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## ACCESSIBLE SUMMARY

# COVID-19 is accelerating the payment revolution

19 May 2021 – Bank of Finland Bulletin 2/2021 – Money and payments

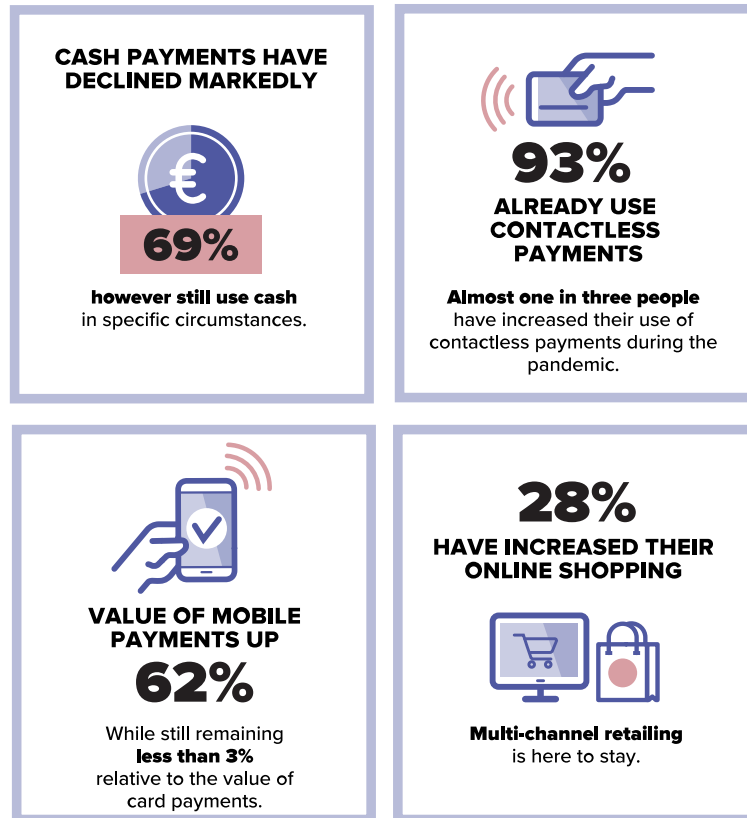
Payments are changing. In the same way that technological progress influences so many of the day-to-day activities of households and businesses, it affects how we make payments. The coronavirus pandemic has irreversibly changed how we live during the past year and has accelerated many long-brewing developments. The future of payments may arrive sooner than anticipated just one year ago.



Finns are well-accustomed to choosing between cash or card when paying for their shopping at retailers. Yet the coronavirus pandemic has not only changed how we shop, it has changed how we pay. When people were urged to social distance to prevent the spread of the highly infectious virus, many of us sought to do our shopping online. This brought about a rise in online transactions and card payments. Similarly, even brick-and-mortar retailers encouraged their customers to favour cards instead of cash at the checkout, fuelling the popularity of contactless card payments and smartphone mobile payments.

It is easy to keep track of one's spending when purchases are paid by cash. Online shopping can make it more difficult for consumers to estimate how much they can afford. Online shoppers may also fall victim to scams or stray onto malicious websites. As the world becomes increasingly digitalised, each one of us needs to invest in our financial literacy and understanding of cyber security risks. These civic skills will only become ever more important as more of our activities move online.

## COVID-19 has accelerated change in use of payment methods in Finland



Source: Bank of Finland

The future of payments is one that affects us all, so it is important that authorities retain oversight of its developments. Both the European Commission and the Eurosystem have [published a Communication](#) outlining a desirable path of development for consumer and business payment services. Looking to the future, the benefits of instant payments should be made widely available for all. It is important that European values and principles of governance are reflected in Europe's payment systems: uniform and consistent services need to be guaranteed for all Europeans. European payment standards provide a basis for such a provision of services.

The European Central Bank is [carefully surveying the need for issuing a digital euro](#). As cash payments decline, banknotes could be supplemented with a new digital euro to support the evolution of retail payments in Europe. The Communication explores how a digital euro might be adopted without harming existing payment services. The report also examines how payment methods based on a digital euro would comply with existing payment legislation in Europe. No decisions have yet been made on the issuance of a

digital euro.

Central banks must continue to keep a close eye on payment systems and services and how they are evolving, to ensure that they remain reliable and do not pose risks to their users.

## Tags

COVID-19 pandemic, digital euro, digitalisation, payment systems, payments

# Future of payments at hand

31 May 2021 – Bank of Finland Bulletin 2/2021 – Money and payments



Päivi Heikkinen  
Head of Department



Tuomas Välimäki  
Member of the Board

Payments are a basic function in society, the lifeblood of economic activity; if disrupted, this could bring society to a total standstill. It matters how payment services and the systems executing these services are designed, how they are managed and what costs are involved. New types of services enabled by technological progress, increasing competition as a result of deregulation and risks related to the digital environment have an impact on both payment services and the underlying arrangements. The coronavirus pandemic has irreversibly changed how we live during the past year and has accelerated many long-brewing developments. The future of payments may arrive sooner than anticipated just one year ago.



