

The Swiss Interbank Clearing (SIC) payment system Report on the SIC System and Disclosure Report 2023

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SWISS NATIONAL BANK



This publication is issued by the Swiss National Bank in cooperation with SIX Interbank Clearing Ltd (SIC Ltd).

The first section of the publication ('Report on the SIC system') contains information on the Swiss Interbank Clearing (SIC) payment system.¹ As a systemically important financial market infrastructure, the SIC system is subject to the CPMI-IOSCO Principles for financial market infrastructures (PFMI).² The second section ('Disclosure Report on the SIC system') shows how the relevant CPMI-IOSCO principles apply to the SIC system. In addition, this section includes a list of publicly available information on the SIC system.

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¹ The first section of the publication is based on and replaces *The Swiss Interbank Clearing (SIC) payment system* report by Jürg Mägerle and Robert Oleschak (SNB, 2019). It provides updated information on the SIC system.

² Committee on Payment and Settlement Systems (since 2014 Committee on Payments and Market Infrastructures, CPMI) and Technical Committee of the International Organization of Securities Commissions (April 2012), *Principles for financial market infrastructures*, www.bis.org/cpmi/publ/d101a.pdf.

Executive summary

This publication describes the Swiss Interbank Clearing (SIC) payment system, via which financial institutions settle their interbank payments and a substantial part of their retail payments in Swiss francs.

The SIC system is a real-time gross payment system for interbank and retail payments in Swiss francs. Payments are settled irrevocably and with finality in central bank money. Participants in the SIC system are mainly banks, but also insurance companies, securities firms and other financial institutions. It is a cooperation between the Swiss National Bank and the financial centre and is operated on behalf of the SNB by SIX Interbank Clearing Ltd (SIC Ltd). The SNB also acts as system manager of the SIC system.

The legal basis for the SNB's role is its statutory task to facilitate and secure the operation of cashless payment systems. The SNB is also responsible for oversight of the SIC system.

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Report on the SIC system

1 IMPORTANCE

The SIC system is the payment system in Switzerland which financial institutions use to settle their interbank payments and a substantial part of their retail payments in Swiss francs. It plays a central role in the settlement of payments in central bank money both for the financial system and for the Swiss economy as a whole. Owing to its importance for the functioning of the financial system, the SNB classifies the SIC system as a systemically important financial market infrastructure (FMI).

In 2023, a total of 968 million payments with the value of CHF 57,118 billion were settled via the SIC system.³ This corresponded to a daily average of 3.9 million payments with a total value of CHF 228 billion. On peak days, up to 10.6 million payments were settled via the SIC system, with turnover of up to CHF 420 billion (cf. table 1 as well as charts 1 and 2).

Table 1

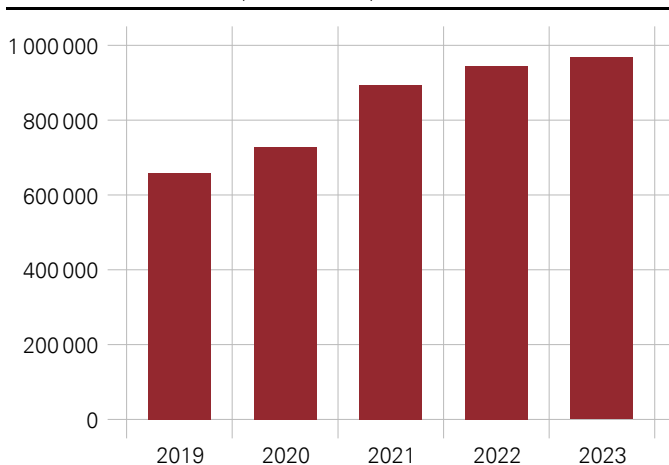
TRANSACTIONS IN THE SIC SYSTEM – NUMBER AND TURNOVER

		2019	2020	2021	2022	2023
Number of transactions						
Number	(in thousands)	658 262	728 223	893 425	943 703	967 641
Daily average	(in thousands)	2 623	2 867	3 490	3 715	3 855
Peak daily value for year	(in thousands)	7 484	9 286	9 909	12 388	10 595
Turnover						
Turnover	(in CHF billions)	39 664	45 266	41 810	50 710	57 188
Daily average	(in CHF billions)	158	178	163	200	228
Peak daily value for year	(in CHF billions)	240	276	247	403	420

Chart 1

TRANSACTIONS IN THE SIC SYSTEM

Number of transactions (in thousands)

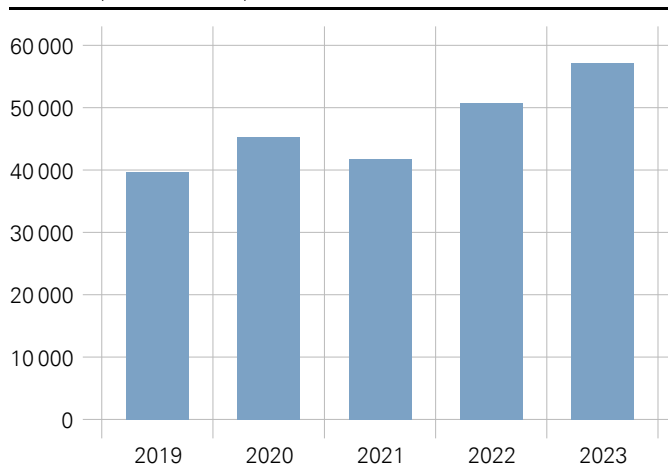


Source(s): SNB

Chart 2

TRANSACTIONS IN THE SIC SYSTEM

Turnover (in CHF billions)



Source(s): SNB

³ Since November 2023, the SIC system also comprises an instant payments service in which initial transactions are being settled for test purposes. For the purposes of this report, these transactions are listed together with the previous types of transactions in the SIC system.

2 PRINCIPAL FEATURES

REAL-TIME GROSS SETTLEMENT

The SIC system is a real-time gross settlement system (RTGS system) for payments in Swiss francs. Payments are settled continuously and individually. This distinguishes the SIC system from deferred net settlement systems, which only settle net balances of incoming and outgoing payments at predefined intervals.

SERVICES IN SIC SYSTEM

Since November 2023, in addition to the existing RTGS service, the SIC system now also comprises an instant payments (IP) service. Both services are based on gross settlement in real-time. The RTGS service allows the settlement of both interbank and retail payments. Retail payments in the RTGS service are generally settled with a delay – after a payment order is entered at a commercial bank, the bank determines when it will deliver the payment to the SIC RTGS service. This is often only carried out on the next bank working day. By contrast, the IP service allows the settlement of instant payments, i.e. time-critical retail payments that are processed around the clock with immediate and final transfer of value throughout the entire settlement chain. The amount is thus made available for use by the final recipient within seconds. Provided their bank offers instant payments, the bank customer may choose whether their retail payments are settled via the IP service or the RTGS service.

