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The Swiss repo market at 25: A success story for the financial centre and the SNB

Money Market Event

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Swiss National Bank

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Ladies and gentlemen

A warm welcome to the Money Market Event. My colleague Thomas Moser and I are delighted that so many of you have accepted our invitation to attend.

This year we are celebrating something very special: the 25th anniversary of the Swiss franc repo market. In June 1999, the Swiss National Bank conducted its first repo transaction on an integrated and automated financial market infrastructure, the Swiss Money Market Value Chain, laying an important milestone in the financial history of our country.¹

Today, thanks to cooperation between the infrastructure providers,² the banks, other financial market participants and the SNB, the Swiss franc repo market is among the most advanced and efficient repo markets in the world. It has evolved into the central hub for Swiss franc liquidity, and repo transactions are the SNB's most important instrument for implementing monetary policy.

In our speech today, we will first examine the key role the repo market plays for the SNB's monetary policy and explore the advantages of repo transactions for banks and other financial market participants. We will then take a look at the development of the Swiss franc repo market over the last 25 years, before closing with some thoughts about potential future developments.

Importance of the Swiss franc repo market for the SNB's monetary policy

The Swiss franc repo market is of central importance to the SNB's monetary policy. It provides the foundation for the implementation of our interest rate policy. Repo transactions³ are the backbone of our open market operations, which include the issuance of SNB Bills and, where necessary, foreign exchange transactions.

In implementing its monetary policy, the SNB seeks to keep secured short-term Swiss franc money market rates close to the SNB policy rate. In doing so, we focus in particular on SARON (Swiss Average Rate Overnight). SARON is the most important short-term reference rate in Switzerland. It is calculated on the basis of transactions and binding quotes in the overnight segment of the Swiss franc repo market, excluding the SNB's transactions.

The dynamic activity in the interbank segment of the repo market provides a robust and reliable basis for calculating SARON (cf. chart 1).

¹ Repo trading began in April 1998, albeit initially only via telephone. The launch of the Swiss Money Market Value Chain in 1999 created an integrated and automated financial market infrastructure, which efficiently links trading, settlement and collateral management.

² In the early years of the Swiss franc repo market, this was, in particular, Eurex Zurich Ltd; later, it was principally SIX Repo Ltd.

³ A repo transaction is a short-term financial transaction in which one party, the cash taker, sells securities to another party, the cash provider, and simultaneously agrees to repurchase these securities for a given price at a later date. In economic terms, a repo transaction can be understood as a secured loan: the securities are the collateral, and the repurchase agreement lays down the conditions – including the term of the loan and the interest rate, which is known as the repo rate.

One of the main advantages of repo transactions from a monetary policy perspective is that they enable us to reach a large number of market participants, including smaller institutions. A second advantage stems from the notable fact that the SNB conducts its open market operations on the same trading platform on which interbank trading takes place. This market unity contributes to effective monetary policy implementation, as the SNB acts directly in the relevant market and can provide liquidity to – or absorb liquidity from – the financial sector via auctions and bilateral transactions, as needed and at any time. This is how we keep SARON close to the SNB policy rate (cf. chart 2).⁴

Our monetary policy stance is transmitted from the repo market to the other segments of the money market (cf. chart 3, left) and the rest of the economy. This transmission is supported by SARON's role as the leading reference rate. Thus most financial products, such as Swiss franc-denominated mortgages, loans and bonds, use the SARON-based swap curve as a price reference (cf. chart 3, right).⁵

Significance of the repo market for financial market participants

The Swiss franc repo market is not only very important for the SNB's monetary policy, it also plays a significant role for banks and other financial market participants due to its liquidity, security and efficiency. Participants in the repo market can quickly and efficiently obtain short-term liquidity or invest excess liquidity securely, thereby generating additional income. Chart 4 shows liquidity redistribution in the Swiss franc repo market. The dots represent the array of market participants and the lines connecting the dots show liquidity redistribution via maturing and new repo transactions.

Among the key advantages of repo transactions is that they reduce various risks (cf. chart 5). Repo transactions are collateralised using securities, legal ownership of which is transferred to the cash provider at close of business, thereby enabling the latter to hedge its counterparty risk. Swiss franc repo transactions are mainly secured with high-quality liquid assets (HQLA).⁶ On average, around 90% of all Swiss franc repo transactions are currently secured with HQLA. This is an important reason why haircuts on these securities in the Swiss repo market are uncommon.⁷

Standardised collateral baskets are used for securing transactions in Switzerland. This makes collateral exchangeable, which in turn contributes to market liquidity. It also reduces the cost of repo trading. Even during the market's early years, high-quality assets were defined, not just in Swiss francs but in various currencies, and these were ultimately consolidated in the

⁴ In practice, market unity also means that Swiss franc repo traders only have to deal with one trading platform, which further simplifies monetary policy implementation. Moreover, it reduces operational costs for market participants.

⁵ Cf. Martin, A. and T. Moser (2024).

⁶ These are high-quality liquid assets within the meaning of the Basel III liquidity requirements.

⁷ For repo transactions that are settled via the Swiss Money Market Value Chain and are secured with collateral (securities) eligible for SNB repos, a haircut is not necessary when determining the minimum capital requirement for covering counterparty credit risk ([FINMA circular 17/7 'Credit risks – banks'](#)).