In the same way that technological progress influences so many of the day-to-day activities of households and businesses, it also affects how we make payments. Already for decades, the bulk of the euro volume of payments has moved in the form of electronic credit transfers between bank accounts, based on harmonised standards. Across the euro area, too, this has been the case for more than a decade already. Payment cards have largely replaced cash in daily payments. No-one is using a payment card imprinter anymore, as, within the course of two decades, payment card technology has moved first to magnetic stripes and then on to chips and then mobile applications, and even to accessories, such as smart watches. Recently, contactless payment without a PIN code has rapidly gained in popularity.

Year 2020 was a turning point in electronic payments. The pandemic changed people's behaviour rapidly, and this was also reflected in purchases and payments. The European Commission published a Retail Payments Strategy for the EU as part of its digital finance package, outlining a desirable path of development for payments to ensure benefits for consumers and businesses. The Eurosystem outlined similar objectives for retail payments already in late 2019. Recent developments also reflect payments regulation, in particular the requirement of strong customer authentication in payments, as well as the open banking practice, which requires banks to provide third-party financial service providers open access to payment interfaces. The purpose of regulation and retail payments strategies is to strengthen the efficiency, diversity and quality of European retail payment services. The payments revolution accelerated by the pandemic underlines the importance of the objectives and the urgency of the measures required to support the strategy.

## The impact of COVID-19 on payments

The full impact of the pandemic on payments will become evident only when all the restrictions on the activities of businesses and members of the public have been lifted. Is the growth in e-commerce permanent, will mobile payment solutions continue to grow at a strong pace, will the use of cash in daily payments return to pre-pandemic levels? Research on consumer behaviour often notes that people's behaviour particularly in everyday use of services becomes automatic, and habits in, for example, payments are not easily changed. A crisis can however change behaviour rapidly. Recommendations and restrictions issued as a result of the pandemic have constrained the possibilities to consume and have directed consumption into new channels. Payment behaviour has been guided in many places directly, for example by urging people to avoid cash payments.

The Bank of Finland Bulletin article on how the coronavirus pandemic will change payment methods permanently analyses changes in payment methods relative to consumer demand. It is noteworthy that the recovery in consumer demand is reflected primarily in card payments. Contactless payment, in particular, continued to increase, even though the EUR 50 upper limit per purchase is constraining its wider use. In mobile payment, there is no upper limit, which may have supported the strong growth in the use of this payment instrument. Its role in the total volume of daily payments is, however, still fairly small. Consumption and trade have increasingly moved to a multi-channel environment where an online shop and a traditional store provide services in parallel. This imposes additional requirements for the development of payment methods, as payment methods designed for face-to-face payment do not necessarily serve online payment in the best possible way. Risk management and a smooth payment process set different requirements for the various payment channels. The increasingly stronger position of e-commerce and electronic payments also underlines the importance of financial literacy. E-commerce independent of time and place and a payment transaction that is faded into the background may weaken consumers' perception of their financial position.<sup>[1]</sup> Consumer surveys show that during the pandemic the bulk of cash use has

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1. For a more detailed analysis, see [Suomalaisten talousosaaminen: Analyysi 2000-luvulla tehtyjen tutkimusten ja selvitysten perusteella](#) (in Finnish only).



been in consumer groups that do not have access to other payment methods. If this trend persists, it means that national currency supply must adjust to smaller volumes. This would have an impact on the costs of currency supply, the availability and usability of cash, and national preparedness.

## The Eurosystem and European Commission strategies for retail payments

The European Commission's retail payments strategy identifies the key areas in which the digital payment services of individuals and businesses should be developed. Services that are developed on market terms and in contestable markets can best meet the needs of end-users. Trusted, efficient and open payment systems are the foundation of the services to be developed. Europe's economic independence as well as financial sector independence require that retail payment services are generated with systems that comply with European legislation, consumer protection and data protection, as well as the principles of good governance. The European Union also supports the G20 initiative on the enhancement of cross-border payments, particularly remittances.

The transformation of digital payments to real-time payments follows the trends in the other sectors of the economy, towards 24-hour services. When real-time payment transfer is referred to as the new normal, it should be considered that real-time payment systems are a necessary but not sufficient precondition for services that benefit end-users. The Commission considers that a smart phone application based on instant payment and uniform rules, i.e. a mobile payment application, can effectively compete with the dominant position of the big tech companies located outside Europe, and thus create for Europe a necessary retail payments system of its own. While the Commission wants to develop European digital payments, it is also examining ways to ensure that cash remains a true alternative in various payment situations.

The payment transmission infrastructure has been largely based on batch processing of invoices and payments. The credit transfer infrastructure has increased the number of daily settlement cycles, and so the transfer of funds has often taken place during the same day, but no later than the following day. Meanwhile, changes in payment systems were initiated only after calls for real-time payments as part of the real-time world. Real-time transfer of payments – primarily of credit transfers – is provided by actors in the private sector, such as EBA Clearing, as well as by the European Central Bank.