SETTLEMENT IN CENTRAL BANK MONEY

Payments in the SIC system are settled in central bank money. The deposits held by SIC participants in their sight deposit accounts at the SNB are used as the means of payment in the SIC system. Like banknotes, the sight deposits are legal tender and constitute a claim on the SNB. Sight deposits therefore entail no credit or counterparty risk. Technically speaking, every SIC participant holds a sight deposit account with the SNB and one settlement account per service.

SETTLEMENT FINALITY

Every payment in the SIC system is settled individually, irrevocably and with finality. A payment order is regarded as executed irrevocably and with finality as soon as the debit has been made to the settlement account.⁴ This distinguishes the SIC system from clearing systems which process payments continuously and individually but do not settle them irrevocably and with finality.

UNIFIED SETTLEMENT

While the IP service exclusively settles retail payments, the SIC system's RTGS service settles both interbank payments and retail payments in Swiss francs. Interbank payments are payments between financial institutions and third-party system payments.⁵ Retail payments are mainly initiated by payment instruments such as bank transfers, direct debits or eBill invoices. With interbank payments, by contrast, both the payee and payer are a financial institution and the payments are made on behalf and for the account of the financial institutions themselves.

Since it came into operation in 1987, the SIC system's unified settlement of interbank and retail payments has set Switzerland apart from other countries, where the two types of payment are generally settled in separate systems and RTGS systems are usually only used for interbank payment settlements.

While interbank payments make up most of the turnover in the SIC system, retail payments dominate in terms of the number of transactions. Interbank payments are also known as large-value payments: the average amount per interbank payment transaction significantly exceeds that of retail payment transactions. Interbank payments thus represent around only 2% of all transactions but 89% of turnover. Retail payments, by contrast, make up just 11% of turnover but roughly 98% of all transactions. The share of retail payments has been increasing over recent years⁶ (cf. table 2 as well as charts 3 and 4).⁷

⁴ In line with the special requirement for finality in the National Bank Ordinance (art. 25a para. 1 NBO), a systemically important payment system must determine the point in time after which a transaction is considered to be executed irrevocably and with finality.

⁵ Besides institutions which make payments for themselves and on behalf of their customers, third-party system operators (e.g. securities settlement systems) are also SIC system participants. The latter can directly debit and credit the SIC settlement accounts of other SIC participants (cf. chapter 3).

⁶ The relative increase in the number of retail payments is primarily due to the fact that, in 2017, PostFinance began to gradually migrate its payment transactions with other banks to the SIC system. This migration was completed in March 2021.

⁷ As only a few transactions with small amounts have been made for testing purposes in the IP service so far, these are not reported separately.

In the case of both interbank and retail payments, the majority of transactions are for relatively small amounts, while a few are comparatively very large. An analysis of the average and median values illustrates this.⁸ For both types of payment, the average value significantly exceeds the median (cf. table 2 as well as charts 5 and 6).

Table 2

TRANSACTIONS IN THE SIC SYSTEM – INTERBANK AND RETAIL PAYMENTS

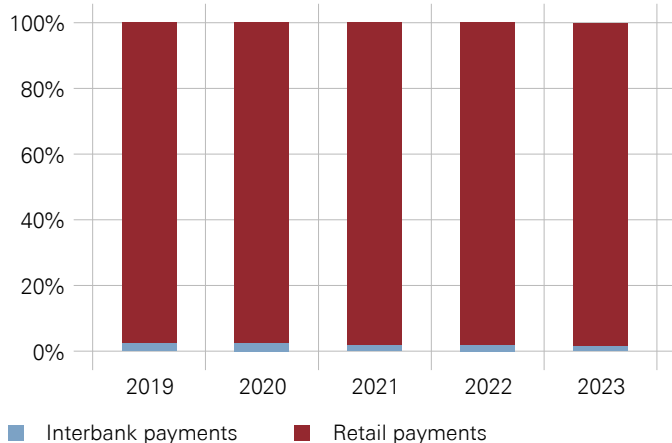
		2019	2020	2021	2022	2023
Number of transactions						
Share of interbank payments	(in %)	2.4	2.5	1.9	1.9	1.8
Share of retail payments	(in %)	97.6	97.5	98.1	98.1	98.2
Turnover						
Share of interbank payments	(in %)	88.6	89.7	88.3	88.7	89.3
Share of retail payments	(in %)	11.4	10.3	11.7	11.3	10.7
Average amount per transaction – total	(in CHF)	60 256	62 160	46 797	53 735	59 100
Average amount per transaction – interbank payments	(in CHF)	2 203 077	2 232 365	2 146 081	2 513 903	2 959 375
Average amount per transaction – retail payments	(in CHF)	7 068	6 539	5 590	6 191	6 422
Median – total	(in CHF)	334	310	282	281	291
Median – interbank payments	(in CHF)	14 820	12 109	12 277	11 656	11 527
Median – retail payments	(in CHF)	316	300	270	269	280

⁸ The median is also referred to as the middle value: 50% of transactions are for a lower amount than the median and 50% are for a higher amount.