SNB General Collateral Basket (SNB GC Basket). Used to secure around 90% of all Swiss franc repo transactions today, the SNB GC Basket has established and proven itself as the market standard for securing the majority of such transactions.⁸

Risk associated with transactions in the Swiss repo market is further reduced by SIX SIS Ltd, which, in its role as Triparty Agent (TPA), values the collateral at current market prices and triggers an automatic margin call twice a day in the event of a shortfall or excess. If the collateral has lost value, the cash taker must supply more collateral in the form of securities or cash. If the collateral has gained value, the cash taker receives collateral back. This system guarantees continuous and automatic adjustment to market developments and thus almost completely eliminates credit risk during the term of a repo transaction.⁹

The CO:RE trading platform operated by SIX Repo Ltd, and the TPA – along with the SECOM securities settlement system and the SIC real-time payment system – make up the Swiss Money Market Value Chain (cf. chart 6). This fully automated and integrated infrastructure significantly reduces settlement and operational risk. Repo transactions carried out via the Swiss Money Market Value Chain are settled on a delivery-versus-payment basis. This prevents a party from delivering securities without receiving the relevant payment, and vice versa. Furthermore, these transactions are exclusively settled in central bank money, which eliminates the credit risk of market participants vis-à-vis the settlement institution.¹⁰

The Swiss Money Market Value Chain also enables fully automated settlement of repo transactions – we refer to this as ‘straight-through processing’. This is cost-efficient, as it allows market participants to outsource a significant portion of their back-office functions, such as the selection of securities to be provided as collateral, to the TPA. It also reduces operational risk considerably as the automated and integrated settlement of repo transactions is less susceptible to errors than manual settlement. Chart 7 shows that around 80% of transactions are settled in less than two minutes.

Key milestones of the last 25 years

As we have seen, the Swiss franc repo market plays a very important role for the SNB, the banks and the other financial market participants. But how did the repo market develop into what it is today? Let us take a look back at its origins and review the key milestones of the last 25 years.

⁸ Today, the SNB GC Basket comprises over 3,000 items of collateral with an outstanding value of almost CHF 20 trillion. The securities in the SNB GC Basket can be viewed in the ‘List of collateral eligible for SNB repos’ on the SNB’s website: https://www.snb.ch/en/services-events/digital-services/rss_feeds/repos.

⁹ In Switzerland, regulatory treatment of the risk weight is therefore the same for settlement via a TPA as for settlement via a central counterparty (CCP), with a CCP being an intermediary in the repo market that assumes the counterparty risk for the trade partner.

¹⁰ According to the principles of the Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO), an FMI should conduct its repo transactions in central bank money where practical and available (cf. BIS (2012), p. 68).

Compared to those of other European countries and the US in particular, the Swiss repo market emerged late. Two important prerequisites for its introduction and success were the exemption of repo transactions from stamp duty in 1997¹¹ and, in the same year, the revision of the National Bank Act (NBA), which authorised the SNB to conclude repo transactions.

In hindsight, the comparatively late start proved advantageous, because it allowed a modern – highly standardised and automated – repo system to be created from the ground up. The SNB worked closely with the banks and infrastructure providers to establish an efficient and secure market. Thanks to this successful cooperation and the admission of a large number of participants, the Swiss repo market very quickly developed a high trading volume. In the monetary policy environment of the time, where banks' sight deposits at the SNB were scarce, the trading volume in the interbank market increased rapidly from around CHF 1 billion per day in 1999 to over CHF 50 billion per day in 2008 (cf. chart 8).

The global financial crisis interrupted this trend. While demand for secured credit transactions increased significantly, as banks and other financial institutions sought to limit credit transaction risk and secured repo transactions offered an attractive solution,¹² interbank trading turnover in the Swiss franc repo market nonetheless declined in the years following the financial crisis. This was due to the fact that, with the expansion of its balance sheet in the aftermath of the global financial crisis and the euro area debt crisis, the SNB had significantly increased liquidity in the banking system. As a result, market participants had less need to redistribute liquidity via the repo market in order to cover liquidity bottlenecks, and trading activity decreased.

The global financial crisis also had consequences for Libor, the reference rate at that time. Libor was calculated on the basis of reports from a panel of banks regarding the interest rates at which they could borrow or lend funds in the unsecured interbank market. Given the decline in turnover in this market and manipulation issues, Libor increasingly lost its function as a reference rate. In Switzerland, the National Working Group on Swiss Franc Reference Rates (NWG), co-chaired by a representative of the private sector and a representative of the SNB, was tasked with finding an alternative to the Swiss franc Libor. The new reference rate was to be as risk-free, reliable and transparent as possible. The NWG ultimately agreed to replace Libor with SARON. As already mentioned, this rate is based on the overnight segment of the Swiss franc repo market, the most liquid part of the Swiss franc money market, and is calculated using actual transactions and binding quotes.¹³

¹¹ Prior to this, repo transactions had been treated as a combined purchase and sale of securities; as such, they were subject to stamp duty and were thus not economically viable. At the suggestion of the SNB and the commercial banks, the Federal Tax Administration accepted the economic argument and qualified repo transactions as secured loans, which meant they were exempted from stamp duty.

¹² This is partly due to the regulatory treatment of repo transactions. Although regulations were tightened in light of experience gained during the crisis, the nature of the repo transaction as a particularly secure instrument was taken into account. Thus, in Switzerland for example, repo transactions secured by HQLA and maturing within 30 calendar days are excluded from the liquidity coverage ratio (LCR) calculation (close-out rule).

¹³ Cf. Maechler, A.M. and T. Moser (2022).