The Payment Services Directive (PSD2)<sup>[2]</sup> has already brought about competition in the development of payment services. New types of payment service providers have entered the market with the aim of catering for the needs of consumers and traders by providing alternative payment methods to replace or supplement banks' payment services. In the area of e-commerce, the market has seen the emergence of operators who combine different payment methods for consumer selection and also provide escrow services. New agile alternatives have widened the range of card acceptance solutions, and mobile phone apps have been developed for person-to-person payment. The traditional payment services production has been somewhat rigid, leaving room for new firms and business

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2. PSD2 – Regulatory framework, Financial Supervisory Authority ([finanssivalvonta.fi/en](https://finanssivalvonta.fi/en)).

models.

The Bank of Finland Bulletin article on the future of European retail payments and the implications for the Finnish markets discusses the objectives of authorities for the path of development for payments and assesses how Finnish banks' development projects will implement these objectives. Finnish banks have joined payment systems that enable real-time payment, but their payment services to customers do not yet encompass all the opportunities offered by the infrastructure. Commitment to European standards will ensure that the benefits of European payment systems will be available for Finnish banks and their customers also in the future.

## Digital euro

The fundamental difference between electronic payment methods and cash is that e-payments are carried out between deposit accounts or against debt. Bank deposits are the bank's debt liabilities to its customers and, depending on the payment method, entries between the payer's and the payee's deposit accounts are recorded separately from the payment transaction, sometimes even days thereafter. In the case of e-payments, the bank's liability to the payer becomes a liability to the payee. Cash, in turn, is a payment instrument issued by the central bank which in itself also serves as a means of transferring monetary value. The purchasing power of a banknote passes on immediately from the payer to the payee without separate entries into account systems, and the central bank is responsible for the value of the banknote. The diminishing role of cash as a means of payment has brought about a discussion of the difference between central bank money and commercial bank money. Partly as a result of this, consideration has also been given to the introduction of a central bank digital currency (CBDC) for use by consumers. Central banks are extensively studying the criteria and models of CBDCs, and the first pilot projects have already been conducted.

The Bank of Finland Bulletin article on a digital euro draws on an analysis carried out within the Eurosystem and discusses the features required of a digital euro as a means of payment. At best, a digital euro could compete with the prevailing retail payment methods in such a way that the markets, which tend towards monopoly, would remain competitive for the benefit of consumers and businesses. A digital euro could also contribute to the European sovereignty of retail payments sought in the retail payments strategy. A digital euro must comply with the requirements of European regulation, as must the payment methods provided by the private sector, and must not impair financial stability. The creation of this kind of a digital means of payment which is based on central bank currency and is comparable to cash requires extensive analysis and also value choices. The Bank of Finland is participating in this work in the Eurosystem, but no decisions have been made on the introduction of a digital euro.

## Central bank oversight

When a lot of changes take place in an industry and its operating environment, this emphasises the importance of oversight of the payment infrastructure. The particular purpose of central bank oversight is to assess payment and settlement systems and their operation. The objective is to ensure that system-level risks are under control and that

any problems encountered by one operator will not spread through the systems to the entire sector (systemic risk). Central bank oversight complements institutional supervision conducted by financial and banking supervisors – in Finland the Financial Supervisory Authority.

Oversight covers both payment systems and securities settlement systems. The diversification and critical nature of electronic payments has also widened the scope of oversight towards different payment methods. For example, in addition to the traditional interbank payment systems, oversight also covers card payment services, electronic money and payment initiation services. Legislation on securities trading has been updated since the financial crisis, and the fulfilment of conditions for authorisation of these systems is evaluated on an annual basis. The Bank of Finland Bulletin article on the oversight of payment and settlement systems examines in detail what requirements are imposed on payment and settlement systems and how the fulfilment of these requirements is assessed.

As a rule, financial markets are international, and the infrastructures important for the Finnish financial market are largely located outside Finland. The oversight of these systems is based on extensive and well-structured cooperation between central banks. Oversight activities are based on internationally agreed oversight principles, which have served as a basis for standards and recommendations suitable for evaluating various systems. Despite careful oversight, full dependence on international infrastructures means that there are significant risks to national preparedness in the financial sector. From the perspective of oversight, too, it is important that services critical to society are available in all circumstances.

## **Future of payments ever closer**

There are long-term trends in retail payments, many of which accelerated during the COVID-19 pandemic. Finland and, indeed, the whole of Northern Europe have played a leading role in the digitisation and automation of payments. The prolonged pandemic may serve as a catalyst that pushes other euro countries onto the same path as Finland, in particular in regards to the use of cash.

Consumers can often choose between several payment method options. Many products can be paid by cash, card or bank transfers through online or mobile banking. The diversity of payment methods based on different infrastructures maintains competition and creates operational security. This is important because payments are in many respects a part of the network economy, in which economies of scale tend to lead to monopolisation of activities.

If the trend continues, the diminishing role of cash as a means of payment may significantly increase the cost of cash payments. This, in turn, could further reduce both the availability of cash and its acceptability as a means of payment. If uncontrolled, it would be an undesirable development, as cash still remains the main payment method for many Finns and holds a central role in, for instance, ensuring emergency preparedness. Therefore, the Bank of Finland closely monitors the development of cash payments and, where appropriate, the Bank's experts participate in working groups coordinated by the Euro Retail Payments Board and the European Commission, with the

task to analyse developments in the acceptance of and access to cash. Ensuring the role of euro cash is a matter for both European and national authorities.

