



Zurich, 31 August 2018

Disclosure report on the Swiss Interbank Clearing (SIC) payment system¹

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

Jurisdiction in which the financial market infrastructure (FMI) operates: Switzerland

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

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This disclosure report provides information on the Swiss Interbank Clearing (SIC) payment system, in accordance with the provisions of the NBO and the CPMI-IOSCO² 'Principles for Financial Market Infrastructures'. It is the result of collaboration between the SNB (Department III) in its capacity as the commissioning party and SIC system manager, and SIX Interbank Clearing Ltd (SIC Ltd) as SIC system operator.

¹ **Disclaimer:** This is an English translation of a German original. Only the German original text is authoritative.

² Committee on Payment and Settlement Systems and Technical Committee of the International Organization of Securities Commissions, 'Principles for Financial Market Infrastructures', April 2012, <https://www.bis.org/cpmi/publ/d101a.pdf>.



I. Summary

Swiss Interbank Clearing (SIC) is the central electronic Swiss payment system via which the participating financial institutions process their large-value payments as well as a substantial part of their retail payments in Swiss francs. The SIC system is a real-time gross payment system that is operated on behalf of the SNB by SIX Interbank Clearing Ltd (SIC Ltd), a subsidiary of SIX Group Ltd (SIX).

The SIC system plays a central role in the implementation of the SNB's tasks. First, the SIC system has a particularly significant role in providing the Swiss franc money market with liquidity (art. 5 para. 2 (a) NBA) and thus in the implementation of monetary policy. Second, it facilitates and secures the operation of cashless payments (art. 5 para. 2 (c) NBA). Third, it contributes to the stability of the financial system (art. 5 para. 2 (e) NBA). Furthermore, as a key element of the Swiss financial market infrastructure, the SIC system is also essential for the Swiss financial centre.

The SNB (Department III) steers the SIC system and ensures that there is sufficient liquidity by granting, when necessary, intraday loans to banks against collateral. Because the SIC payment system is important for the stability of the Swiss financial system, it is subject to SNB (Department II) oversight. The SNB thus plays a dual role regarding the SIC system: Department II is responsible for overseeing the SIC system and Department III is the commissioning party and system manager.

As a systemically important financial market infrastructure, the SIC system is subject to the CPMI-IOSCO 'Principles for financial market infrastructures' (PFMI). According to the [PFMI guidelines \(cf. table 1, page 14\)](#), eighteen principles apply to payment systems. In Switzerland, the PFMIs are implemented through provisions of the NBO. Pursuant to art. 4 para. 3 FMIA, the SIC system is not subject to FINMA authorisation or supervision; it is therefore subject to the provisions of arts. 22-34 NBO.

With this disclosure report, the SNB (Department III) and SIC Ltd are complying with PFMI Principle 23 and art. 23a para. 2 NBO. The structure of the report is based on the CPMI-IOSCO guidelines (cf. pp 82–83 '[Disclosure Framework and Assessment Methodology](#)').

II. Most important changes since the last disclosure

The most recent Disclosure Report was published on 1 October 2015. The following important changes have been made to the SIC system since then.

Launch of the new settlement platform SIC4: Following a complete technical overhaul, the fourth generation of the SIC system (SIC4) was rolled out on 15 April 2016. SIC Ltd took the lead on this project, closely supported by the SNB and by the SIC bodies with representatives of the major SIC participants. The new SIC system provides a purely Swiss solution for the safety and integrity of SIC message transmission. Furthermore, the implementation of SIC4 has also put in place the basis for the migration of the existing SIC messaging standard to ISO 20022.

Launch of the ISO 20022 messaging standard: The rollout of SIC4 in 2016 put in place the technical basis for the migration of SIC participants to ISO 20022. The purpose of the ISO 20022 standard is to harmonise the messages in the electronic exchange of data between different financial market participants, including in the area of payment transactions. As planned, all SIC participants using the SIC's own network (Messaging Gateway) introduced the new standard for the settlement of payment transactions in 2017. In a further step, the SIC participants using the SWIFT network (SWIFT Interact) are introducing this standard. Corporate clients of SIC participants will also switch to ISO 20022 by the end of 2018.

