

Economic Commentaries

The Riksbank's oversight of the financial infrastructure

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The financial infrastructure consists of the systems that manage payments and transactions with financial instruments. A smoothly-functioning infrastructure is crucial for the stability of the financial system. This Economic Commentary describes why the Riksbank monitors the financial infrastructure and why the infrastructure is important to financial stability. It also describes what aspects the Riksbank takes into consideration in its practical oversight work.

The financial infrastructure consists of systems through which payments and transactions with financial instruments are handled. This infrastructure makes it possible for individuals, companies and authorities to implement payments in a safe and efficient manner. It also makes it possible to safely and efficiently pay for and deliver financial instruments such as shares, bonds and derivatives, which are traded on the financial markets. In this way, it is the core of the financial system and forms a precondition for the efficient functioning of the financial system. If problems arise in the financial infrastructure, they can have serious negative consequences for the functioning of the financial system, with potentially substantial costs to society as a result. The functioning of the financial infrastructure is thus important for the stability of the financial system.

This Economic Commentary describes why the financial infrastructure is important for financial stability, and how the Riksbank works on overseeing the infrastructure.

What is the financial infrastructure?

The financial infrastructure is usually defined as the systems which draw up financial positions and/or enable financial flows between various participants.² In concrete terms, this means that the financial infrastructure is where instructions and information on payments are compiled (cleared) and where payment are finally executed (settled). In transactions with financial instruments, settlement also includes securities being transferred from the seller to the buyer.³ The financial infrastructure also includes the systems' legal frameworks and routines, as well as the participants' use of them.

The infrastructure systems include payment systems and central securities depositories⁴ as well as central counterparties (CCP) that take on counterparty risks by acting as intermediary in financial transactions, and trade repositories, that is, databases that gather and register data on financial transactions.⁵

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² See, for instance, *Principles for financial market infrastructure*, 2012. Bank for International Settlements and Riksbank's oversight of the financial infrastructure, 2012. Sveriges Riksbank.

³ For further information on how payments and securities are cleared and settled, see *The Swedish Financial Market*, 2016. Sveriges Riksbank.

⁴ Central securities depository manages the clearing and settlement of securities, among other tasks.

⁵ Trade repositories come under the supervision of the European Securities and Markets Authority (ESMA). At present there are no trade repository in Sweden.

Why does the Riksbank oversee the financial infrastructure?

The Riksbank's oversight of the financial infrastructure is based on the Sveriges Riksbank Act.⁶ The Sveriges Riksbank Act states that the Riksbank shall promote a safe and efficient payment system. There is no detailed description of what comprises a safe and efficient payment system. However, it is set out that the Riksbank has a responsibility for the supply of cash and for providing a central payment system (RIX)⁷. In addition, the Riksbank must be able to counteract financial crises and other serious disruptions in the financial system by, for instance, supplying liquidity.

A safe payment system requires a stable financial system so that payments and the supply of capital function smoothly. A decisive factor here is a smoothly-functioning financial infrastructure. The financial infrastructure is also crucial for the Riksbank to be able to implement its monetary policy, and also in other ways provide the financial system with liquidity.

The Riksbank thus oversees the financial infrastructure as part of its statutory task of promoting a safe and efficient payment system and maintaining price stability. More specifically, the oversight aims to identify and analyse systemic risks and efficiency losses in the financial infrastructure and to act to reduce these risks.⁸

Risks in the financial infrastructure companies and how they could spread

Financial stability is usually defined as meaning that the financial system can maintain its basic functions and moreover have good resilience to disruptions that could threaten these functions. The basic functions primarily concern mediation of payments, conversion of savings to investments and managing risk, for instance by making it possible for companies and investors to insure themselves against interest rate and currency risks. All of these functions are necessary conditions for a smoothly-functioning economy and economic growth.⁹

The core of the financial system is the financial infrastructure, in that it mediates payments and manages transactions using financial instruments. If the infrastructure does not work, the financial system will not be able to maintain its basic functions.

One could compare the financial infrastructure to the electrical wiring in a building. The wiring mediates electricity so that all electrical machinery, such as washing machines, computers and so on can function. The electricity itself does not fulfil any function, but it enables functions that are essential. And the financial infrastructure works in the same way. The financial flows mediated through the financial infrastructure make it possible for the economy to function. The payment flows themselves are not what is important, rather the fact that they make it possible for households and companies to pay for goods and services. This in turn contributes to an economic system that promotes economic growth. The

⁶ Sveriges Riksbank Act Lagen (1988:1385) om Sveriges Riksbank.

⁷ RIX is the system for large-value payments. Large parts of the banks' payments are made through the banks' accounts in RIX and all of the major Swedish banks, as well as the Swedish infrastructure companies and some foreign ones, participate in this system. The system is owned and run by the Riksbank, which is also a participant in the system. Read more about RIX at www.riksbank.se.