Chart 3

TRANSACTIONS IN THE SIC SYSTEM

Share of transactions – interbank and retail payments

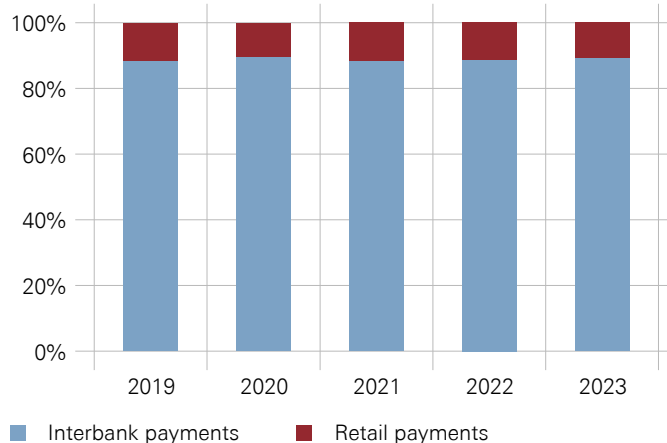


Source(s): SNB

Chart 4

TRANSACTIONS IN THE SIC SYSTEM

Share of turnover – interbank and retail payments

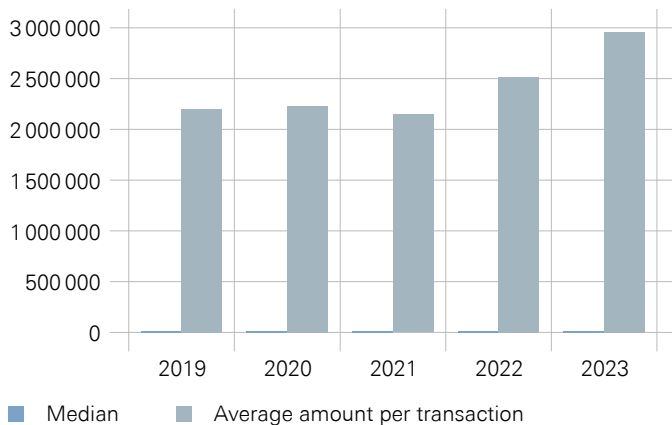


Source(s): SNB

Chart 5

TRANSACTIONS IN THE SIC SYSTEM

Median and average amount per transaction – interbank payments (in CHF)

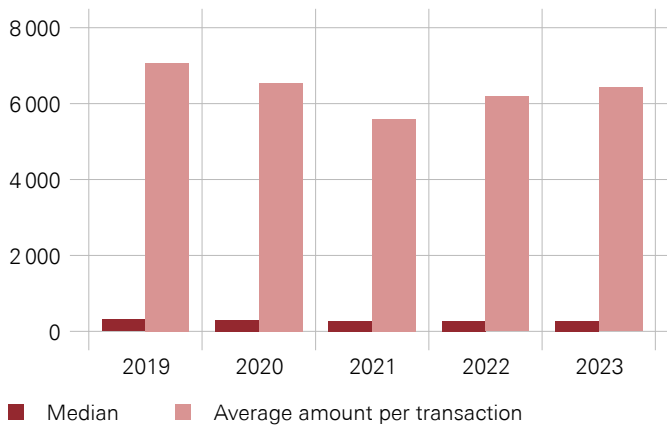


Source(s): SNB

Chart 6

TRANSACTIONS IN THE SIC SYSTEM

Median and average amount per transaction – retail payments (in CHF)



Source(s): SNB

3 PARTICIPATION

TYPES OF SIC PARTICIPATION

The primary type of admission is ‘SIC participation with a sight deposit account’. As a general rule, SIC participants in this admission type hold one settlement account per service and one sight deposit account at the SNB. This type of admission allows participants to enter payments for themselves and on behalf of their customers in the SIC system. It is used particularly by banks, securities firms, licensed fintech companies, insurance companies and FMIs. Participants using the RTGS service to settle retail payments must also be able to receive payments via the IP service and must therefore also hold an IP settlement account.⁹ Participants settling only interbank payments can deselect retail payments in the SIC system (this applies to both payments made and payments received).

The second type of admission is ‘SIC participation without a sight deposit account’. This participation type applies to third-party system operators which are able to effect debits and credits to the RTGS settlement accounts of other SIC participants, provided the said third-party system operator has received one-off authorisation in this respect from the SIC participant in question. This special type of admission is primarily used by service providers in the interbank area. In the following, third-party system operators and SIC participants are reported separately.

In principle, the SIC system only permits direct participation, i.e. participation is effected without another SIC participant acting as intermediary.¹⁰ This distinguishes the SIC system from many other payment systems operated by central banks and in which only a few banks participate directly, while acting as an interface for other institutions.¹¹

PARTICIPANTS IN THE SIC SYSTEM – BANKS AND OTHER FINANCIAL INSTITUTIONS

Banks are the main participants in the SIC system, but other financial institutions also participate. The majority of the current 302 participants (as at end-2023 which make payments for themselves and on behalf of their customers are banks (cf. chart 7). Some participants are domiciled abroad.

In addition, six third-party system operators are currently admitted to the SIC system (as at end-2023). For instance, the SIC system is linked to the SECOM securities settlement system of the central securities depository SIX SIS Ltd, whereby SIX SIS Ltd participates in the SIC system as a third-party system operator. As a result of this link, it is possible to settle the delivery and payment obligations arising from the purchase or sale of securities on a delivery-versus-payment basis. The delivery of securities takes place in SECOM, while SIX SIS Ltd as third-party system operator triggers the corresponding payment from the payer’s SIC account, which is simultaneously settled in the SIC system.

Chart 7

SIC PARTICIPANTS

Number of participants by category



Source(s): SNB

⁹ All participants with retail payments in the RTGS service must comply with this obligation by November 2026 at the latest.

¹⁰ With one exception: a FINMA-recognised clearing house. It serves as an interface to the SIC system for its member banks.

¹¹ For a general overview of direct and indirect participation, cf. Committee on Payment and Settlement Systems, 1997, *Real-time Gross Settlement Systems*, pp. 13–14, www.bis.org/cpmi/publ/d22.htm.

PAYMENT-VERSUS-PAYMENT SETTLEMENT OF FOREIGN EXCHANGE TRANSACTIONS IN THE RTGS SERVICE

One important FMI participating in the RTGS service is the Continuous Linked Settlement (CLS) payment system. CLS participants can settle foreign exchange transactions in a range of currencies via accounts at CLS Bank. CLS participants, who are simultaneously participants in the RTGS service, thus have the possibility to directly transfer funds for foreign currency purchases, for example, via the SIC system to their Swiss franc accounts at CLS Bank, where the Swiss franc amount is exchanged for the traded foreign currency (payment-versus-payment settlement).

4 GOVERNANCE AND ORGANISATION

COOPERATION

The SIC system is a cooperation between the SNB and the financial centre. It is operated on behalf of the SNB by SIC Ltd. The collaboration between the SNB and SIC Ltd in the operation, maintenance and further development of the SIC system is governed by contract (cf. chapter 5). SIC Ltd is a subsidiary of SIX Group Ltd (SIX), which in turn is owned by a large number of national and international financial institutions.¹² The SNB has a seat on the Board of Directors of SIC Ltd, together with SIX and financial institution representatives.¹³

SIC SYSTEM AS A CONTRIBUTION TO THE SNB'S MANDATE

One of the SNB's statutory tasks is to facilitate and secure the operation of cashless payment systems (art. 5 para. 2 (c) of the National Bank Act, NBA). To this end, it acts as commissioning party and system manager of the SIC system. The SNB acts according to the principle that the core payments infrastructure must meet the highest security standards as well as banks' specific requirements regarding efficiency. The SNB, together with SIC participants, aims to continuously develop the SIC system to ensure security and efficiency on a long-term basis.

