

# SECOM, the securities settlement system

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SECOM is the Swiss securities settlement system operated by SIX SIS Ltd and stands for Settlement Communication System. It provides custody and settlement of tradable financial instruments and is a key element in the Swiss Value Chain. The Swiss Value Chain is the term used to describe the fully electronic integration of the trading, clearing and settlement of shares, bonds, derivatives and structured products in Switzerland. This facilitates the efficient and low-risk settlement of financial transactions.<sup>2</sup>

SECOM plays a central role in the running of the Swiss financial centre. In an effort to make SECOM and the way it works more understandable to a wider audience, this article provides an outline of its conditions of operation, its services, and its risk management.

The first section of the article is devoted to matters of governance as well as the legal provisions. The article then continues with a description of SECOM's services. It concludes by discussing the risks linked to custody and settlement, as well as the instruments and procedures for mitigating these risks. The explanations are restricted to the relations between SECOM and its direct participants – generally banks and other financial intermediaries. Relations between these participants and their customers are excluded.

## 1 Governance and legal provisions

SECOM's operator, SIX SIS Ltd (hereinafter SIS), belongs to SIX Group Ltd (Swiss Infrastructure and Exchange), which was created out of the merger of three infrastructure companies, SWX Group, SIS Group and Telekurs Group, at the beginning of 2008. The shareholders in SIX Group are the Swiss big banks (30.12%), foreign banks in Switzerland (22.68%), commercial and asset management banks (14.96%), cantonal banks (13.64%), private bankers (10.17%) and regional and Raiffeisen banks (4.09%). Other banks account for 1.23%. SIX Group and its companies hold the remaining 3.11%.

The owners listed above are also SECOM's most important participants. In addition, stock exchanges and other trading platforms, clearing houses, Post-Finance, the Old Age and Survivors' Insurance Fund (AHV/AVS), the Swiss National Bank (SNB) and foreign banks participate in SECOM. In total, it has some

400 members. An applicant must fulfil a number of requirements, including the demonstration of adequate regulation as well as the adherence to the contractual framework setting out the rights and obligations of participation.

SIS is a bank supervised by the Swiss Financial Market Supervisory Authority (FINMA). In addition, because the SNB considers the securities settlement system SECOM to be important for the stability of the Swiss financial system, it is subject to SNB oversight.<sup>3</sup>

So far, in Switzerland, the custody and settlement of securities has largely been carried out on the basis of conventional legislation on property, securities, debt enforcement and bankruptcy, as well as on contractual agreements and legal opinions. However, it is becoming increasingly difficult to convey the legal arrangements for the collective safe custody of securities and the system of global certificates and uncertificated securities, particularly in cross-border transactions. It was for these reasons that the Federal Act on Intermediated Securities was drawn up. Once this act has entered into effect, probably in mid-2010, the increasing replacement of certificated securities by uncertificated securities will also be reflected in the legislation. The Federal Act on Intermediated Securities creates a transparent and reliable basis for the custody and settlement of securities and enhances both comprehensibility and legal certainty.<sup>4</sup>

Due to SIS's cross-border operations, there is also a connection to legal systems in other countries as regards the services provided by SECOM. At international level, the coexistence of different national legislation reduces legal certainty in the cross-border custody and settlement of securities. Consequently, a number of international initiatives – such as the Hague Securities Convention<sup>5</sup> and the Unidroit Initiative<sup>6</sup> – are attempting to clarify legal questions related to the cross-border custody and settlement of securities.

In 2006, SIS also signed the European Code of Conduct for Clearing and Settlement. In this self-regulatory agreement, European trading platforms, central counterparties, central securities depositories and settlement institutions agree to grant one another reciprocal access to their services and create transparency with regard to their terms and conditions. The objective is to facilitate effective competition between infrastructure providers. At present, the code of conduct is limited to cash equities, but an extension to other financial instruments is planned.

1 The author would like to thank Andy Sturm, Robert Oleschak and David Maurer for their helpful comments.

2 For a general article on Switzerland's financial market infrastructure, cf. P. Haene und A. Sturm (2009), Behind the scenes of financial markets: A look at the Swiss financial market infrastructure. Available at [www.snb.ch](http://www.snb.ch).