⁸ *The Riksbank's oversight of the financial infrastructure*, 2012. Sveriges Riksbank.

⁹ See *The Riksbank and financial stability*, 2013. Sveriges Riksbank.

infrastructure also mediates savings from households and companies and in this way contributes to funding consumption and investment. Savings can be for instance through deposits in bank accounts or through purchases of securities, such as shares and bonds. The financial infrastructure then offers technical systems that execute the transactions.

These financial infrastructure systems link together the participants in the financial system and all economic activity. Banks and other financial institutions are participants¹⁰ in the systems and in many cases these systems also participate in each other's systems. This strong interconnectedness means that shocks can quickly spread throughout the whole financial system. Shocks could be disruptions to an infrastructure system that spread to participants in the system or to other systems. Conversely, problems in the banks can spread to a system and through this on to other systems and participants. The financial infrastructure thus channels disruptions, even if it is not itself the source of the disruption and in this way gives rise to systemic risk, that is, the risk that a disruption will occur in the financial system that can entail major socioeconomic costs. The financial infrastructure is therefore systemically important, that is, it is a necessary condition for some other part of the financial system to be able to function. To reduce the risk of disruptions spreading and creating stress throughout the financial system, it is important that all links in the chain have a good resilience to shocks.

The risks that can arise in the infrastructure systems are largely operational, that is, risks that are related to internal processes and governance, IT and cyber or to the human factor which means that the systems are not able to maintain their functions. If the systems cannot supply their services, this in turn could lead to financial risks among participants in the financial system.

Central counterparties (CCP) are, just like banks, exposed to and give rise to financial risks, such as credit risks and liquidity risks. A CCP acts as intermediary in financial transactions and thus goes in as buyer to all sellers and seller to all buyers. As a result of this, the original parties have a claim on, or a debt to, the central counterparty instead of each other. This means that the counterparty risks that the parties would have been exposed to in relation to each other are transferred to the central counterparty. The CCP is therefore exposed to credit and liquidity risks if one of the participants is unable to meet its obligations. If the CCP were to experience problems, this could in turn affect the other participants in the CCP and ultimately the entire financial system.

How does the Riksbank work in practice on overseeing the financial infrastructure?

The oversight work is based on international principles¹¹

The Riksbank's oversight of the financial infrastructure is largely crisis prevention and proactive. It concerns regularly influencing the systems' risk management and efficiency in a way that minimises the vulnerability of the financial system. Part of this work consists of influencing legislation and regulatory frameworks that the systems shall observe.

This means that the Riksbank regularly follows developments in the systems covered by the oversight. The Riksbank has a statutory¹² right to receive information from the systems

¹⁰ In some cases, financial intermediaries can also be owners of infrastructure systems. One example is Bankgirot AB, which is owned by eight banks: Handelsbanken, Nordea, SEB, Swedbank, Danske bank, Länsförsäkringar bank and Skandiabanken.

¹¹ *The Riksbank's oversight of the financial infrastructure*, 2012, Sveriges Riksbank.

¹² This concerns the Swedish infrastructure companies that are under the supervision of Finansinspektionen. The Riksbank also oversees foreign infrastructure companies that are active in Sweden and that are not included in Finansinspektionen's supervision. However, the Riksbank does not have any statutory right to require information from these systems.

that the Riksbank considers necessary to carry out its oversight work. The infrastructure companies are therefore expected to inform the Riksbank about planned changes to the systems and other important facts that have an effect on them.

The oversight and the Riksbank's analysis are based on CPMI-IOSCO's¹³ international principles for financial infrastructures. These principles consist of 24 points that central banks and supervisory authorities together have chosen to regard as essential to counteract risks in the financial infrastructure and to reinforce its resilience to shock. The principles are minimum requirements, which means that individual countries and authorities can make higher requirements of their respective systems to take into account phenomena and distinctive features on their individual markets.

For certain types of financial infrastructure systems, many of the international principles have also been incorporated into law. However, the Riksbank works to ensure that the infrastructure systems also comply with the parts of the principles not covered by legislation.

The Riksbank uses a risk-based working method in its oversight work. This means that each individual infrastructure system is assessed with the aid of a method produced by the Riksbank that is based on the international principles. The risks for each system are assessed on the basis of the probability that they will materialise and how serious the consequences would then be for financial stability in Sweden.

The infrastructure companies that are under supervision also publish information on themselves on the basis of the requirements in the principles, in a so-called disclosure report, at least every other year or more often if the operations have undergone major changes.

The oversight work is carried out in cooperation with Finansinspektionen, which is responsible for the supervision of the individual infrastructure companies.¹⁴ The tasks of the Riksbank and Finansinspektionen complement one another to a great extent. Unlike Finansinspektionen, the Riksbank does not have the possibility to issue sanctions against infrastructure companies. But on the other hand, the Riksbank has the opportunity to oversee the infrastructure on the basis of international standards that have not yet become legislative requirements.¹⁵

Which systems does the Riksbank oversee?