SHARED RESPONSIBILITY FOR SIC SYSTEM OPERATION, MAINTENANCE AND DEVELOPMENT

As SIC system manager, the SNB's responsibilities include setting the participation criteria (cf. chapters 3 and 5). Furthermore, the SNB administers participants' sight deposit accounts, issues settlement rules, sets the times when operations begin and end, steers the daily processes, provides the liquidity necessary for payment settlement, and is responsible for crisis management in the event of disruptions or incidents.

As system operator, SIC Ltd is in charge of operations and the technical monitoring of day-to-day business. It develops and maintains the software, manages the data files, operates the data centres and maintains the administrative rules of conduct.

¹² Approximately one-third of the shares of SIX Group Ltd are owned by the Swiss big banks. The remaining shares are held by commercial and investment banks, cantonal banks, regional and Raiffeisen banks, private banks and other banks. SIX and its group companies also own some shares themselves. The shares of SIX are distributed such that no single owner or type of bank has an absolute majority. A shareholders' agreement ensures that the ownership structure remains stable over the long term. Shares may only be transferred on a limited basis and, if the shareholder structure changes, the Board of Directors must approve any such change. Information on the breakdown of SIX Group Ltd shareholdings and information on the organisation, Board of Directors and Executive Board is available on the [SIX website](#).

¹³ More information on SIC Ltd, including its Board of Directors and Executive Committee is available on the [SIC Ltd website](#).

5 LEGAL AND REGULATORY FRAMEWORK CONDITIONS

LEGAL FRAMEWORK

The basis for the SNB's role as commissioning party and system manager of the SIC system is its statutory task to facilitate and secure the operation of cashless payment systems (art. 5 para. 2 (c) NBA). The SNB has entrusted the operation of the SIC system to SIC Ltd. The rights and obligations of the SNB as the commissioning party and system manager, and of SIC Ltd as operator of the SIC system, are governed by contract.

The SNB decides on admission to the SIC system. The admission criteria are set out in its [Instruction sheet on admission to the SIC system and sight deposit accounts](#). As a general rule, to be admitted participants must make a significant contribution to the fulfilment of the SNB's tasks, and their admission must not pose any major risks. The instruction sheet also describes the admission categories, the process for applying for admission and the criteria for suspension and exclusion from the SIC system.

Participation in the SIC system has a legal basis in agreements between the different parties. Technical regulations, in particular the SIC service handbooks¹⁴ and directives (such as circulars and implementation guidelines)¹⁵ provide more specific detail on the areas governed by these agreements. In addition, the [Terms of Business of the SNB](#) also apply. The individual agreements between SIC participants, the SNB and SIC Ltd are subject to Swiss law.

REGULATORY FRAMEWORK

The SIC system is overseen by the SNB. Pursuant to art. 4 para. 3 of the Financial Market Infrastructure Act (FinMIA), the SIC system is not subject to authorisation or supervision by the Swiss Financial Market Supervisory Authority FINMA; it is therefore subject to the provisions of arts. 22–34 of the NBO. These requirements are derived from the [Principles for financial market infrastructures \(PFMI\)](#). According to the PFMI guidelines (cf. table 1, column 1, p. 14), 18 of the 24 principles apply to payment systems. They include requirements to regularly disclose important information.

The SNB has a dual role with respect to the SIC system. On the one hand, it commissions the operation of the SIC system and assumes the role of system manager. On the other, it oversees the SIC system. This dual mandate reflects the division of tasks between Department II and Department III within the SNB. While Department III assumes the commissioning agent and system manager roles, Department II is responsible for overseeing the SIC system.

The oversight of the SIC system is part of the SNB's statutory task to contribute to the stability of the financial system. The NBA (art. 5 para 2 (e) and arts. 19–21) requires the SNB to oversee systemically important central counterparties, central securities depositories and payment systems in accordance with art. 22 of the FinMIA. The NBO lays down the details of the oversight of systemically important FMIs.

¹⁴ Currently, there is a separate handbook for each service. These are to be merged in the future.

¹⁵ The technical regulations are available to participants on the SIC Ltd extranet.

6 TECHNICAL FEATURES

CLEARING DAYS

A clearing day refers to the period in the SIC system that extends from the daily start-up release to the start of day-end processing (DEP). It is therefore time-shifted towards the current calendar day, which allows for the clearing day to close during working hours.

The SIC system has five clearing days per week. The clearing day changes after end-of-day processing in the RTGS service (i.e. shortly after 18.15). While the clearing days ‘Tuesday’ to ‘Friday’ begin on the preceding calendar day, the clearing day ‘Monday’ begins on Friday already. Chart 8 illustrates a week in the SIC system, including the schedule of clearing days.

OPERATING HOURS

The operating hours describe when a service in the SIC system is available for the settlement of payments. Due to the different requirements of the RTGS service and the IP service, their operating hours are also different (cf. chart 8).

RTGS service

The RTGS service processes payments on weekdays on an almost round-the-clock basis. It is closed for approximately half an hour at about 18.15 in order for the entries to be closed for the previous clearing day. At the weekend it is closed for a longer period of time from

Saturday midday (12.00 noon) to Sunday evening (18.00). This closure period primarily serves as a maintenance window, during which work can be carried out, in particular, on the technical infrastructure.

IP service

In contrast to the RTGS service, the IP service is available round the clock. The technical architecture of the IP service allows maintenance to be carried out during operating hours.