Change to the SIC system operating hours: SIC's operating hours were amended on 15 May 2017. Under the new arrangements, clearing stop 1 is at 5pm (previously 3pm), clearing stop 2 is at 6pm (previously 4pm) and end-of-day processing begins at 6.15pm (previously 4.15pm). This adjustment gives participants an additional two hours to submit payments with a same-day value date. SIC has thus addressed the requirement for extended settlement times for retail payments, while also harmonising the operating times with those of the European payment system 'Target2'.

Change to pricing structure: A new pricing structure came into force on 15 May 2017. The previous model featured different prices for payments with amounts above and below CHF 100,000, with transaction prices rising over the course of the settlement day. The current structure now distinguishes between bank payments (at a fixed price) and customer / third-party system payments (with transaction prices declining as the number of transactions increases). Owing to risk considerations, there are surcharges for late payments (from 1pm and from 4pm). As was the case with the previous pricing structure, the costs are borne by the sending financial institution (outgoing payments) and the receiving financial institution (incoming payments).

Migration of PostFinance payment transactions to the SIC system: In 2017, PostFinance Ltd began processing its bilateral payment transactions with other financial institutions via the SIC system. It intends to settle the bulk of its payments via the SIC system by 2021. The migration of PostFinance payments will lead to a substantial increase in the volume of payments settled by SIC and will further raise the significance of the SIC system.

Revision of SIC's recovery plan: SIC Ltd drew up a revised recovery plan for the SIC system in June 2017. This plan implements the requirements set out in the NBO aimed at ensuring the recovery or orderly wind-down of systemically important business processes in the event of impending insolvency or other scenarios jeopardising viability as a going concern.

III. Information on the SIC system

General description of the SIC system

The SIC system has been operated by SIC Ltd on behalf of the SNB since 1987. The main elements of the SIC system are the sight deposit accounts of SIC participants at the SNB, the settlement system operated by SIC Ltd, as well as organisational and administrative rules of conduct and contracts. The funds which SIC participants hold in their sight deposit accounts at the SNB serve as the means of payment. Settlements take place in the SIC system in CHF central bank money.

Organisation of the SIC system

The SIC system is steered by the SNB. It is a key element of the Swiss financial market infrastructure, which originated as a joint enterprise between Swiss financial institutions. The financial market infrastructure is operated by SIX, a company owned by a large number of financial institutions. The SNB, SIX and representatives of financial institutions have seats on SIC Ltd's Board of Directors. The [cooperation between the SNB and SIC Ltd](#) is governed by contracts and other agreements.

The SNB (Department III) is the system manager. In this function, it lays down the conditions for admission to and exclusion from the SIC system. It provides the liquidity necessary for settlement in SIC, sets the times when the SIC settlement day begins and ends, and maintains the sight deposit accounts of the participating financial institutions. The SNB also monitors daily operations and is responsible for crisis management in the event of disruptions or incidents.

SIC Ltd operates and maintains the processing centres as well as the communications and security installations. It also handles the technical development and software maintenance, as well as managing the data files, the 'Swiss RTGS User Handbook' and the 'Swiss Payments Rulebook'.

More detailed information on the respective organisational structures can be found on the websites of [SIX Group Ltd](#), [SIC Ltd](#) and the [SNB](#).

Legal framework

The organisational and administrative rules of conduct of the SIC system comprise the contracts and regulations between the SNB and the SIC participants, between SIC Ltd and the SIC participants, as well as between the SNB and SIC Ltd. The ‘Swiss RTGS User Handbook’ and the ‘Swiss Payments Rulebook’, as well as special regulations and directives such as circulars, also form an integral part of these rules of conduct.

The SIC contracts, i.e. the individual contracts between SIC participants, the SNB and SIC Ltd, are subject to Swiss law. The place of jurisdiction is Zurich, Switzerland.