At one time, an empty wallet forced consumers to reduce consumption. It offered a lesson in financial discipline. In a digital world, an increasing share of consumption is paid for and sometimes financed automatically, even unnoticed. This exposes consumers to new kinds of financial management needs. However, financial literacy does not emerge on its own. The Bank of Finland has paid particular attention to this issue through measures such as launching a [financial literacy project](#)<sup>[3]</sup> at the beginning of 2020 and by drawing up a proposal for a [national strategy to promote financial literacy](#),<sup>[4]</sup> which was submitted to the Ministry of Justice in January 2021. It is important that the promotion of financial literacy progress alongside the transformation of payments.

For years, enhancing the speed and internationalisation of payments have been key trends. The creation of the Single Euro Payments Area (SEPA) enabled rapid and low-cost bank transfers throughout the euro area several years ago. The TARGET Instant Payment Settlement (TIPS) introduced at the end of 2018 built on this trend by enabling almost real-time payments throughout the euro area, including cross-border payments.

Solutions based on instant payment currently appear to offer the most realistic alternative system for retail payments independent of the card payment infrastructure. Such development is necessary, in particular, to prevent the over-concentration of payments and ensure a sufficient supply of solutions to maintain a competitive balance – also with regard to the diminishing role of cash. Instant payments as an everyday payment method are not a utopian vision of tomorrow, but already a reality in some countries. In instant payment applications for consumers, Finland lags behind not only other Nordic countries but also, for example, the Netherlands, where payment behaviour is otherwise very similar to that in Finland. From the point of view of payment diversity, it is unessential whether the instant payment-based options would be based on domestic or pan-European solutions as long as they operate in accordance with European standards. In order to realise the strategic objectives of the Eurosystem and the European Commission regarding European payment sovereignty, their administration must in any case follow European policies and regulations.

A digital euro could be one way of ensuring access to a payment method that is generally accepted across the euro area as the role of cash diminishes. In such a situation, a payment method offered by the central bank could boost the development of private payment solutions, which would also prevent monopoly pricing in payments. A digital euro could also enable the use of digital payment methods for those who require a particularly high level of privacy or a payment method free from credit risk. In the Eurosystem's [public consultation](#) on a digital euro, respondents listed privacy and security as the features they most wanted from a digital euro.

The digitisation of payments has caused the risks to the infrastructure to shift to, in particular, information networks and cyber threats. The large volumes of assets handled

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3. [Financial literacy, Bank of Finland \(bof.fi\)](#).

4. [Learn economy. Financial literacy project, Bank of Finland \(bof.fi\)](#).

by financial market participants and payment systems are attractive targets for cyber criminals and their constantly evolving operating practices. In cyber security, physical security and information security are typically interlinked. This, in turn, challenges the central banks' traditional oversight of payment and settlement systems to broaden its perspective. The Bank of Finland has actively promoted the introduction of a new way for financial sector actors to test their cyber security. In April 2020, the Bank released the threat intelligence-based framework for red team security testing (TIBER-FI) and its implementation guideline.<sup>[5]</sup> The first tests indicate that the framework is a useful and highly effective tool for supporting corporate cyber security.

The central bank participates in maintaining the reliability and efficiency of the payment system and overall financial system, and therefore must be able to offer a broad response to changes in payment trends. For example, ensuring the availability and acceptability of cash and fostering the use of diverse payment options serve the development of the entire national economy. From a macroeconomic and social perspective, it is essential to ensure the adequate functioning of critical services such as payments in all circumstances. Critical disturbances under normal conditions and national preparedness also require that adequate contingency plans for payment systems are in place. Contingency planning must be an integral component in the development of payments.

## Tags

[COVID-19 pandemic](#), [digital euro](#), [digitalisation](#), [payment systems](#), [payments](#)

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5. TIBER-FI implementation guideline. A method for improving cyber security.

# COVID-19 pandemic causing permanent change in payment habits

Today – Bank of Finland Bulletin 2/2021 – Money and payments



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The COVID-19 pandemic has accelerated changes in the use of payment methods in Finland. Nearly half of Finns have reduced their use of cash during the pandemic, and most believe that their use of cash has decreased permanently. Contactless and mobile payments as well as online shopping had already grown in popularity, but due to the COVID-19 pandemic people have begun to use them more widely. Nevertheless, even today cash remains an important means of payment for many people, and it still serves as a fall-back in the event of disruptions to electronic payments.