CLEARING DAY PROCESS

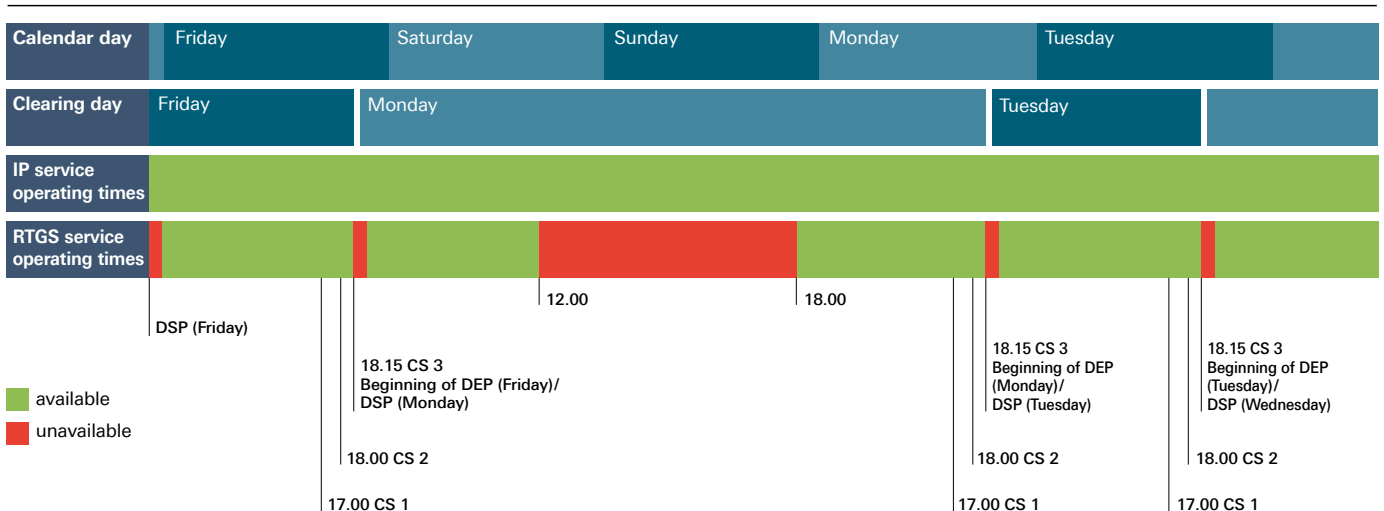
RTGS service

The clearing day begins with daily start-up processing (DSP): SIC participants’ sight deposits are transferred from their SNB sight deposit account to their RTGS settlement account in the SIC system. The RTGS service is then ready for the settlement of participants’ payments.

Towards the end of the clearing day, there are three clearing stops (CS) in the RTGS service which allow an orderly end of day for each type of payment (cf. chart 8). While all payment types can be submitted until clearing stop 1 at 17.00, only interbank payments are admitted between clearing stop 1 and clearing stop 2 at 18.00. In the interval between clearing stops 1 and 2, SIC participants can procure liquidity on the money market from other financial market participants to settle any outstanding payments. Between 18.00 and 18.15 (i.e. between clearing stops 2 and 3), participants also

Chart 8

A WEEK IN THE SIC SYSTEM



have the opportunity to obtain liquidity from the SNB via special-rate repo transactions (the ‘liquidity-shortage financing facility’) in order to settle any remaining outstanding payments.¹⁶

End-of-day processing then begins. The balances on participants’ RTGS settlement accounts are transferred to the corresponding sight deposit accounts.

IP service

During RTGS service operating hours, participants can replenish their IP settlement account themselves by means of a liquidity transfer from their RTGS settlement account. Likewise, participants can also transfer liquidity from their IP settlement account back into the RTGS service as required.

The change of clearing day in the IP service is effected after end-of-day processing in the RTGS service. This ensures that the same clearing day applies in both services. Unlike the RTGS service, there are no clearing stops in the IP service. In order to allow uninterrupted settlement, balances remain on the IP settlement accounts during the change of clearing day. The balances on the IP settlement accounts constitute part of the participants’ sight deposit balances reported by the SNB.

SNB STANDING FACILITIES

Liquidity drawn in the RTGS service under the liquidity-shortage financing facility must be repaid with any applicable interest on the following clearing day (overnight). In addition to offering the liquidity-shortage financing facility, the SNB also facilitates payment transactions by providing SIC participants with interest-free liquidity during a clearing day through repo transactions (the ‘intraday facility’). SIC participants can notify the SNB of their intraday liquidity requirements between 07.30 and 17.55 on the preceding bank working day. Between 07.30 and 16.45 on the current clearing

day, SIC participants have another opportunity to obtain additional intraday liquidity. The funds obtained must be repaid to the SNB by the end of the same clearing day at the latest. In this way, the sight deposit balances at the end of the day are not affected. The SNB charges penalty interest in the event of late repayment.

SETTLEMENT ALGORITHM

RTGS service

Payments in the SIC system are settled in the order in which they are submitted. In the RTGS service, however, this can be overridden by the allocation of a priority, for example. The RTGS service settlement algorithm helps to prevent gridlocks and to reduce the need for liquidity. Should a system-wide settlement gridlock still occur, the algorithm contains a mechanism which, in some cases, can resolve this kind of gridlock.¹⁷

A new submitted payment is first placed in a wait file. If there is sufficient cover in the remitting party’s RTGS settlement account, the payment order usually only remains there for a few seconds and is subsequently settled. If cover is insufficient, the payment remains in the wait file until sufficient funds become available. SIC participants can manage the settlement sequence of their payments by assigning a priority to a payment.¹⁸

Payments in the wait file can be cancelled by the remitting party at any time up to clearing stop 1 (17.00) without the consent of the recipient. Payments remaining in the wait file at the end of the clearing day due to insufficient cover are automatically deleted and must be resubmitted by the remitting party. The designated recipient of unsettled payments is in this case entitled to charge the remitting party a penalty fee.¹⁹

¹⁶ The SNB invites counterparties to draw liquidity under the liquidity-shortage financing facility on bank working days. The tender procedure lasts 15 minutes from clearing stop 2 (18.00).

¹⁷ The mechanism checks whether there is a pending counterpayment from a receiving participant to a sending participant at the front of the receiving participant’s wait file. If this is the case, and if sufficient cover is available, the payments are offset simultaneously and on a bilateral basis.

¹⁸ For settlement, the first step is to determine the next highest-priority payment to be settled for each SIC settlement account. Across all accounts, the first such payment submitted is then settled (provided that sufficient cover is available). The process is then repeated from the beginning.

¹⁹ A recipient can see submitted payments addressed to them before they are settled. This information can be used by the recipient to plan their own liquidity management. If the expected payment is not received, it is possible that the recipient might not be able to settle their own payments. In such cases, a recipient is to be compensated by means of a penalty fee.

IP service

In principle, instant payments are settled within ten seconds. If a payment exceeds a certain length of time, it is cancelled.

When a new instant payment is entered, the corresponding amount is initially reserved by the IP service. The payment message is then sent to the instructed SIC participant (the recipient bank). If the recipient bank is prepared to receive the payment, it sends a positive response to the IP service.²⁰ The payment is then settled. The sender bank is obliged to inform the payer of a successful payment.²¹

As in the RTGS service, IP payments can only be settled if sufficient cover is available in the instructing participant's IP settlement account.