In the years following the global financial crisis and the euro area debt crisis, too, the monetary policy stance heavily influenced the repo market. At the end of 2014, for example, the SNB introduced a negative interest rate and simultaneously introduced tiered remuneration of the sight deposits that banks and other financial market participants hold at the SNB.¹⁴ This reduced the burden on banks and strengthened incentives for trading in the money market.¹⁵ Trade based on tiered remuneration contributes significantly to creating a robust foundation for calculating SARON. This is why the SNB decided to keep tiered remuneration when, given global inflationary pressure, it decided in September 2022 to return to a positive policy rate.¹⁶

Future of the repo market

After this review of the past 25 years, let us now cast our minds forward and imagine how things might look in the future. The repo markets abroad and in Switzerland are in a state of ongoing transformation. In addition to the monetary policy of central banks and changing regulatory requirements, technological progress is also an important driver of this transformation. The focus here is often on increased settlement speed.¹⁷ Settlement could be accelerated by further developing or linking existing systems or by building new systems based on distributed ledger technology (DLT). Innovation is currently particularly strong in the following three areas: delivery-versus-payment settlement, intraday liquidity management and collateral mobility (cf. chart 9).

As already noted, delivery-versus-payment settlement reduces market participants' settlement risk substantially, as the money and the securities are exchanged almost simultaneously. Today, the technical platform architecture of TPAs enables this almost simultaneous exchange by means of coordinated settlement via separate but interconnected securities and payment systems.¹⁸ In the future, settlement efficiency could be improved further thanks to DLT, so that the transfer of the securities and the relevant payment takes place in a single, inseparable step.¹⁹

If DLT becomes generally accepted for securities settlement in the future, it is important that central banks be prepared. As part of a pilot known as Project Helvetia III, the SNB has therefore explored how a repo transaction can be settled using token-based securities and wholesale central bank digital currency on a DLT-based platform. The repo transaction was

¹⁴ A negative interest rate was applied to the portion of a bank's sight deposits held at the SNB that exceeded a certain limit (exemption threshold). No negative interest was charged up to this threshold. This tiered remuneration led to liquidity redistribution between sight deposit account holders, thereby promoting activity in the money market.

¹⁵ Trading activity increased at the end of 2019 when the SNB adjusted the calculation of the tiering thresholds. Cf. press release: [Monetary policy assessment of 19 September 2019](#).

¹⁶ Cf. Maechler, A.M. and T. Moser (2022a), as well as Moser, T. (2023).

¹⁷ Cf. Moser, D. (2018).

¹⁸ In the current system, the SIX TPA blocks the securities of the cash taker, transfers the central bank money to the cash taker and then transfers the securities to the cash provider. From a regulatory perspective, this is settlement according to the delivery-versus-payment principle. DLT-based settlement in a single system would enable genuinely simultaneous settlement.

¹⁹ This type of settlement is also known as simultaneous or atomic settlement (cf. Lee, Martin and Müller (2022)).

conducted on SIX test systems. The transaction was initiated on the CO:RE trading platform, administered via the TPA and settled on SIX Digital Exchange (SDX).²⁰

The second area currently witnessing a lot of activity is intraday liquidity management. Financial institutions have become more interested in intraday repo transactions with maturities of a few hours. We also observe growing interest in the settlement of repo transactions at a specific time during the day, rather than at any given time on a value date, as is the usual practice. Such functionalities can be provided using conventional technologies as well as DLT-based solutions. These developments are interesting because they could influence the market over the long term by giving intraday liquidity an explicit price.²¹ We are monitoring developments in this area very closely and are designing our systems in a flexible way so as to be well prepared for future changes.

The third and final area with high potential for innovation is collateral mobility. The ability to move collateral efficiently between various central securities depositories, accounts and counterparties brings significant advantages: The pool of collateral available immediately can be expanded and obligations to deliver certain items of collateral can be met more effectively and accurately. Moreover, operational risk associated with the transfer of securities can be reduced.

A range of new technologies is being developed and approaches investigated to increase collateral mobility. For instance, the programmability of token-based collateral offers the possibility of automating processes such as the transfer and release of collateral. The SNB is open to these kinds of new technologies and developments and has run its own projects in this connection, such as the aforementioned pilot Project Helvetia III. Furthermore, the SNB also includes collateral issued on the platform of a DLT-based central securities depository such as SDX in the SNB GC Basket. Already today, a number of token-based bonds can be used for repo transactions, just like conventional collateral.

These and other developments will change the repo markets in the future. It is important to us that the Swiss franc repo market remain secure, liquid and efficient. We look forward to delving deeper into these and other topics with our experts during the panel discussion and to exploring future developments in the repo markets from a variety of angles.

²⁰ Cf. Jordan, T. (2024).

²¹ For information on the implicit value of intraday liquidity in the Swiss repo market, cf. Kraenzlin, S. and T. Nellen (2010).