The Riksbank applies six criteria to identify the Swedish systems that are to be overseen:

1. *the number and value of the transactions handled by the system,*
2. *the system's market shares*
3. *the markets on which the system is active,*
4. *the available alternatives that could be used at short notice*
5. *the presence of links with other systems and financial institutions*
6. *the system's significance for the implementation of monetary policy*

The infrastructure companies and systems that are to be overseen include the Riksbank's own system, RIX, which settles large-value payments. RIX is the hub of the Swedish financial infrastructure through which all payments in Swedish krona eventually pass. The Riksbank also oversees Euroclear Sweden, where all securities in Sweden are settled. Euroclear Sweden thus has links to and is dependent on other participants and systems in the financial infrastructure. Nasdaq Clearing, which is a central counterparty and thereby takes on a large

¹³ The CPMI is a body that sets standards for central banks and the IOSCO is the corresponding body for financial supervisory authorities. The Riksbank decided in 2012 to apply these principles in its oversight work. This decision was updated in 2018, see *Decision on oversight of the financial infrastructure*, ref. no. 2018-00475. Sverigs riksbank.

¹⁴ RIX does not fall within the remit of Finansinspektionen's supervision.

¹⁵ Through its participation in the CPMI the Riksbank has undertaken to oversee the infrastructure systems on the basis of the principles.

counterparty risk, plays an important role with regard to financial stability in Sweden and is therefore also under the Riksbank's oversight. In addition, the Riksbank also oversees Bankgirot, which is the payment system for various types of account transfers in Sweden.

Apart from the Swedish systems, the Riksbank also oversees foreign systems that are important to the Swedish financial system. The foreign systems are CLS, SWIFT, LCH.Clearnet (LCH) and EuroCCP.

The CLS (Continuous Linked Settlement) is a settlement system designed to eliminate settlement risk¹⁶ in foreign exchange transactions. SWIFT (Society for Worldwide Interbank Financial Telecommunications) supplies networks and message standards for financial transactions. EuroCCP and LCH are central counterparties that clear shares issued in Swedish krona. In addition, LCH clears a substantial share of interest rate swaps denominated in Swedish krona. The foreign systems are active on the Swedish market but have their legal domicile abroad. The oversight of foreign systems is led by the responsible authorities in each system's home country and follows the guidelines for cooperation in accordance with the principles of CPMI-IOSCO.

Communication – an important tool to reduce risk in the systems

The Riksbank has no binding tools to influence participants in the financial system. Instead the Riksbank uses what is known as "moral suasion" to bring about change. This means that the Riksbank uses communication, publicly and/or in a dialogue with the participants, to draw attention to and warn against the systemic risks that have been identified. The Riksbank also encourages the participants to remedy them.

The Riksbank's views on financial stability are communicated in several ways. One important publication is the Financial Stability Report. In this report, the Riksbank presents its assessment of financial stability and draws attention to risks that could threaten financial stability. The report also contains an assessment of the safety and efficiency of the financial infrastructure. The Riksbank can also use other channels, such as speeches and articles.

Concluding comments – future challenges

The financial infrastructure plays a central role in the financial system and it is important for the smooth functioning of the economy that it functions well. It is therefore essential that the infrastructure systems have good resilience to manage shocks. The same applies to their participants.

At the same time, the financial system is undergoing constant change. New technology, regulation and participants all create new challenges.

Towards the end of 2018, the ECB is to launch a new system for the settlement of real-time payments, called Target Instant Payments Settlement (TIPS). The new system will make it possible to settle payments in other currencies than the euro. In Sweden, as of the launch of Swish in 2012, we have a system for real-time payments and as the use of cash has declined in society this system has grown rapidly. This development has led the Riksbank to now include the system that lies behind Swish, Betalningar i realtid (real-time payments), which is run by Bankgirot, in its oversight.

¹⁶ That is, the risk that a party in a transaction will not fulfil its obligations, for instance, supply securities or currency, despite the other party having met its part of the obligations.

In recent years, several new regulations have been produced, which aim to harmonise the regulatory frameworks within the EU and to make it possible for infrastructure companies to conduct cross-border operations. The EU Regulation on Central Securities Depositories CSDR¹⁷, together with initiatives such as the European Central Bank's (ECB) pan-European platform for securities settlement in central bank money, Target 2 Securities, changes the conditions for securities settlement within the EU, open up for cross-border competition.

The new conditions entail challenges and changes to which the infrastructure companies must react. Harmonised regulatory frameworks make it possible for infrastructure companies to operate across national borders, but at the same time they mean that markets that have previously been largely dominated by one or a few participants are now subjected to competition. This competition means that the companies may need to change their attitudes towards their customers and markets. It can also entail new challenges, but also opportunities for the authorities with regard to supervision and oversight of cross-border operations.

¹⁷ Regulation 909/2014 on improving securities settlement in the European Union and on central securities depositories.