COMMUNICATION AND MESSAGING STANDARDS

Participants have the choice between the proprietary Messaging Gateway (RTGS service and IP service) or SWIFT²² (RTGS service) as their default gateway to the SIC system. Depending on the gateway, payment instructions are transmitted either via the closed networks Finance IPNet²³ and SSFN (Messaging Gateway) or via the internationally widespread SWIFT network, SWIFTNet. If the SIC participant uses a service bureau to connect to the SIC system, the message exchange with the service bureau must fulfil the same requirements as for the message exchange with the SIC system by the end of 2024 at the latest. The standard for payment messages in the SIC system is ISO 20022.

Via the web portal, SIC participants can also carry out certain tasks such as checking the current balance on a SIC settlement account or altering the priority of a payment in the RTGS service wait queue.

²⁰ If the recipient bank sends a negative response, the payment is cancelled. One possible reason for a negative response is, for example, an invalid account number for the final recipient.

²¹ In the event of an unsuccessful payment, the transmitting bank informs the customer immediately and – in compliance with legal requirements – also of the reason.

²² Society for Worldwide Interbank Financial Telecommunication

²³ Finance IPNet will be decommissioned as a gateway to the SIC system at the end of June 2024.

Disclosure Report on the SIC system²⁴

As a systemically important financial market infrastructure (FMI), the SIC system is subject to the CPMI-IOSCO Principles for financial market infrastructures (PFMI).²⁵ The Disclosure Report, together with the first section of this publication ‘Report on the SIC system’, provides information on the SIC payment system in accordance with the provisions of the National Bank Ordinance (NBO) and the PFMI. With this publication, the Swiss National Bank (Department III) is complying with PFMI principle 23 and art. 23a para. 2 NBO.

The structure of the Disclosure Report is based on the CPMI-IOSCO guidelines.²⁶ Chapter 1 lists the main developments to the SIC system in 2023; chapter 2 explains how each of the relevant CPMI-IOSCO principles is addressed in the SIC system; and chapter 3 provides a list of publicly available information on the SIC system. Content from the first section of this publication (‘Report on the SIC system’) is repeated or set out in more detail where appropriate for the disclosure.

Institutions responsible for FMIs: Swiss National Bank (Department III) and SIX Interbank Clearing Ltd

Jurisdiction in which the FMI operates: Switzerland

Authorities which regulate, monitor or oversee the FMI: Oversight by the SNB (Department II) in accordance with the Financial Market Infrastructure Act (FinMIA), the National Bank Act (NBA) and the National Bank Ordinance (NBO)

Institution responsible for Disclosure Report: SNB (Department III)

Publication date of this Disclosure Report: May 2024

The Disclosure Report is published as part of ‘The Swiss Interbank Clearing (SIC) payment system’ report and is available at: www.snb.ch, [The SNB/Payment transactions/Report on the SIC System and Disclosure Report](https://www.snb.ch/eng/inf/inf/Payment%20transactions/Report%20on%20the%20SIC%20System%20and%20Disclosure%20Report).

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²⁴ Disclaimer: This is an English translation of a German original. Only the German original text is authoritative.

²⁵ Committee on Payment and Settlement Systems (since 2014 Committee on Payments and Market Infrastructures, CPMI) and Technical Committee of the International Organization of Securities Commissions (April 2012), *Principles for financial market infrastructures*, www.bis.org/cpmi/publ/d101a.pdf.

²⁶ Committee on Payment and Settlement Systems (since 2014 Committee on Payments and Market Infrastructures, CPMI) and Technical Committee of the International Organization of Securities Commissions (December 2012), *Principles for financial market infrastructures: Disclosure framework and Assessment methodology*, www.bis.org/cpmi/publ/d106.pdf.

1 MOST IMPORTANT DEVELOPMENTS IN 2023

The most recent Disclosure Report was published in June 2023. The following important developments took place in 2023:

SIC5 AND INSTANT PAYMENTS

In 2023, the SNB and SIX Interbank Clearing Ltd reached an important milestone in the SIC5 project to further develop the SIC system. Three years after the project launch, the technical conditions for instant payments were put in place in November 2023 with the successful go-live of the IP service on the SIC5 platform. All SIC participants active in retail payment transactions must be able to receive instant payments by the end of 2026. For the largest financial institutions in retail payments, this requirement will already apply from August 2024. The next project milestone is set for 2026, when the SIC system's regular RTGS service will also be migrated to the new platform.

SECURE SWISS FINANCE NETWORK

Since June 2022, the Secure Swiss Finance Network (SSFN) has been approved as a means of connecting to the SIC system in addition to the existing Finance IPNet. The SSFN uses a routing architecture developed at ETH Zurich known as SCION (Scalability, Control and Isolation on Next-Generation Networks). Since the network's approval, the SNB has been using the SSFN for its own connection to the SIC system. In 2024, SIX will decommission Finance IPNet for all services. All participants with a Finance IPNet connection are therefore requested to replace it. The SSFN is generally mandatory for customers with a direct connection to the SIC system. SIC participants that use a service bureau to connect to the SIC system (rather than connecting directly) are also recommended to use the SSFN to communicate with their service bureau.

In February 2023, the SCION Association was established. The association focuses on the development and standardisation of SCION technology and the certification of providers using and selling SCION. It also supports the national and international deployment of the technology. As a founding member and non-voting observer, the SNB plays an advisory role on the SCION Association's board.

2 APPLICATION OF THE CPMI-IOSCO PRINCIPLES

According to the [PFMI guidelines \(cf. table 1, p. 14\)](#), 18 of the 24 principles apply to payment systems. The PFMI are implemented in Switzerland through provisions in the Financial Market Infrastructure Act (FinMIA), the Financial Market Infrastructure Ordinance (FinMIO) and the National Bank Ordinance (NBO). Pursuant to art. 4 para. 3 FinMIA, the SIC system is not subject to authorisation or supervision by the Swiss Financial Market Supervisory Authority FINMA; it is therefore subject to the provisions of arts. 22–34 NBO. Depending on the principle in question, the SNB and/or SIX Interbank Clearing Ltd (SIC Ltd) is/are responsible for ensuring compliance with the requirements.

Explanations of how each of the 18 relevant CPMI-IOSCO principles are applied to the SIC system are set out on the following pages.

Principle 1: Legal basis

A financial market infrastructure (FMI) should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.

Principle 2: Governance

An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.

Principle 3: Framework for the comprehensive management of risks

An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.

Participation in the SIC system is based on bilateral agreements between the SIC participant and the SNB on the one hand, and between the SIC participant and SIC Ltd on the other. These agreements are supplemented with technical regulations, namely the SIC service handbooks. The SNB's 'Terms of Business' also apply and are published on the SNB website at www.snb.ch, [The SNB/Legal basis/Terms of Business](#).