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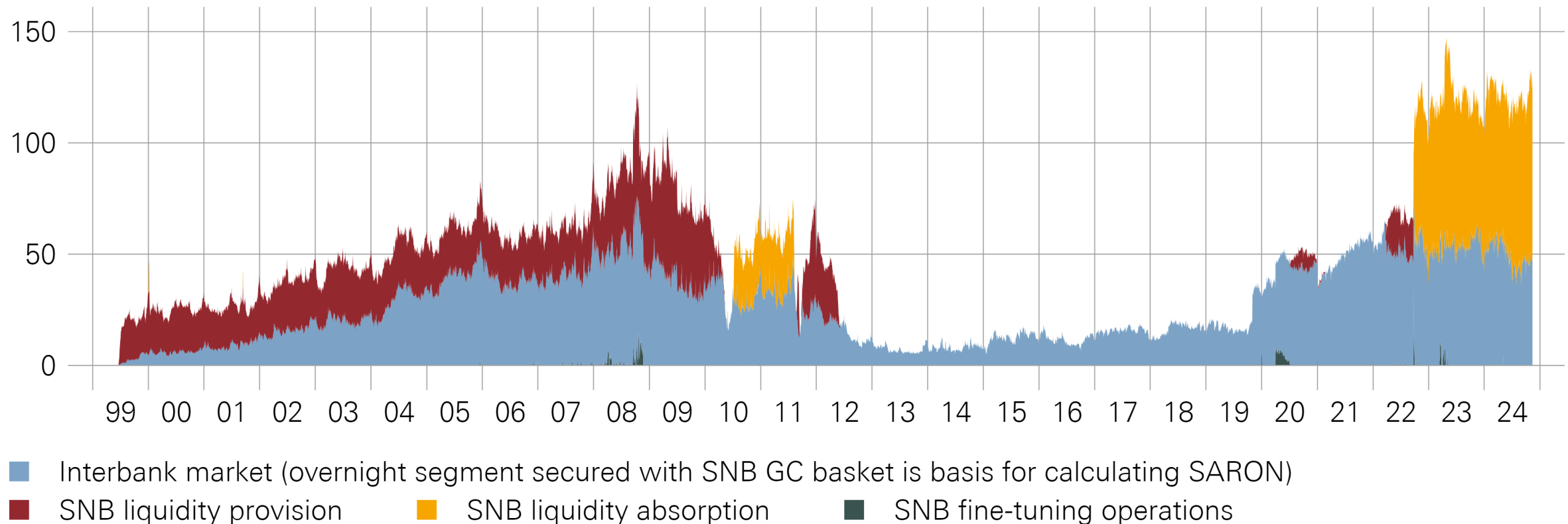
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The Swiss franc repo market is of central importance to the SNB's monetary policy