3 SNB oversight of financial market infrastructures is an instrument for furthering financial stability. For a description of system oversight, cf. Swiss National Bank (2007), The Swiss National Bank 1907–2007, pp. 409 et seq. and A. Sturm (2009), Oversight of payment and securities settlement systems by the Swiss National Bank. Available at [www.snb.ch](http://www.snb.ch).

4 cf. Feuille fédérale/Bundesblatt, no. 48, 5 December 2006: Message relatif à la loi fédérale sur les titres intermédies et à la Convention de La Haye sur les titres intermédies du 15 novembre 2006/Botschaft zum Bucheffektengesetz sowie zum Haager Wertpapierübereinkommen vom 15. November 2006 (message on the Federal Act on Intermediated Securities and on the Hague Securities Convention of 15 November 2006), pp. 8817/9315 et seq.

5 cf. [www.hcch.net](http://www.hcch.net).

6 cf. [www.unidroit.org](http://www.unidroit.org).

## 2 Services provided by SECOM

SECOM is a securities settlement system whose main purpose is the custody and settlement of financial instruments in Switzerland. Furthermore, in its role as global custodian, SECOM offers Swiss and foreign financial institutions central access to the custody and

settlement of financial instruments in over 50 countries. These two areas of business are supplemented by additional services that are closely related to the custody and settlement of financial instruments. The most important services provided by SECOM are described below. A survey of business volumes at SECOM over time is provided in box 1.

### Box 1. Business volumes over time

At the end of 2008, SECOM held almost 170,000 different financial instruments in custody. Of the total number of instruments, 75% were foreign. The overall value of the financial instruments in custody amounted to about CHF 2,400 billion, with Swiss instruments representing around 75%. Chart 1 shows the strong increase in the number of financial instruments in custody in the past six years. The safe custody values reflect fluctuations in valuations in the financial markets; this explains

the relatively small increase in 2007 and the decline in 2008. In 2008, SECOM settled almost 70 million transactions, of which Swiss transactions accounted for more than 90% (cf. chart 2).

SECOM is available to its participants 24 hours a day for the delivery of instructions. Processing and settlement begin at around midnight and continue until 9.30 p.m. SECOM is not available for processing and settlement at the weekend and on a few public holidays.

Chart 1: Financial instruments held in custody by SECOM

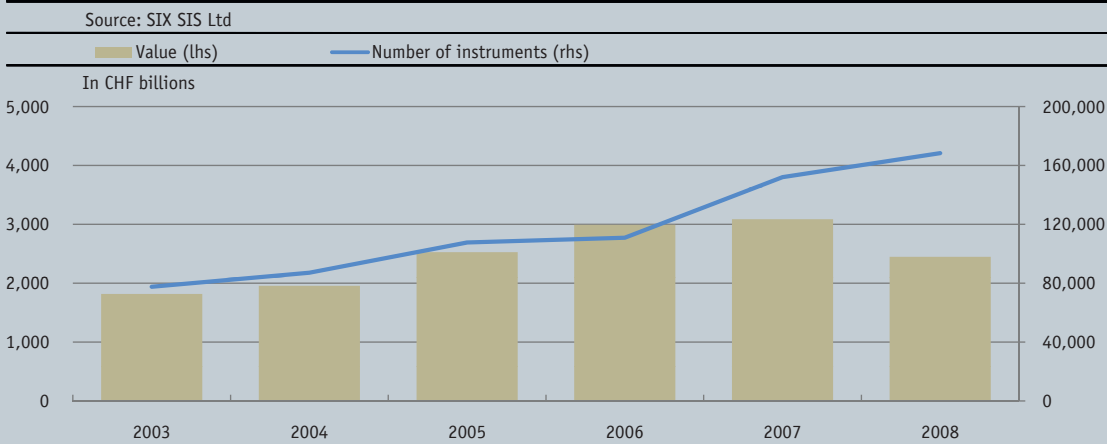
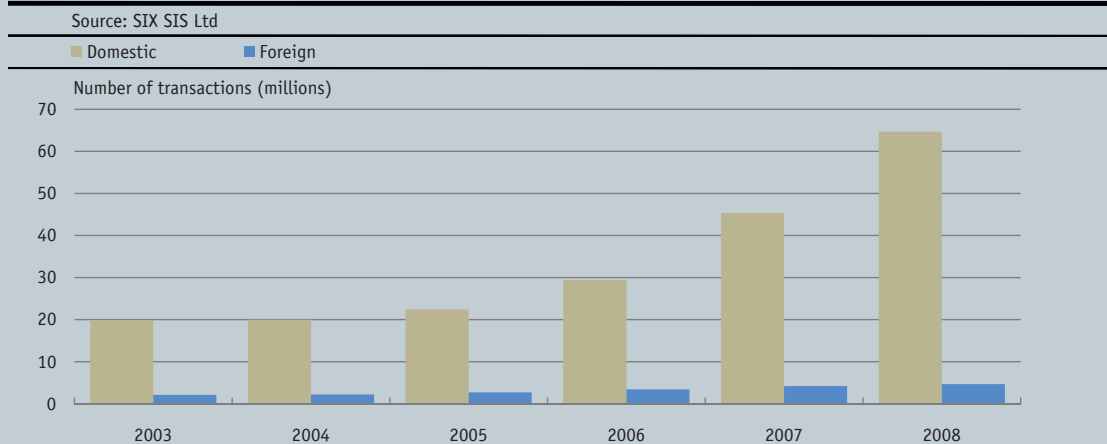