These documents govern the contractual relations between the SNB, SIC Ltd and the SIC participants, and specify their rights and obligations. The SIC contracts, i.e. the individual agreements between SIC participants, the SNB and SIC Ltd, are subject to Swiss law. The place of jurisdiction is Zurich, Switzerland.

Pursuant to art. 4 para. 3 FinMIA, the SIC system is not subject to FINMA authorisation or supervision. It is subject to the provisions of arts. 22–34 NBO, through which the PFMI are implemented for systemically important FMIs in Switzerland.

The operation of the SIC system has been entrusted to SIC Ltd, a wholly-owned subsidiary of SIX Group Ltd (SIX). SIX is an unlisted joint-stock company owned by a large number of financial institutions. Ownership is spread across a broad range of shareholders, thus ruling out the possibility of any individual category of bank having an absolute majority. Any change to the shareholder structure would require the approval of the Board of Directors of SIX. More information on the organisation, shareholders, Board of Directors and Executive Board can be found on the [SIX website](#).

The provision of services for the SIC system is laid down in an agreement between the SNB and SIC Ltd. Furthermore, the SNB has a seat on the Board of Directors of SIC Ltd. The SNB is also in regular contact with SIX. The division of tasks between the SNB and SIC Ltd is described in [chapter 4](#) of the first section of this publication. More information on the Board of Directors and the Executive Committee, as well as the Annual Report, can be found on the [SIC Ltd website](#).

SIC Ltd runs a comprehensive risk management operation and reports on it regularly to the SNB in accordance with art. 36 NBO. SIC Ltd's risk management operation is reviewed and updated annually by its Executive Committee and approved by its Board of Directors.

Principle 4: Credit risk

An FMI should effectively measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. [...]

Principle 5: Collateral

An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.

Principle 7: Liquidity risk

An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.

As the system operator, SIC Ltd is not exposed to direct credit risk in the event of participant default (other than loss of revenue). The SNB provides intraday and liquidity-shortage financing facilities only against collateral (cf. principle 5).

In addition to the FMI's credit risk covered by principle 4, payment systems also entail credit risk between participants, as well as the risk of default by the settlement institution in the case of indirect participation. In the SIC system there are no credit risks between SIC participants since all payments are settled individually, irrevocably and with finality. The SIC system reduces credit risk vis-à-vis settlement institutions by minimising indirect participation and providing direct access for a wide range of participants.²⁷

The SNB gives SIC participants the possibility of using intraday and liquidity-shortage financing facilities via the SIX Repo Ltd trading platform. The SNB provides these facilities only against liquid, high-quality collateral. Procedures for this, and information on eligible collateral, are set out in the 'Guidelines of the Swiss National Bank on Monetary Policy Instruments' and the relevant instruction sheets, published on the SNB website at www.snb.ch, [The SNB/Legal basis/Guidelines and regulations](#).

The SIC system only executes payments if sufficient cover is available. If this condition is not met, the SIC system either places the payment in a wait file until sufficient cover is available (RTGS service) or cancels it (IP service). This means that SIC Ltd is not exposed to liquidity risk through the settlement of transactions in the SIC system.

In addition to the FMI's liquidity risk addressed by principle 7, payment systems also entail the risk that a system participant does not have enough liquidity to meet its financial obligations when they fall due (or at best only later). Various measures help to keep the liquidity risk for SIC system participants and the danger of a system gridlock as low as possible.

First, participants in the RTGS service can access different sources of liquidity, which allows them to react to fluctuating liquidity situations quickly and flexibly. The SNB provides SIC participants with interest-free liquidity via the intraday facility. This liquidity must be repaid to the SNB by the end of the same clearing day at the latest. Through the liquidity-shortage financing

²⁷ In principle, the SIC system only permits direct participation. This means that participation is effected without another SIC participant acting as intermediary. With one exception: a FINMA-recognised clearing house. It serves as an interface to the SIC system for its member banks.

Principle 8: Settlement finality

An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.

Principle 9: Money settlements

An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimise and strictly control the credit and liquidity risk arising from the use of commercial bank money.

facility, the SNB provides SIC participants with call money to enable them to bridge short-term liquidity bottlenecks. Both facilities are offered only against collateral (repo transactions).

Second, the SIC system supports the efficient use and active management of the available liquidity. Participants are thus able to check their account balances as well as their incoming and outgoing payments at any time. In the RTGS service, participants can also manage the payments pending in the wait file and reserve liquidity for certain payments.

Furthermore, system-wide liquidity requirements in the RTGS service are reduced by dividing amounts and applying the settlement algorithm. The RTGS service rules require participants to split payments in excess of CHF 100 million into smaller tranches wherever possible. This helps to prevent potential gridlocks in the wait file. The settlement algorithm in the RTGS service includes a mechanism to resolve system-wide gridlocks. The mechanism checks whether there is a pending counterpayment from a receiving participant to a sending participant at the front of the receiving participant's wait file. If this is the case, and if sufficient cover is available, the payments are offset simultaneously and on a bilateral basis.

The SIC system is a real-time gross settlement system. This means payment orders are executed individually, irrevocably and with finality in central bank money in real time via the participants' RTGS or IP settlement accounts (provided that sufficient cover is available).

The SIC system only settles payments using balances on sight deposit accounts at the SNB, i.e. with central bank money. Settlement is conducted via the RTGS and IP settlement accounts.

Principle 12: Exchange-of-value settlement systems

If an FMI settles transactions that involve the settlement of two linked obligations (for example, securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.

Principle 13: Participant-default rules and procedures

An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

Principle 15: General business risk

An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialise. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.

Principle 16: Custody and investment risks

An FMI should safeguard its own and its participants' assets and minimise the risk of loss on and delay in access to these assets.

An FMI's investments should be in instruments with minimal credit, market, and liquidity risks.

According to the PFMI (cf. table 1, p. 14), this principle applies to payment systems. It is implemented in Switzerland via art. 25b NBO, but applies to SIX SIS Ltd as the operator of the securities settlement system SECOM rather than to the SIC system.

SIC Ltd and the SNB have established procedures for managing the default of one or more SIC participants. The SNB decides on access to the SIC system and on the suspension or exclusion of a participant. The SNB may terminate access to the SIC system with immediate effect (exclusion) or temporarily exclude a participant (suspension) under the following circumstances: if the participant no longer fulfils the conditions for participation; if insolvency law measures have been imposed against the participant; if the participant is in material breach of either the contractual provisions or the associated regulations; or if a case arises that the SNB assesses as posing a particular risk to the SIC system.