OUTSTANDING VOLUME IN SWISS FRANC REPO MARKET

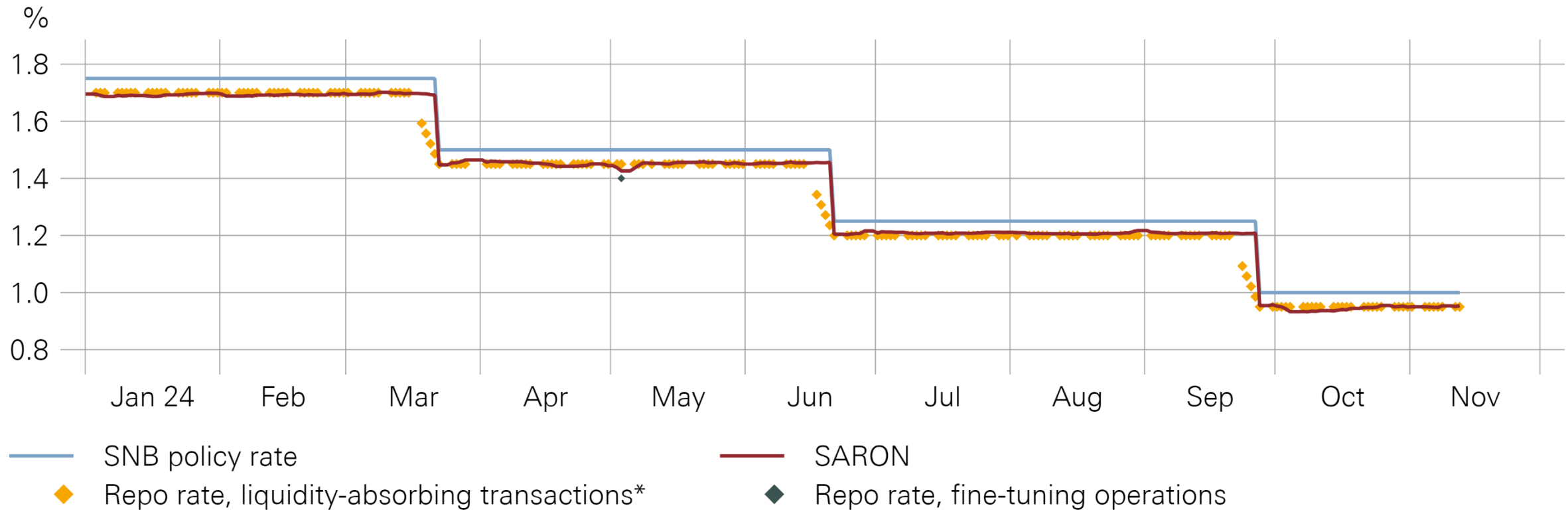
In CHF billions



Source(s): SIX, SNB

Repo transactions enable effective interest rate steering

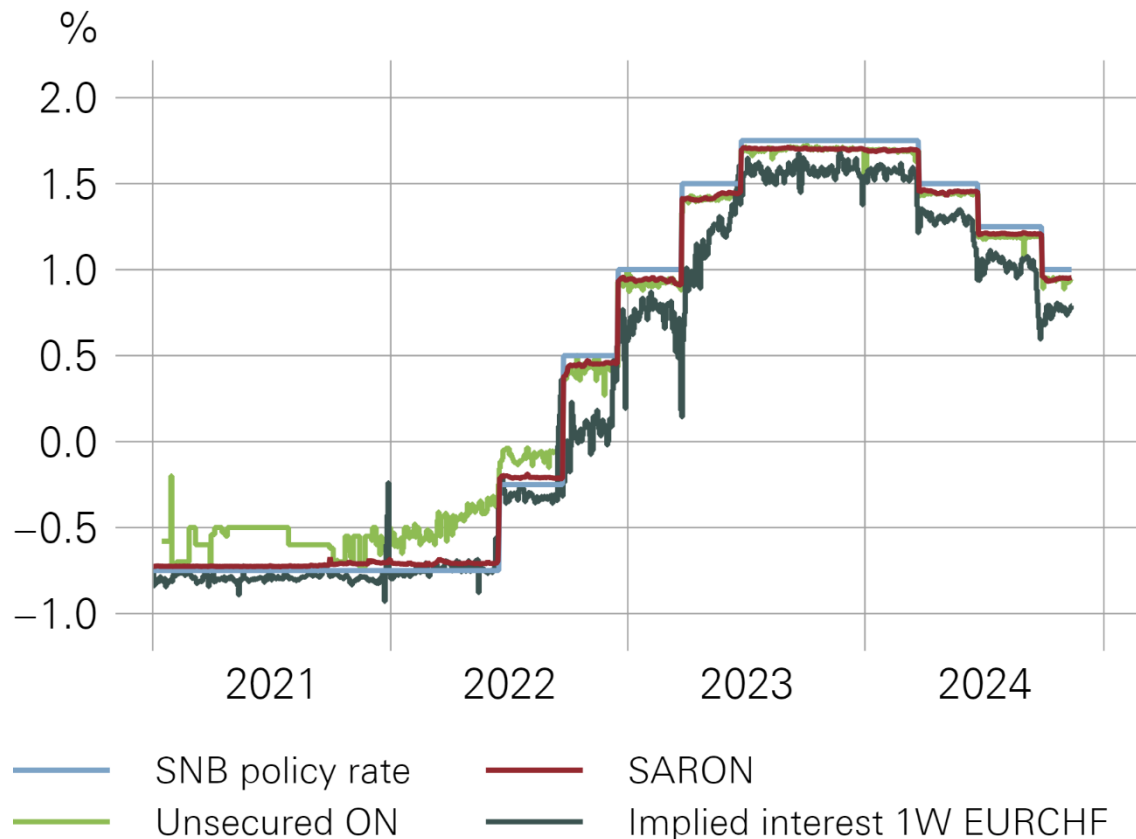
SNB INTEREST RATES AND SARON



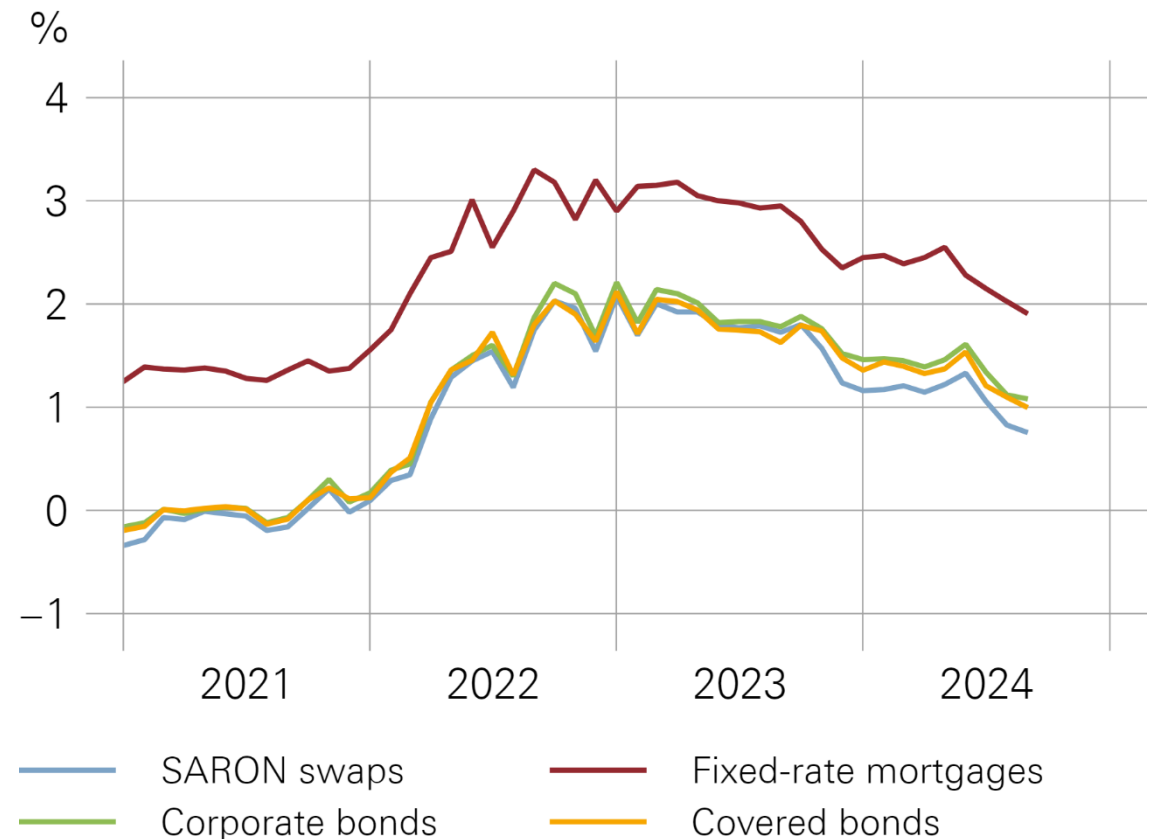
* Repo transactions indexed to SNB policy rate, 1-week maturity

The SNB's monetary policy stance is transmitted from the repo market to the rest of the economy