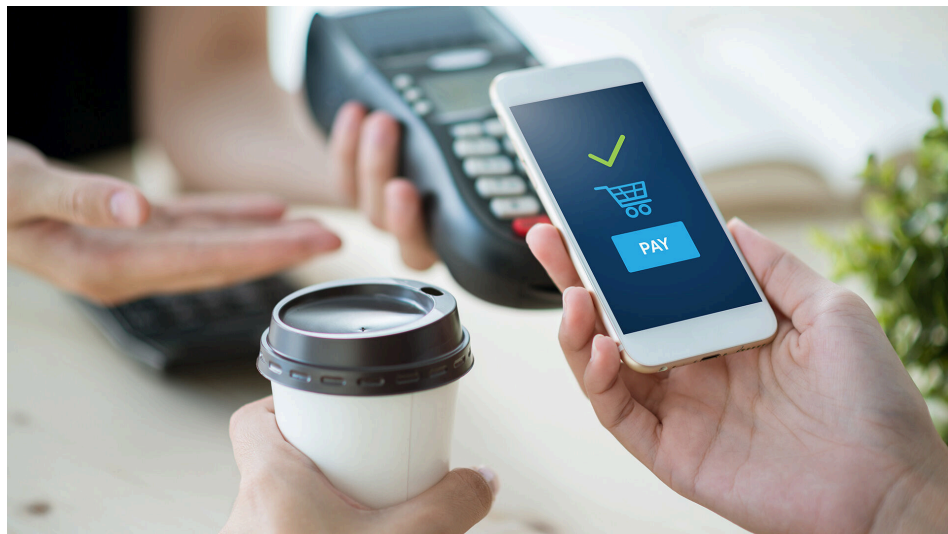
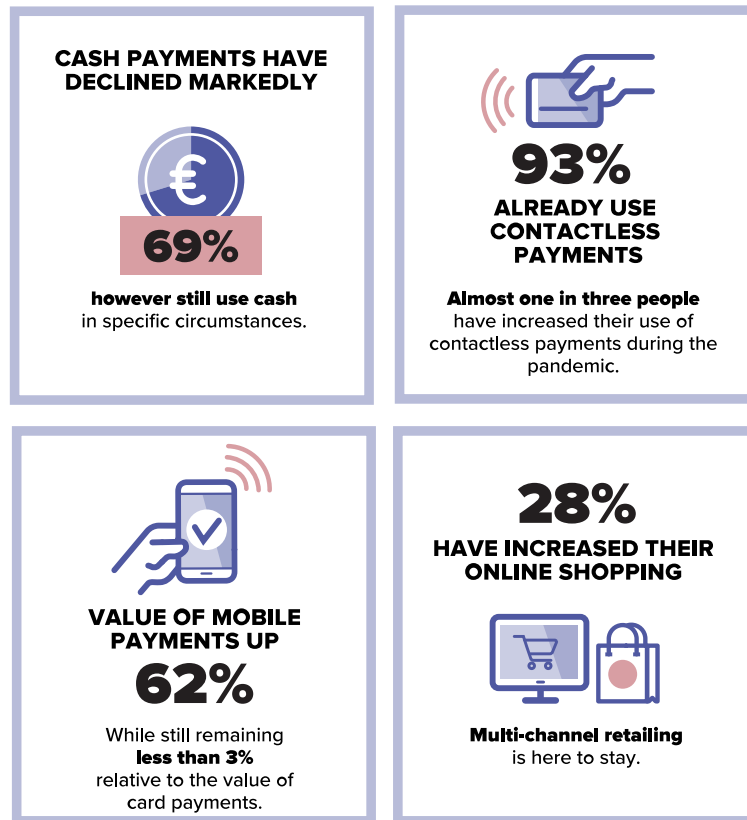


Chart 2.

## COVID-19 has accelerated change in use of payment methods in Finland



Source: Bank of Finland

Year 2020 was in many ways exceptional, and it will remain such also in the history of payments. The COVID-19 pandemic that spread to Finland at the beginning of the year and the restrictive measures taken to prevent the spread of the virus have forced people to change their daily habits. This has also been strongly reflected in Finns' purchasing and payment behaviour. A reduction in private consumption and greater consideration of hygiene in payments have led to a significant decline in the use of cash and an increase in the popularity of contactless and mobile payments. In addition, time spent at home has increased due to COVID-19, as a result of which many people who used to shop in brick-and-mortar stores have increasingly switched to purchasing products and services online. While some consumers might return to their old consumption and payment habits after the COVID-19 crisis, the prolonged duration of the pandemic increases the likelihood that the changes will become permanent.

How has the COVID-19 pandemic affected the use of cash and electronic payment

methods? How will the pandemic affect Finns' purchasing and payment habits in the future, and will this have an impact on the payments market in Finland? This article seeks to answer these questions based on surveys of consumers and payment service providers. The surveys, conducted in early 2021, examined both consumers' and payment service providers' experiences of payments during the COVID-19 pandemic and particularly how the pandemic has affected their actions. In addition, this study utilises payments statistics collected annually by the Bank of Finland<sup>[1]</sup>.

## Developments in card payments reflect rapid changes in consumption habits

To assess changes in payment habits, it is first necessary to examine the developments in private consumption during the pandemic. According to data received from domestic banks, the consumption behaviour of Finns changed considerably in the early stage of the COVID-19 crisis<sup>[2]</sup>. Due to the rapidly increasing number of infections and tight restrictions, private consumption based on card payments contracted by more than 20% in April 2020 on the corresponding period a year earlier (Chart 2). After the sharp decline in the spring, card payments recovered fairly quickly and during the summer exceeded the previous year's level. Although the number of COVID-19 infections increased rapidly again towards the end of the year and restrictions were stepped up, this did not have the same effect on the total value of card payments as in the spring.