Chart 2: Trades settled in SECOM



## Custody and settlement of Swiss financial instruments<sup>7</sup>

The ultimate depository of financial instruments issued in Switzerland is generally SECOM. SIS acts as the central securities depository (CSD) and settlement institution for shares, government and private bonds, money market instruments, exchange traded funds (ETFs), conventional investment funds, structured products, warrants and other derivatives (hereinafter referred to jointly as financial instruments).

The original central depository is a collection of financial instruments issued in paper form that belong to a large number of depositors and are centrally held in SIS's high-security storage facility. Settlement can be completed safely and quickly, since securities held in collective safe custody do not need to be physically moved. Global certificates, which combine a number of individual certificates from one issue or even the entire issue in one single certificate, are becoming increasingly popular. In addition, more and more issuers nowadays are abandoning the certification of financial instruments altogether, replacing certificated securities by uncertificated securities (dematerialisation). These days, in Switzerland, the registered shares in most publicly owned companies as well as investment fund units and money market debt register claims are issued in uncertificated form. These uncertificated securities are managed electronically in SECOM.

An important part of the custody of financial instruments is the administrative operations. SIS services for participants include, in particular, voluntary and mandatory corporate actions, such as capital increases and decreases, stock splits, mergers, acquisitions and dividend payments. SIS also supports participants in tax matters and when exercising the participation rights linked to their financial instruments. Corporate Actions Enhanced Services (CAES) is a service which facilitates central processing of administrative operations for financial instruments via an electronic interface. In this way, manual, paper-based data collection, verification and accumulation are automated as far as possible.

SECOM settles transactions with financial instruments conducted on various Swiss and foreign trading platforms. The shares of the Swiss publicly owned companies are mainly traded on SIX Swiss Exchange, but increasingly also on other trading platforms, such as Turquoise and Chi-X.<sup>8</sup> Bonds and ETFs can also be traded on SIX Swiss Exchange. Structured products, warrants and other derivatives are traded on Scoach.<sup>9</sup>

<sup>7</sup> Hereinafter, *Swiss* financial instruments will be deemed to be those financial instruments that are issued in accordance with Swiss law.

<sup>8</sup> On the Chi-X and Turquoise trading platforms, the most important European shares, including Swiss blue chips, can be traded.

<sup>9</sup> Scoach is a joint venture between SIX Group and Deutsche Börse AG. Scoach operates a trading centre in Frankfurt for Germany and the EU countries and another centre in Zurich for Switzerland.

In addition, over-the-counter financial instruments are also settled in SECOM.

Depending on the instrument, these transactions are transmitted to SECOM either from the various trading platforms, from central counterparties or from the trading parties themselves (trade capture). Under certain circumstances, these settlement orders may already have been matched; other instruments (such as, for example, over-the-counter instruments) are matched in SECOM.