Functioning and operation of the SIC system

A detailed description of the functioning and operation of the SIC system, as well as other information, can be found in the report ‘The Swiss Interbank Clearing (SIC) payment system’, published on the SNB website at www.snb.ch, *Payment transactions*. The respective figures for transactions and turnover in the SIC system are published on the [SNB’s data portal](#) and are updated on a regular basis.

IV. Addressing the CPMI-IOSCO principles in the SIC system

According to the [PFMI \(table 1, p.14\)](#), of the 24 CPMI-IOSCO principles, the following 18 principles are applicable to the SIC system. Depending on the principle, the SNB and/or SIC Ltd are responsible for ensuring compliance with the requirements. Explanations of how each of the 18 relevant principles are addressed in the SIC system are given below.

Principle 1: Legal basis

An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.

Participation in the SIC system is based on bilateral agreements between SIC participants and the SNB (SIC giro contract) on the one hand, and between SIC participants and SIC Ltd (SIC supplementary agreement) on the other. The technical regulations relevant to the SIC system, in particular the ‘Swiss RTGS User Handbook’ and the ‘Swiss Payments Rulebook’, provide more specific detail on the areas governed by these contracts. The SNB’s ‘Terms of business’ also apply and are available at www.snb.ch, *The SNB, Legal basis, Guidelines and regulations*.

These documents govern the contractual relations between the SNB, SIC Ltd and the SIC participants, as well as their rights and obligations. The SIC contracts, i.e. the individual contracts 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 FMIA, 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 financial infrastructures in Switzerland.

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.

The operation of the SIC system has been entrusted to SIC Ltd. SIC Ltd is a subsidiary of SIX Group Ltd, which owns 75% of the shares. The other 25% of the shares are held by PostFinance. SIX Group Ltd 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 individual categories of banks – such as big banks, regional banks, etc. – having an absolute majority. Any change to the shareholder structure would require the approval of the Board of Directors of SIX Group Ltd. More information on the organisation, shareholders, the Board of Directors and the Executive Board can be found on [SIX Group Ltd's 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 Group Ltd. The [division of tasks between the SNB and SIC Ltd](#) is explained in a [diagram on the SNB website](#). More information on the Board of Directors, the Executive Committee and the Annual Report can be found on [SIC Ltd's website](#).

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.

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 Executive Committee reviews and updates its risk management operation annually. This is approved by SIC Ltd's Board of Directors.

Principle 4: Credit risk

An FMI should effectively measure, monitor, and manage its credit exposure 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. [...]

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

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.

The SNB gives SIC participants the possibility of obtaining SNB intraday and liquidity-shortage financing facilities via the SIX Repo Ltd trading platform. The SNB only provides these facilities 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, available at www.snb.ch, *The SNB*, *Legal basis*, *Guidelines and regulations*.

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.

The SIC system only executes payments if adequate cover is available. If this condition is not met, the SIC system places the payment in a queue until adequate cover is available. This means that SIC Ltd is not exposed to liquidity risk through settlements of transactions in SIC.

Given that there are surcharges on payments in the SIC system from 1pm and 4pm respectively, SIC participants have an incentive to transfer payment orders to the system early in the settlement day and also to provide sufficient liquidity.

The SNB provides SIC participants with interest-free liquidity during the day via the intraday facility. Any liquidity obtained by participants must be repaid to the SNB by the end of the same value day. The SNB charges penalty interest in the event of late repayment. Via the liquidity-shortage financing 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. More detailed information can be found in the Guidelines of the Swiss National Bank on Monetary Policy Instruments and the relevant instructions sheets, available at www.snb.ch, *The SNB, Legal basis, Guidelines and regulations*.

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.

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

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.

The SIC system only processes payments using balances on sight deposit accounts at the SNB, i.e. with central bank money.

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.

According to the PFMI, this principle generally applies to payment systems. However, this principle does not apply to the SIC system, and instead applies to the securities settlement system SECOM (art. 25b NBO).

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.

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 for the SIC system.

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.

SIC Ltd's business risks are identified in its recovery plan. Procedures and key indicators have been defined. The key 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 the six months required in the NBO. Should further assets be required, the measures possible are described in the recovery plan and can be implemented without delay

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.