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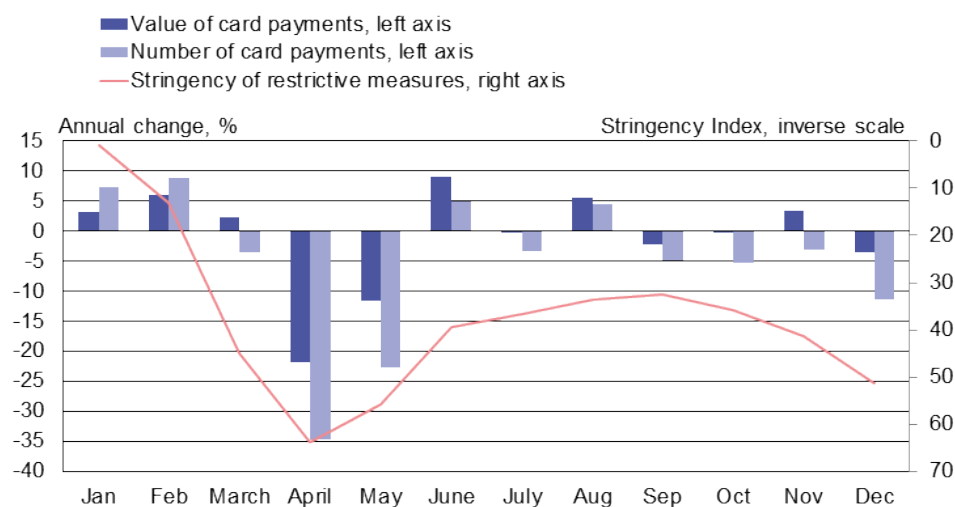
1. Bank of Finland payments statistics: <https://www.suomenpankki.fi/en/Statistics/payments-statistics/payments-statistics/>

2. In February 2021, the Bank of Finland conducted a survey of banks that examined the effects of the pandemic on various payment methods and assessed the permanence of the effects. Nearly all of the domestic banks responded to the survey, so the responses provide a comprehensive picture of the change in private consumption and payment methods.



Chart 3.

### COVID-19 restrictions and card payments in Finland 2020



Sources: Bank of Finland and University of Oxford (Government Response Stringency Index).

\*'Card payments' refers to payments made in Finland with cards issued in Finland.

Sectoral differences have, however, been substantial throughout the crisis, as people have been encouraged to restrict physical meetings and avoid unnecessary travel. Household consumption has been focused mainly on the retail sector, and particularly on consumer non-durables. In contrast, demand has contracted in many service sectors: accommodation and catering services, transport services, leisure and culture, for example, have suffered most from the crisis<sup>[3]</sup>. During the pandemic, people have visited stores less often and the amount of small purchases have declined, which has also been reflected in an increase in the value of average card purchases. Private consumption is expected to accelerate in 2021 as vaccination coverage increases, but in some sectors the effects of the crisis may be evident for a long time to come<sup>[4]</sup>.

Due to the increasing use of payment cards, however, payments made with cards provide a rather more positive picture of recovery in consumption than is actually the case<sup>[5]</sup>. The value of card payments had already been growing steadily at an annual rate of around 5% long before the pandemic. In addition, many stores have recommended paying by card instead of cash to prevent the spread of COVID-19, which has further increased the popularity of card payments. For example, based on the Bank of Finland's consumer surveys<sup>[6]</sup>, the proportion of Finns who favour cards in daily purchases has grown from

3. See the reports of Finnish banks (in Finnish): Koskivuo, A. – Kostiainen, J. – Koivu, T. – Nummelin, K. (2021) Koronamittari: Ravintolat ahtaalla, March 2021, Nordea Koronamittari, <https://corporate.nordea.com/api/research/attachment/129293> and OP Ekonomistit (2021) Talouden näkymät, February 2021, OP Ryhmän suhdanne-ennusteet ja talouskatsaukset, [21bd696a-ec4d-bbc9-298d-114f855b4746](https://www.op.fi/21bd696a-ec4d-bbc9-298d-114f855b4746) (op.fi).