On the settlement date, these transactions are then settled by means of a delivery-versus-payment mechanism. The financial instruments are transferred in SECOM, while the related payment is made simultaneously, either through the Swiss Interbank Clearing (SIC) payment system<sup>10</sup> or through the SIS money accounts in SECOM. The latter route is taken if neither trading party is a SIC participant. If only one of the trading parties is a SIC participant, SIS will act as correspondent for the other trading party and provide the connection to SIC through its own SIC account. The delivery-versus-payment mechanism ensures that the payment takes place if – and only if – the financial instruments are transferred. To this end, SECOM begins by reserving the appropriate financial instruments in the seller's custody account and generates a payment instruction to SIC, or to the internal payment system in SECOM. SIC (or SECOM) checks whether the purchaser has sufficient funds on account. If not, the payment instruction is held pending in a queue. As soon as sufficient funds are available, the payment is released and a message to SECOM ensures that the financial instruments that had been reserved are irrevocably and unconditionally transferred from the seller to the purchaser.

## Custody and settlement of foreign financial instruments<sup>11</sup>

Apart from providing custody and settlement of Swiss securities, SECOM offers its participants access to over 50 foreign financial markets. This has the advantage that banks and securities traders are not obliged to establish their own links to these markets, but can make use of SIS's existing network for the custody and settlement of foreign financial instruments. In this business area, known as global custody, SIS competes with foreign ICSDs (International Central Securities Depositories) – particularly Euroclear Bank and Clearstream Luxembourg – and with commercial banks.

<sup>10</sup> For an overview of Swiss Interbank Clearing (SIC), the Swiss payments system, cf. J. Mägerle and R. Oleschak (2009), *The Swiss Interbank Clearing (SIC) payment system*. Available at [www.snb.ch](http://www.snb.ch).

<sup>11</sup> Hereinafter, *foreign* financial instruments will be deemed to be those financial instruments that are issued in accordance with foreign law.

In general, the ultimate depository of foreign financial instruments is in a foreign country. For these instruments, SIS acts as an intermediate depository and establishes a link to the ultimate depository in the individual market concerned. The link to the foreign ultimate depository may be direct, or indirect via a local custodian. In the case of the direct link, SIS is able to offer its customers custody and settlement of the foreign financial instruments by holding an omnibus account with the foreign ultimate depository. However, in some cases, a direct link is not possible, either for regulatory reasons, or because it is excessively costly, or because it is inopportune in view of the restricted array of services provided by the ultimate depository. In such cases, SIS uses a custodian located in the foreign market – typically a local bank – in order to secure access to the foreign ultimate depository. Depending on the set up, either the local custodian will be responsible for both the settlement of the funds leg and the securities leg of a trade, or SIS will use two different institutions.

Situations where the funds leg of a trade is to be settled in euros constitute a special case. Such transactions can be settled through euro accounts held in SECOM, via SIS correspondents in the euro area, or through the link between SECOM and euroSIC.<sup>12</sup>

If both counterparties hold the foreign financial instrument in custody with SECOM, settlement can be internalised. In practice, this means that the securities leg and the funds leg of a trade can be settled respectively in the counterparties' own custody accounts and the foreign currency accounts held in SECOM. In the last few years, SECOM's internalisation rate in international business has been almost 30%.

#### **Additional services**

In order to facilitate the timely settlement of financial market transactions, SIS provides its participants with several additional instruments. To bridge liquidity shortages, it offers customers temporary current account advance facilities. Such facilities are limited and generally only offered on a secured basis. In addition, SIS provides payment services in Swiss francs and around 30 foreign currencies through its accounts. Moreover, through its SecLend and SLB (Securities Lending and Borrowing) services, SECOM enables participants to bridge liquidity shortages on the securities side of the transaction. In the case of SecLend, SIS is the service provider, while at SLB it is the principal.

<sup>12</sup> euroSIC is a payment system for payments made by Swiss banks in euros. In technical terms, it is identical to SIC. Settlement is also carried out on a delivery-versus-payment basis. Swiss Euro Clearing Bank GmbH (SECB), a bank under German law with its registered office in Frankfurt, is responsible for account management. Through its link to TARGET2, euroSIC facilitates the settlement of payments in euros to and from banks in the euro area.