SIC Ltd's business risks are identified in its recovery plan. The procedures and key indicators have been defined. These indicators are continually monitored and the defined measures can, if needed, be put into action promptly.

SIC Ltd holds sufficient assets to function as a going concern for at least six months in accordance with art. 31 para. 2 NBO. Should further assets be required, the measures possible are described in the recovery plan and can be implemented without delay.

The assets in the SIC system are exclusively deposits held by SIC participants on their sight deposit accounts at the SNB, and are thus central bank money. Hence, the risk of loss for participants on their assets in the SIC system is reduced to a minimum.

As regards the risk for the SIC system in respect of its own assets, a distinction needs to be drawn between the SNB as commissioning party and SIC Ltd as operator. SIC Ltd's assets mainly comprise liquid assets, short-term claims on SIC participants, and intangible assets.

Principle 17: Operational risk

An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for timely recovery of operations and fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.

An operational disruption or indeed a temporary failure of the SIC system would greatly impair the settlement of cashless payment transactions in Swiss francs. SIC Ltd and the SNB have defined various procedures and tools to ensure that, in the event of disruption or failure, normal operations can be recovered and resumed as quickly as possible. A distinction is made between disruptions affecting one SIC participant and those that affect the SIC system as a whole.

The SIC system itself has a multi-layer backup and recovery process and a 'two data centre' strategy to ensure the continuity of operations in various different scenarios. While the IP service is constantly running in both data centres, the second instance of the RTGS service can be activated at any time in the back-up centre (cold standby). Batch processing (miniSIC) can also be started for the RTGS service if, for example, internet access is impossible. The changeover to the backup centre and batch processing are practised annually, the latter with SIC participants connected via Finance IPNet or SSFN (Messaging Gateway, cf. principle 22). SIC Ltd tests the functionality of the technical processes at least once a year. As SIC system manager, the SNB is informed of the test results.

In the event of failure of the SIC system, the SNB as system manager is also responsible for crisis management across the Swiss financial centre within the framework of the Interbank Alarm and Crisis Management Organisation (IAKO), and it defines appropriate tools for this purpose. Alongside the SNB and FINMA, the SIC participants deemed system-critical and those represented on SIC Ltd's Board of Directors participate in IAKO.²⁸ Regular exercises are conducted to test the functionality of IAKO.

In addition to the backup and recovery process at the system level, in the event of disruptions or failure affecting individual SIC participants there is the possibility of submitting and receiving RTGS transactions via a backup data carrier. Furthermore, as system manager, the SNB can directly access the SIC system acting on behalf of the SIC participant. Generally, the SIC system and its participant connections are actively monitored on both the technical and the operational level.

²⁸ The SIC RTGS Handbook defines system-critical SIC participants as being standard participants or third-party systems that meet certain quantitative or qualitative criteria in the SIC system defined by the SNB.

Principle 18: Access and participation requirements

An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.

Principle 19: Tiered participation arrangements

An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.

Principle 21: Efficiency and effectiveness

An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

Principle 22: Communication procedures and standards

An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.

The SNB decides the criteria for access to SNB sight deposit accounts and the SIC system. The participation requirements are explained in detail in the 'Instruction sheet on admission to the SIC system and sight deposit accounts' and in the SNB's 'Terms of Business', which are both available on the SNB website at www.snb.ch, [The SNB/Legal basis/Terms of Business](#).

SIC participation must be effected directly, i.e. without another SIC participant acting as intermediary. The sole exception in this regard is participation in the SIC system via a FINMA-recognised clearing house that serves as a SIC system interface for its member banks. Both the clearing house itself and the participants affiliated to it have a banking licence and are thus subject to FINMA supervision.

The SIC system, which is steered by the SNB, is a key element in the Swiss financial centre. The SNB, SIX and representatives of other financial institutions have seats on SIC Ltd's Board of Directors. Thanks to the involvement of the participants and the SNB, the efficiency and effectiveness of the system can be ensured and developed on an ongoing basis. Through their activities, other financial market bodies (such as the Swiss Payments Council, the Payments Committee Switzerland as well as the Project and IT Process Steering Committee) contribute to market requirements being taken into account.

Participants have the choice between the proprietary Messaging Gateway (RTGS service and IP service) or SWIFT (RTGS service) as their default gateway. Depending on the gateway, messages are transmitted either via the closed Finance IPNet (until 2024) and SSFN (Messaging Gateway) networks or via the internationally widespread SWIFT network, SWIFTNet (only for the RTGS service). If a service bureau is used to connect to the SIC system, by the end of 2024 at the latest, the message exchange with the service bureau must take place via a network that is as secure as that as for the message exchange between the service bureau and the SIC system. ISO 20022 is the standard for payment messages.

There is an online portal for checking settlement accounts. Data carriers and SIX's file transfer service can also be used as RTGS service gateways in an emergency.

The SIX Advanced Security Server (SASS) is used to protect the integrity of incoming and outgoing messages in the SIC system. This is a Swiss solution developed for the SIC system to provide the cryptographic components for message encryption and authentication. It meets the highest requirements for unchangeable data and secure

Principle 23: Disclosure of rules, key procedures, and market data

An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.

transmission of messages and is updated on a regular basis. For SWIFTNet participants, the SWIFT security requirements apply to transmission through to the interface with SIC Ltd.

More information on the system interfaces and interbank security systems used in the SIC system can be found on the [SIC Ltd website](#) and in the SIC service handbooks available to SIC participants.

Conditions for participation in SNB sight deposit accounts and the SIC system are detailed in the ‘Instruction sheet on admission to the SIC system and sight deposit accounts’, published on the SNB website at www.snb.ch, [The SNB/Payment transactions/Business operations](#).

All SIC participants can access the full range of SIC documents on the SIC Ltd extranet. The most important documents for SIC participants are the SIC service handbooks.

The respective figures for transactions and turnover in the SIC system are published on the [SNB’s data portal](#) and updated on a regular basis. The transaction prices for the SIC system are available on the [SIC Ltd website](#).

3 PUBLICLY AVAILABLE INFORMATION

The most important publicly available information on the SIC system is listed here.

- [Payment transactions via SIC, SNB data portal](#)
- [Instruction sheet on admission to the SIC system and sight deposit accounts](#)
- [Instruction sheet on the liquidity-shortage financing facility \(special-rate repo transactions\)](#)
- [Instruction sheet on the intraday facility](#)
- [SIX Group’s SIC system webpage](#)
- [The SNB’s SIC system webpage](#)