02.2017

Fixing Period

c) Ex-ante / Forward looking
LIBOR Fixing

1M LIBOR

LIBOR Fixing

- At 29.12.2016 the 1M LIBOR Fixing is known for Period$_1$. Hence, the cash flow that is due on 03.02.2017 is already known at the start of the relevant period.

LIBOR Fixing	Start Date$_1$	End Date$_1$ / Payment Date$_1$
29.12.2016	03.01.2017	03.02.2017

Fixing Period

Example with interest rate hike

1 MONTH-CHF-SARON-OIS-COMPOUND

Start Day	End Day	Fixing Date	SARON	Rate Factor $\left(1 + \frac{SARON_i \times n_i}{360}\right)$	Days n_i
03.01.2017	04.01.2017	03.01.2017	-0.740938	0.999979	1
04.01.2017	05.01.2017	04.01.2017	-0.734146	0.999980	1
05.01.2017	06.01.2017	05.01.2017	-0.738064	0.999979	1
06.01.2017	09.01.2017	06.01.2017	-0.735494	0.999939	3
09.01.2017	10.01.2017	09.01.2017	-0.739017	0.999979	1
10.01.2017	11.01.2017	10.01.2017	-0.737801	0.999980	1
11.01.2017	12.01.2017	11.01.2017	-0.735276	0.999980	1
12.01.2017	13.01.2017	12.01.2017	-0.740026	0.999979	1
13.01.2017	16.01.2017	13.01.2017	-0.73668	0.999939	3
16.01.2017	17.01.2017	16.01.2017	-0.734525	0.999980	1
17.01.2017	18.01.2017	17.01.2017	-0.736624	0.999980	1
18.01.2017	19.01.2017	18.01.2017	0.267001	1.000007	1
19.01.2017	20.01.2017	19.01.2017	0.269709	1.000007	1
20.01.2017	23.01.2017	20.01.2017	0.265973	1.000022	3
23.01.2017	24.01.2017	23.01.2017	0.26429	1.000007	1
24.01.2017	25.01.2017	24.01.2017	0.256531	1.000007	1
25.01.2017	26.01.2017	25.01.2017	0.261415	1.000007	1
26.01.2017	27.01.2017	26.01.2017	0.262682	1.000007	1
27.01.2017	30.01.2017	27.01.2017	0.263107	1.000022	3
30.01.2017	31.01.2017	30.01.2017	0.264142	1.000007	1
31.01.2017	01.02.2017	31.01.2017	0.267344	1.000007	1
01.02.2017	02.02.2017	01.02.2017	0.262798	1.000007	1
02.02.2017	03.02.2017	02.02.2017	0.263673	1.000007	1

Product

$$\left[\prod_{i=1}^{d_o}\left(1 + \frac{SARON_i \times n_i}{360}\right) - 1\right]$$

-0.000190

Total Days

31

Compounded Rate

$$\left[\prod_{i=1}^{d_o}\left(1 + \frac{SARON_i \times n_i}{360}\right) - 1\right] \times \frac{360}{d}$$

-0.2202

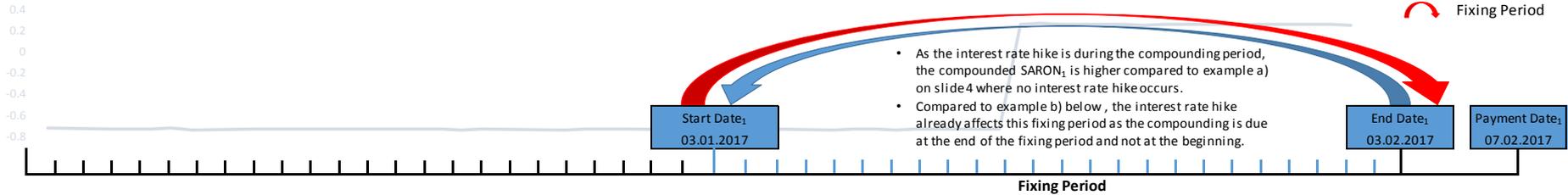- This example contains an interest rate hike of 1 percentage point.

Example with interest rate hike

a) Ex-post / Backward looking at the end of the Fixing Period / Compounded SARON backward looking
SARON Swap Fixing

$$SARON_1 = \left[\prod_{i=1}^{d_o}\left(1 + \frac{SARON_i \times n_i}{360}\right) - 1\right] \times \frac{360}{d} = -0.2202$$
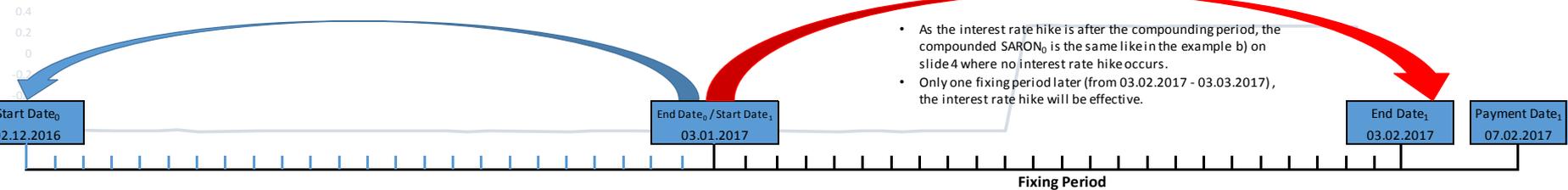
SARON Fixings
Compounding Period
Fixing Period

- As the interest rate hike is during the compounding period, the compounded $SARON_1$ is higher compared to example a) on slide 4 where no interest rate hike occurs.
- Compared to example b) below, the interest rate hike already affects this fixing period as the compounding is due at the end of the fixing period and not at the beginning.