SWISS FRANC MONEY MARKET RATES



TEN-YEAR INTEREST RATES IN CHF

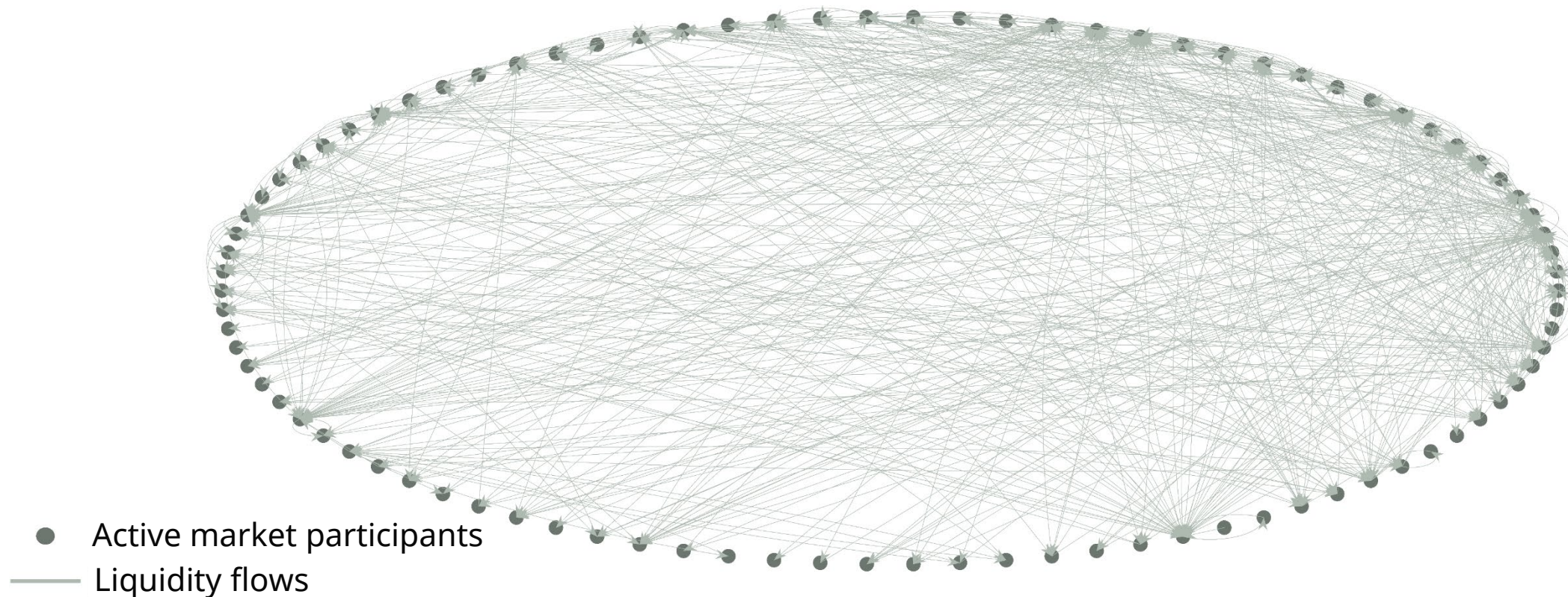


Source(s): Bloomberg, SIX, SNB

Participants in the repo market can quickly obtain liquidity or invest excess liquidity