The REPO service covers settlement of repo transactions concluded on the Eurex trading platform. SECOM transfers the securities and initiates the relevant flow of funds through a delivery-versus-payment mechanism. During the term of the repo transaction, SECOM regularly values the securities that have been provided and requests additional margins, where necessary. The SNB, for example, uses the REPO service to grant intraday loans as well as for its longer-term monetary policy loans and for lending within the framework of its liquidity-shortage financing facility.<sup>13</sup>

### **3 Risk management**

In principle, the custody and settlement of financial instruments entails various risks, both for the service provider and for the users. In SECOM, these risks are reduced and partly eliminated through the use of a number of different instruments and procedures. The first part of this section is devoted to a description of these risks. Subsequently, the instruments and measures deployed by SIS risk management are explained in tabular form.

#### **Risks in custody and settlement**

In the settlement of financial market transactions, credit risk is the risk that a given party will not settle an obligation for full value, either when due or any time thereafter. In this context, it is possible to differentiate three types of credit risk:

- **Principal risk:** Participants in a securities settlement system face principal risk if they deliver a financial instrument but do not receive the corresponding payment from the counterparty, or vice versa. Due to the large amounts involved in financial market transactions, principal risk can be potentially very high unless relevant measures are taken to reduce it.
- **Replacement cost risk:** Participants face replacement cost risk in the event of counterparty failure between the date when the trade is concluded and the date foreseen for settlement. For instance, share transactions are generally not settled until three days after conclusion of the trade. Should one of the trading partners default during this period, there is a risk that the other party will be forced to conclude a replacement transaction at an unfavourable rate.

<sup>13</sup> For a description of these instruments, cf. Swiss National Bank (2004), Guidelines of the Swiss National Bank (SNB) on Monetary Policy Instruments. Available at [www.snb.ch](http://www.snb.ch).

- Settlement bank risk: If the settlement of the payment is not made in central bank money, there is a risk to participants that the institution holding the account will default, causing the participants to lose their deposits.

When settling financial market transactions, liquidity risk also needs to be taken into account. Liquidity risk is the risk that a participant cannot settle an obligation for full value when due, although they may be able to do so at a later date. As a result, the trading partner is faced with temporary shortfalls and may need to take short-term measures in order to compensate the shortfall.

When financial instruments are held in custody, there is also a risk that the depositor may lose its claim to the financial instruments being held. In particular, if the security is held in physical form, there is a danger of theft or loss, for example, through fire. In the case of financial instruments held in electronic form, the rights of owners may be compromised, for instance, through data loss or manipulation. These risks are summarised under the term custody risk.

A securities settlement system is also exposed to operational risk. This covers losses or disturbances that occur as a result of the inadequacy or failure of internal procedures, employees and systems, or through external events. A securities settlement system must satisfy high security standards with regard to availability, integrity, confidentiality and traceability through-

out the entire processing of transactions. A loss of data or a functional impairment of the settlement system may give rise to the credit, liquidity and custody risks described above.

The additional SIS services outlined above may also be a source of risk. However, since this article focuses on the custody and settlement of financial instruments, the risks related to these additional services will not be discussed any further here.

### Reduction and elimination of risk

SIS has taken various measures to reduce and, where possible, eliminate the aforementioned risks – both for its participants and for itself. Table 1 provides a general summary of the most important measures that have been taken to help reduce the risks involved in the custody and settlement of Swiss financial instruments. This business area does not expose SIS itself to any credit, liquidity or custody risks. Suitable measures ensure that participant risks are also minimised as far as possible. The delivery-versus-payment principle in settlement is highly important. Payment is triggered if – and only if – securities are transferred, and vice versa. This is achieved by linking securities settlement in SECOM with funds settlement in SIC, euroSIC or on the SIS accounts in SECOM.

Risks also arise for SIS and its participants in the custody and settlement of foreign financial instruments. These, too, are reduced, by means of the measures listed in table 2.