Start Date$_1$	End Date$_1$	Payment Date$_1$
03.01.2017	03.02.2017	07.02.2017

Fixing Period

---

b) Ex-post / Backward looking at the beginning of the Fixing Period / Compounded SARON forward looking
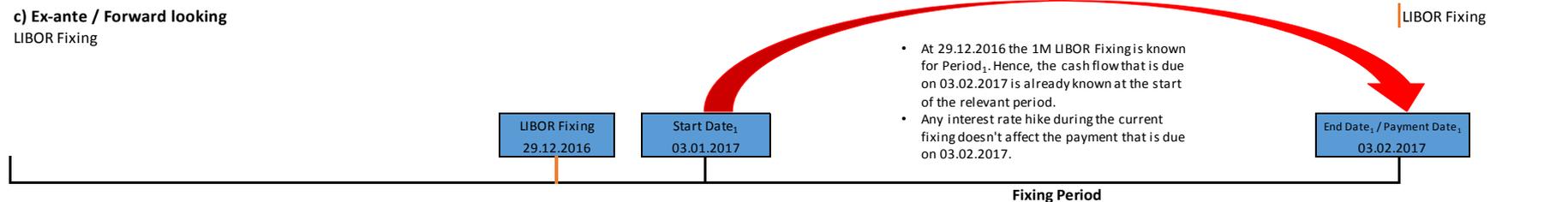SARON Swap Fixing

$SARON_0 = -0.7339$

- As the interest rate hike is after the compounding period, the compounded $SARON_0$ is the same like in the example b) on slide 4 where no interest rate hike occurs.
- Only one fixing period later (from 03.02.2017 - 03.03.2017), the interest rate hike will be effective.

Start Date$_0$	End Date$_0$ / Start Date$_1$	End Date$_1$	Payment Date$_1$
02.12.2016	03.01.2017	03.02.2017	07.02.2017

Fixing Period

---

c) Ex-ante / Forward looking
LIBOR Fixing

1M LIBOR

LIBOR Fixing

- At 29.12.2016 the 1M LIBOR Fixing is known for Period$_1$. Hence, the cash flow that is due on 03.02.2017 is already known at the start of the relevant period.
- Any interest rate hike during the current fixing doesn't affect the payment that is due on 03.02.2017.

LIBOR Fixing	Start Date$_1$	End Date$_1$ / Payment Date$_1$
29.12.2016	03.01.2017	03.02.2017

Fixing Period

Alternatives for a «Term Rate»
Cash flow approaches

Approach	Term Rate	Forward-looking*	Fixing	Underlying market	User acceptance	Governance and infrastructure
Compounded SARON backward looking	☒	☒	☑	• Liquid and robust market exists • Large and diverse number of participants • Can be robustly computed for any tenor	**?** • User acceptance might be different across financial institutions, corporates and retail clients • Ex-ante uncertainty about future cash flow • Corporate outreach for further clarification	• No administrator required • Calculation agent and publication could improve transparency
Compounded SARON forward looking (i.e. calculate rate from T-3M to T, apply for period T to T+3M)	☒	☑	☑	• Liquid and robust market exists • Large and diverse number of participants • Can be robustly computed for any tenor	**?** • User acceptance might be different across financial institutions, corporates and retail clients • Payment is not lagged • Hedging is complex and does not represent current market expectations • Corporate outreach for further clarification	• No administrator required • Calculation agent and publication could improve transparency

* Cash-flows are know in advance.

Alternatives for a «Term Rate»

Term rate approaches

Approach	Term Rate	Forward looking	Fixing	Underlying market	User acceptance	Governance and infrastructure
Futures-based	☑	☑	?	**?** • No market yet • Unclear whether underlying market will be liquid enough	• Increased complexity • New basis risk may not be eliminated and makes hedging more difficult	• Requires an administrator (and calculation agent), which could be the exchange
Swap-based / OIS-based	☑	☑	?	**?** • Market exists, but unclear whether underlying market liquid enough	• Increased complexity	**?** • Requires an administrator (and calculation agent) • Access to information (transactions and quotes) to determine the fixing necessary
Repo-based	☑	☑	☒	• Transparent but illiquid underlying market for some tenors • Few market participants	• Not preferred as fixing is not daily available • Collateral premium may distort rate	• Administrator in place