NETWORK OF LIQUIDITY FLOWS IN THE SWISS FRANC REPO MARKET

Reference period: first week of September

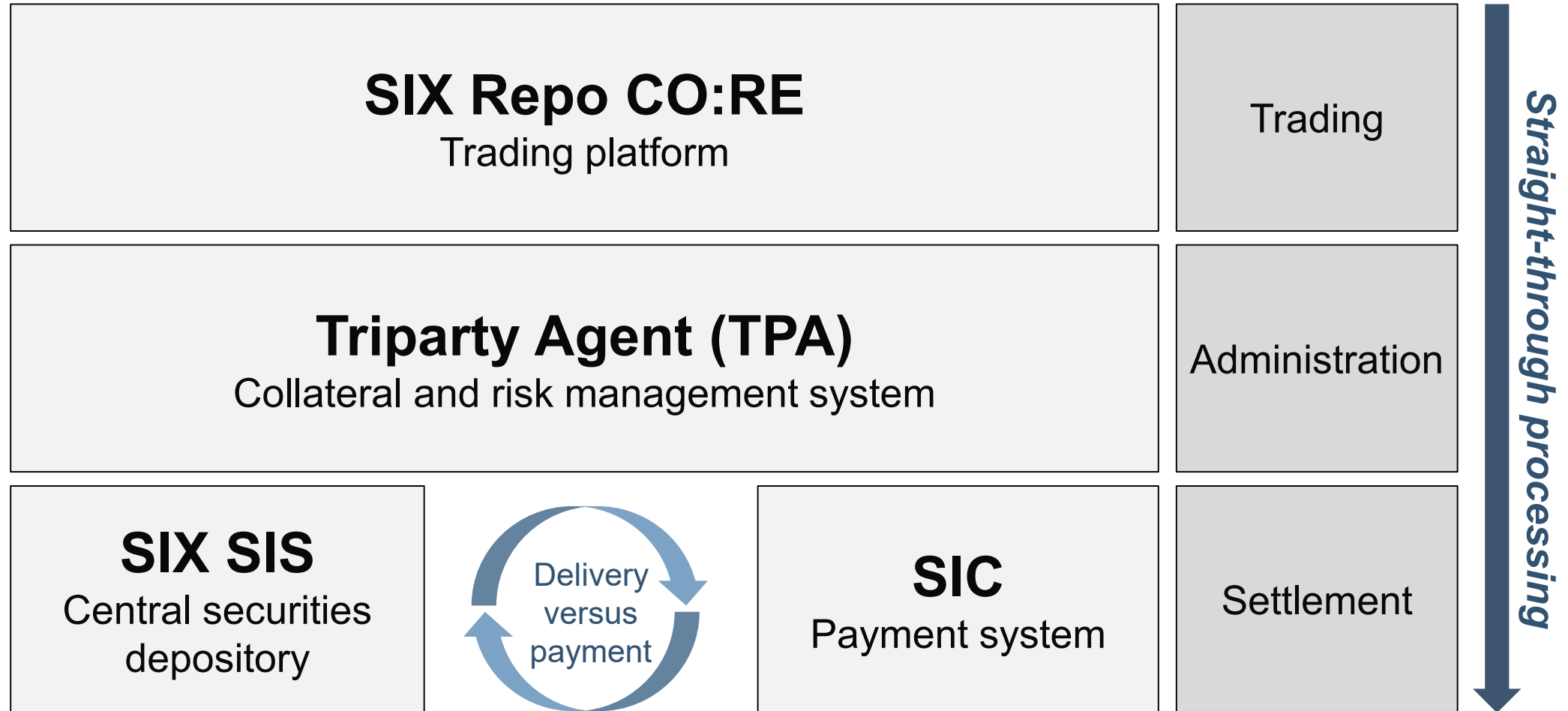


Swiss franc repo transactions are a particularly secure financial instrument

Various factors contribute to the security, liquidity and efficiency of the Swiss franc repo market

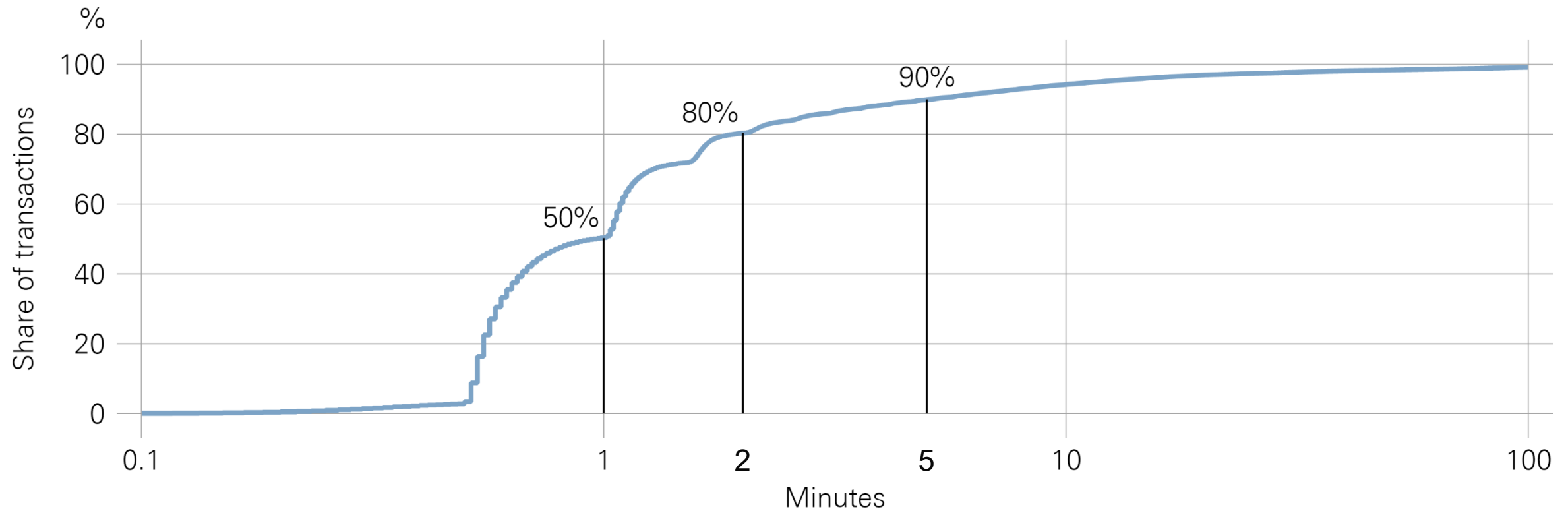
- 
- High-quality collateral
 - Standardised collateral baskets
 - Integrated risk management
 - Automated settlement

The Swiss Money Market Value Chain efficiently links trading, settlement and collateral management