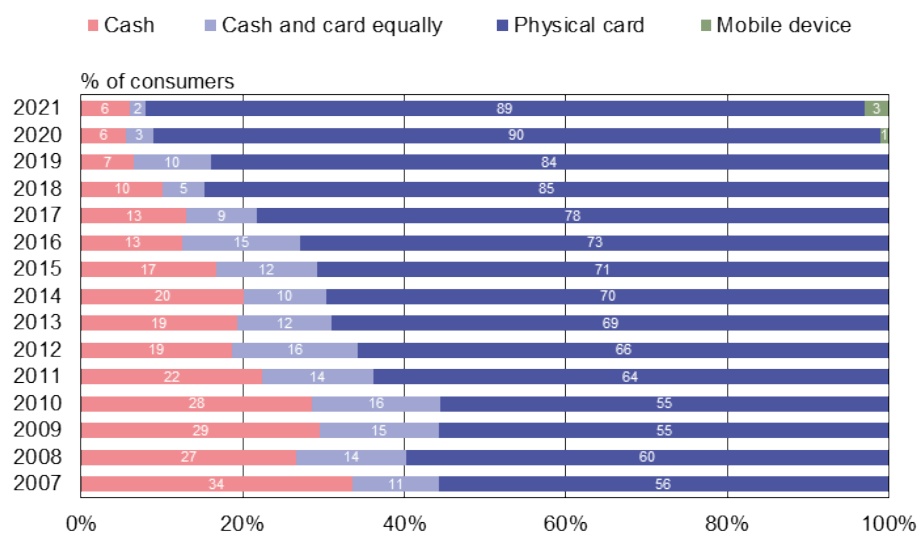
4. See interim forecast for the Finnish economy, 'Growth will strengthen as the pandemic recedes', March 2021, Bank of Finland Bulletin, <https://www.bofbulletin.fi/en/2021/articles/interim-forecast-growth-will-strengthen-as-the-pandemic-recedes/>.

5. According to Statistics Finland's sector accounts, household consumption expenditure at the end of 2020 was still about 5% lower than a year earlier.

84% to 90% from 2019 to 2020 (Chart 3). However, in the most recent survey in March 2021, this proportion seems to have decreased slightly, while the proportion using payment solutions on mobile devices (e.g. smartphone or watch) as the main payment method has increased from 1% to 3% between the last two surveys. This suggests that, as a result of the pandemic, the use of payment cards has shifted, at least in part, towards use of mobile payments as the primary means of payment (mobile payments are discussed in more detail later in this article). Card payments will probably remain the most common payment method for daily purchases for a long time to come, but new forms of electronic payments will challenge the position of the physical card in the future.

Chart 4.

### Most common payment method for daily purchases 2007–2021



Source: Bank of Finland consumer surveys, 2007-2021.

## Despite the decline in the use of cash, it remains an important means of payment

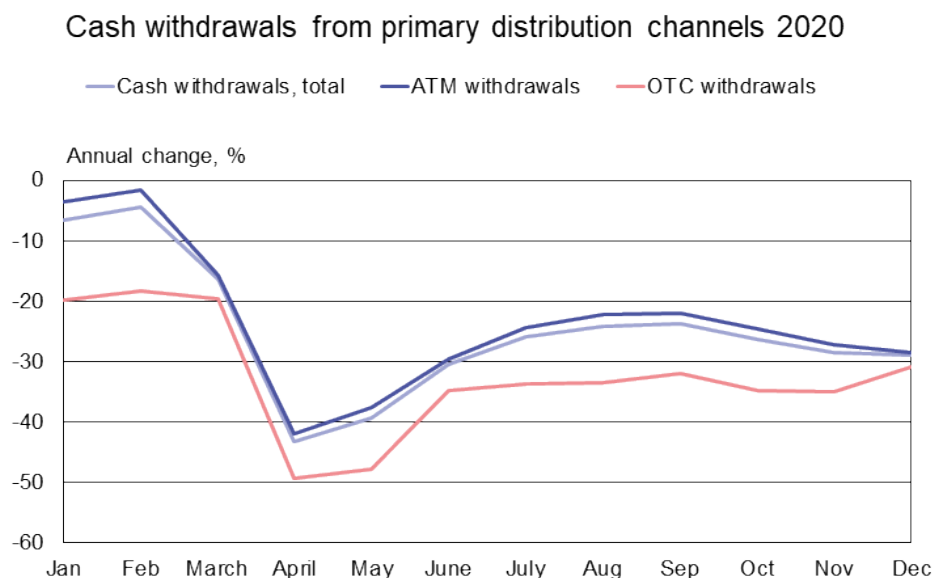
The contraction in private consumption and concern about the risk of COVID-19 infection also led in spring 2020 to a significant reduction in cash payments. Statistics on payments made with cash are not available in the same way as on card payments, but the development of cash withdrawals also reflects changes in the use of cash as a means of payment. The biggest reduction in cash withdrawals took place in April 2020 after the Emergency Powers Act entered into force in mid-March; the total value of cash withdrawals fell by 40% on the corresponding period a year earlier (Chart 4). Unlike in many other countries, there was no major surge in cash withdrawals at the onset of the COVID-19 crisis<sup>[7]</sup>. The level of cash withdrawals began to recover in the summer as

6. According to Statistics Finland's sector accounts, household consumption expenditure at the end of 2020 was still about 5% lower than a year earlier.

7. See the blog text (in Finnish) on how the use of cash has been avoided during covid-19 pandemic: Takala, K.

COVID-19 cases and restrictions eased, but in late 2020 the second wave of the pandemic cut short the upward trend in withdrawals. While total purchases made by card returned to approximately their former level after the summer, the total value of cash withdrawals at the end of the year was still almost 30% lower than a year earlier.

Chart 5.



Source: Bank of Finland.