SIC Ltd has no financial investments of its own nor does it manage any for SIC participants.

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.

SIC Ltd and the SNB have defined various procedures and tools for the timely recovery of operations and fulfilment of obligations in the event of an interruption or disruption. A distinction is made between interruptions affecting one SIC participant and those that affect the whole SIC system.

The SIC system itself has a multistage backup and recovery process as well as a two data centre strategy (hot standby) to ensure the continuity of operations in various different scenarios. In a backup computer centre, the online application can be re-established, or – if internet access is impossible – batch processing can begin (miniSIC). The second of these options is practised annually with all SIC participants. The functionality of the purely technical processes are tested by SIC Ltd at least once a year. As SIC system manager, the SNB is informed of the test results.

For interruptions or disruptions affecting one SIC participant there is the possibility of submitting and receiving transactions via a backup data carrier, for example. Furthermore, as system manager, the SNB has the possibility of directly accessing the SIC system acting on behalf of the SIC participant.

Generally, the SIC system and its subscriber lines are permanently and actively monitored on both the technical and the operational level during operating hours. In the context of Swiss payment systems, the SNB as SIC system manager also conducts crisis management for the financial sector and defines appropriate tools for this. This is also practised regularly and with financial market representatives.

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.

The SNB decides the criteria for access to SNB sight deposit accounts and the SIC system. Participation requirements are explained in detail in the 'Instruction sheet on cashless payment transactions' and the 'Terms of business', which are available at www.snb.ch, *The SNB, Legal basis, Guidelines and regulations*.

Principle 19: Tiered participation arrangements

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

There is no tiered participation in the SIC system.

Principle 21: Efficiency and effectiveness

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

The SIC system is steered by the SNB. It is a key element of the Swiss financial market infrastructure, which originated as a joint enterprise between Swiss financial institutions. The SNB, SIX and representatives of other financial institutions have seats on SIC Ltd's Board of Directors. The efficiency and functional capacity of the SIC system are laid down in Service Level Agreements (SLAs) between the SNB and SIC Ltd and reviewed on an ongoing basis.

Furthermore, various bodies responsible for interbank issues (e.g. Swiss Payments Council, Payments Committee Switzerland, Project and IT Process Steering Committee) ensure that the requirements of SIC participants and markets are met and that any changes in the market are taken into account appropriately.

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.

Participants have the choice between Messaging Gateway or Swift as their default access channel. Depending on the channel, the payments are transmitted via the *Finance IPNet* (*Messaging Gateway*) network or the *SWIFTNet* (Swift) network. There is an online portal for checking settlement accounts (via *Finance IPNet*), and data carriers and file transfers can also be used as access channels in an emergency.

Participants can use two standards for delivering payment messages: ISO 20022 and SWIFT FIN (until November 2018, thereafter only SWIFT Interact).

All incoming and outgoing transactions in the SIC system are signed (authenticated) individually and encrypted. Authentication and encryption are carried out using the security solution SASS (SIX Advanced Security Server) developed by SIC Ltd in collaboration with partners. The SASS solution comprises software and hardware components. The Swiss hardware and software solutions for ensuring information security meet the highest requirements for unchangeable data and secure transmission of payment transactions between SIC participants, the SNB and the SIC system.

More information on the system interfaces and interbank security systems used in the SIC system can be found on [SIC Ltd's website](#) and in the Swiss RTGS Handbook available to SIC participants.

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.

In the interests of transparency, the SIC system is explained in easily understandable terms on the websites of the [SNB](#) and [SIC Ltd](#). A detailed description of the operation and functioning of the SIC system, and other information, can be found in the report 'The Swiss Interbank Clearing (SIC) payment system', which is available at www.snb.ch, *Payment transactions*.

Conditions for participation in the sight deposit system and the SIC system are detailed in the 'Instruction sheet on cashless payment transactions', which is available at www.snb.ch, *Payment transactions, Business operations*.

All SIC participants can access all SIC documents on the extranet of SIC Ltd. The most important documents are the 'Swiss Payments Rulebook' and the 'Swiss RTGS Handbook', which is available for SIC participants.

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