Swiss franc repo transactions are settled within a few minutes

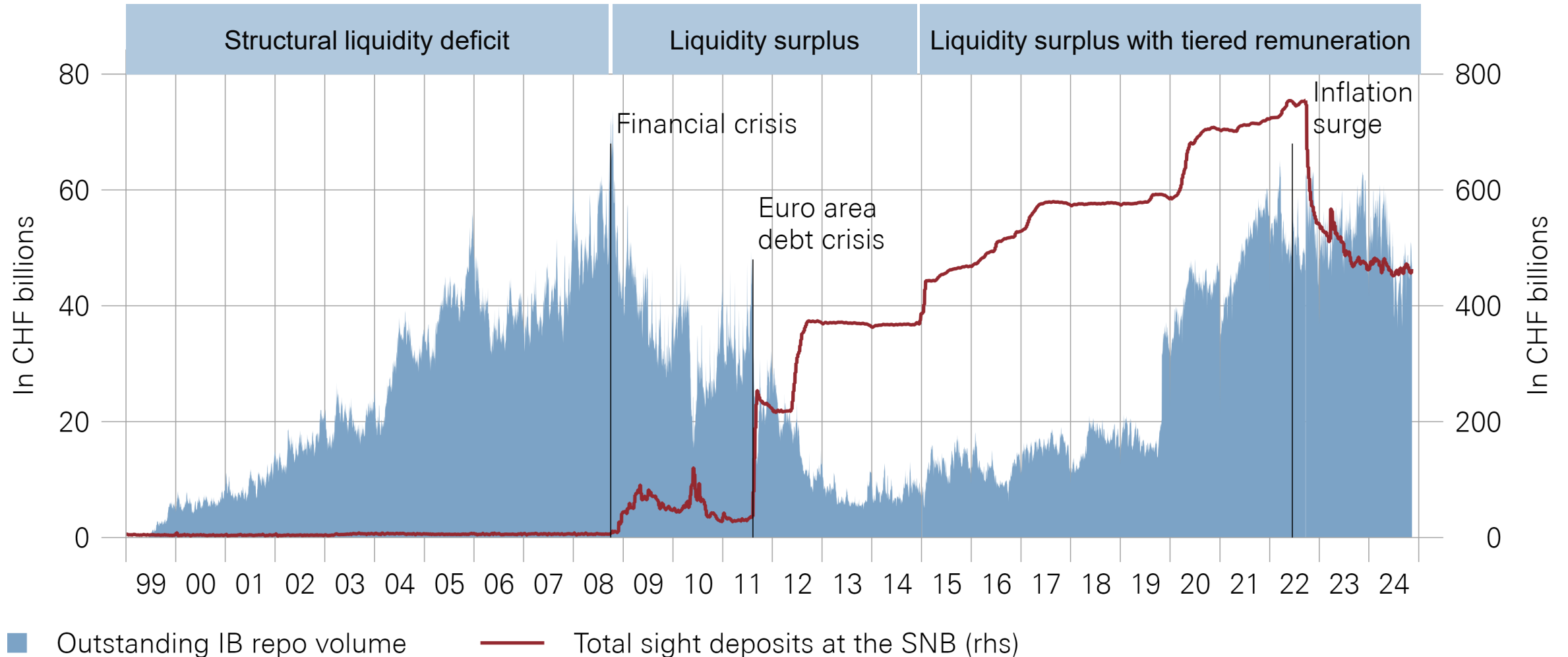
SETTLEMENT DURATION



All overnight repo transactions concluded between 16 June 2020 and 12 November 2024 in the Swiss franc interbank market

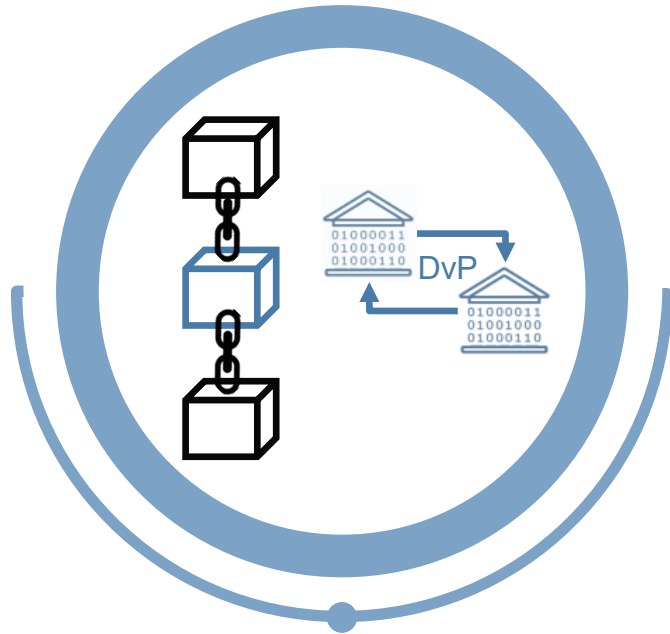
Source(s): SIX, SNB

The tiered remuneration of sight deposits helped to revive trading activity

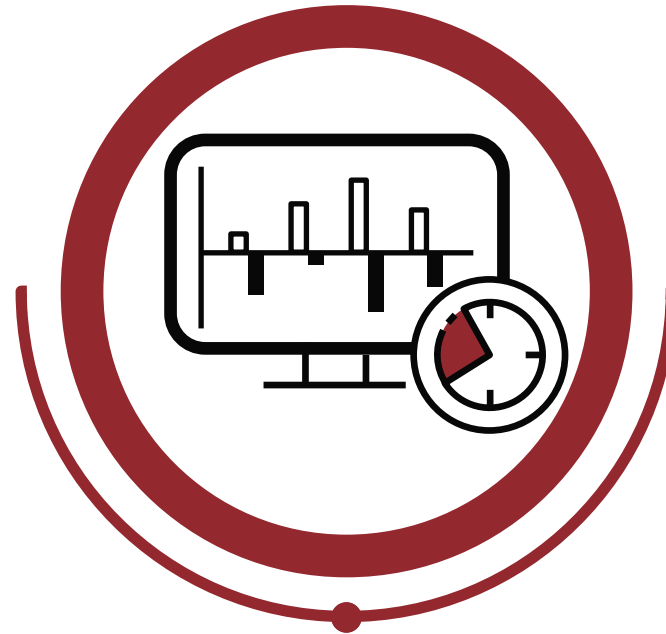


Source(s): SIX, SNB

Technological progress is an important driver of transformation in the repo markets



Simultaneous delivery
versus payment



Intraday liquidity
management



Collateral
mobility

Thank you for your attention.

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