Table 1. Risk-reduction measures in the settlement and custody of Swiss financial instruments

	Credit risks	Liquidity risks	Custody risks
<b>Risks for SIS</b>	Principal risk, replacement cost risk, settlement bank risk: SIS acts as agent only and facilitates settlement but is not itself a counterparty (principal). Consequently, credit risk remains with participants.	SIS acts as agent only and facilitates settlement but is not itself a counterparty (principal). Consequently, liquidity risk remains with participants.	SIS has no securities holdings of its own in custody.
<b>Measures taken to limit risks for SECOM participants</b>	<p>Principal risk: Settlement according to delivery-versus-payment principle.</p> <p>Replacement cost risk: The central counterparty SIX x-clear<sup>14</sup> takes on the replacement cost risk for some financial instruments (e.g. for shares and ETFs traded on SIX Swiss Exchange).</p> <p>Settlement bank risk: Settlement takes place either in central bank money (i.e. through SIC money accounts) or through money accounts at SIS, which is a special purpose bank subject to supervision by FINMA.</p>	<ul style="list-style-type: none"> <li>- Transactions are matched before settlement date.</li> <li>- Facilities are available for obtaining securities (SLB and SecLend) and funds (REPO and SIS current account advance facilities).</li> <li>- Incentives are in place for delivery and payment on settlement date (e.g. financial penalties).</li> </ul>	<ul style="list-style-type: none"> <li>- Preferential claim in the event of bankruptcy of the custodian.</li> <li>- Securities held in physical and electronic form are regularly reconciled.</li> <li>- Securities held in physical and electronic form are protected by means of constructional, organisational, operational and IT measures.</li> </ul>

**Key to the colours used in tables 1 and 2:**

- Risk non-existent or completely eliminated through measures taken
- Risk minimised/reduced
- Risks that have to be borne

Table 2. Risk-reduction measures in the settlement and custody of foreign financial instruments

	Credit risks	Liquidity risks	Custody risks
<b>Measures taken to limits risks faced by SIS</b>	Principal risk: Settlement according to delivery-versus-payment principle. <sup>15</sup>	SIS does not guarantee settlement on time. Any liquidity risk is borne by the participant.	SIS holds foreign securities in custody with custodians in the name and at the risk of participants. SIS is liable for the selection of the custodians, but only within the limits of its duty of care.
	Replacement cost risk: SIS does not guarantee settlement. The participant retains any replacement cost risk.		
	Settlement bank risk: SIS bears the risk of default of the foreign currency correspondent. <sup>16</sup> <ul style="list-style-type: none"> <li>- Correspondents are obliged to fulfil minimum requirements set by SIS.</li> <li>- SIS limits the size of overnight money positions.</li> </ul>		
<b>Measures taken to limit risks faced by SECOM participants</b>	Principal risk: Settlement according to delivery-versus-payment principle. <sup>15</sup>	<ul style="list-style-type: none"> <li>- As far as possible, transactions are matched and reconciled with the foreign securities settlement systems before the settlement date.</li> <li>- Facilities are available for obtaining funds (SIS current account advance facilities in foreign currencies).</li> </ul>	<ul style="list-style-type: none"> <li>- Custodians are obliged to meet minimum requirements.</li> <li>- Holdings are reconciled with foreign custodians on a daily basis.</li> </ul>
	Replacement cost risk: Central counterparties abroad take on part of the replacement cost risk.		
	Settlement bank risk: SIS bears the risk of default of the foreign currency correspondent. For participants, the only relevant risk is the possible failure of SIS. SIS is a special purpose bank, which is subject to supervision by FINMA.		

14 For an overview of SIX x-clear, the Swiss central counterparty, cf. R. Oleschak (2009), SIX x-clear, the central counterparty. Available at [www.snb.ch](http://www.snb.ch).

15 Two special cases exist: first, provisional transfers and, second, what is known as drawing from the pool. However, it is highly unlikely that either of these would be a source of risk for SIS or for the participants in SECOM.

16 The financial institution that settles the funds leg of a foreign financial instrument transaction for SIS and its participants is described as a foreign currency correspondent. Depending on the country and currency in question, this institution may be a central depository or a bank.

## 4 Summary

As one of the key elements in Switzerland's financial market infrastructure, the SECOM securities settlement system provides for the custody and settlement of tradable financial instruments in Switzerland. Financial market transactions concluded at SIX Swiss Exchange – the Swiss stock exchange – can be settled fully automatically through SECOM, i.e. without any manual intervention. This contributes to the low-cost, low-risk integration of trading, clearing and settlement.

The custody and settlement of financial instruments entails various risks, both for the service provider and for their users. The organisation and design of SECOM ensure that custody and settlement risks are minimised or eliminated as far as possible. The irrevocable settlement of transactions according to the delivery-versus-payment principle is particularly important. In this way, principal risk – which has the potential to be very high – is completely eliminated.

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