Examining the change over the whole of 2020, cash withdrawals from ATMs and bank branches decreased by a total of just over a quarter in euro terms. In Finland, the use of cash has decreased steadily over the past decade and the value of cash withdrawals was declining at an average annual rate of 6% before the pandemic. Use of cash as a means of payment would therefore appear to have decreased substantially as a result of the pandemic. As private consumption accelerates and restrictions are eased, use of cash is expected to recover, at least to some extent. However, the prolongation of the COVID-19 situation increases the likelihood that a significant part of the contraction in cash payments and the shift to the electronic payments will become permanent.

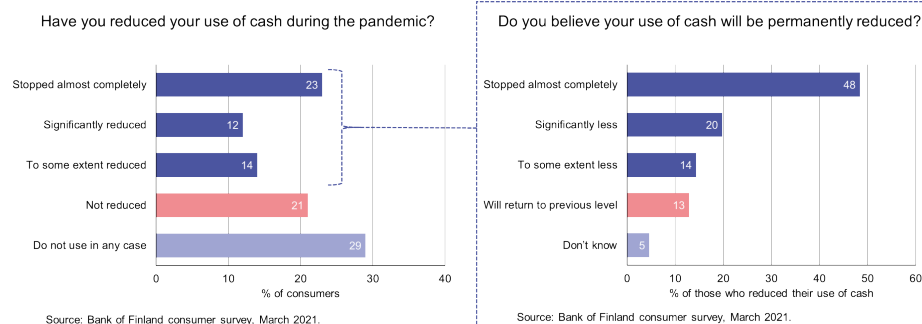
Nearly half of Finns have reduced their use of cash over the past year or have even stopped using cash almost completely (Chart 5). Of those who reduced their use of cash, only 13% believed they would return to paying with cash in the same way as before the pandemic. The main reason for the reduction in the use of cash has been concern about the COVID-19 infection risk associated with handling banknotes and coins (Chart 6). In addition, many merchants have urged customers to avoid the use of cash, and some have not accepted cash payments at all. A number of different studies show, however, that the actual COVID-19 infection risk from banknotes and coins is very low.<sup>[8]</sup> Although cash in

(2021) Käteisen käyttöä vältelty koronapandemian aikana, April 2021, Euro & talous, <https://www.eurojatalous.fi/2021/artikkelit/kateisen-kayttoa-valtely-koronapandemian-aikana/> and Ashworth, J. – Goodhart, C. (2020) Coronavirus panic fuels a surge in cash demand, July 2020, VOX (CEPR Policy Portal), <https://voxeu.org/article/COVID-19-panic-fuels-surge-cash-demand>.

itself is not a probable source of infection, the wish to avoid physical contacts has been a sufficient reason for many people to switch to using other payment or purchase methods.

Chart 6.

Use of cash during pandemic and in the future



According to a study conducted by the European Central Bank, the pandemic has accelerated the digitalisation of payments also in countries where cash has traditionally had a strong position. The study found that 87% of people who had paid less with cash consider that they would continue to do so when the crisis is over<sup>[9]</sup>. Studies conducted in many other countries also suggest that COVID-19 will result in permanent changes in payment behaviour.<sup>[10]</sup> Although the pandemic has accelerated the shift from cash to card payments both in Finland and elsewhere in Europe, cash is still the most widely used payment method in many other euro area countries.

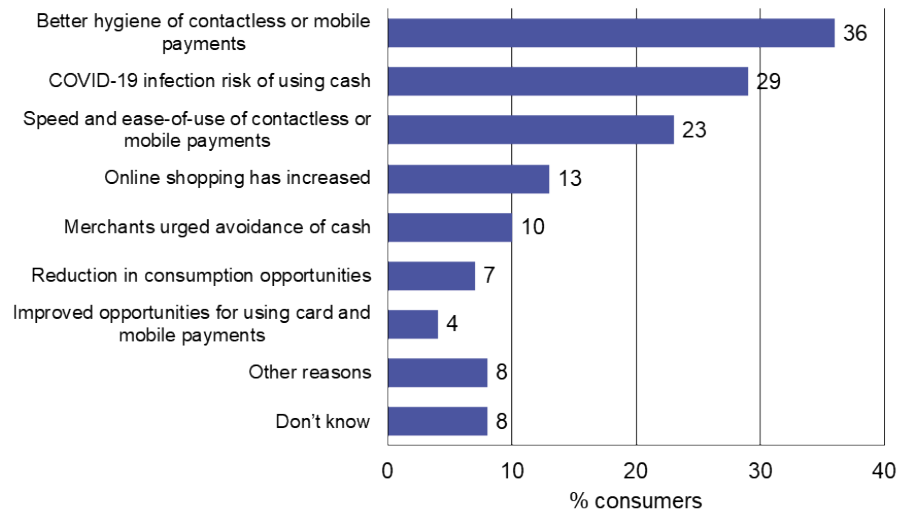
8. See: The Canadian Press (2020), WHO says currency doesn't transmit COVID-19 but retailers taking precautions, March 2020, National Global News, <https://globalnews.ca/news/6712120/COVID-19-cash-precautions/> and Fabio Panetta (2020) Beyond monetary policy – protecting the continuity and safety of payments during the COVID-19 crisis, April 2020, European Central Bank, <https://www.ecb.europa.eu/press/blog/date/2020/html/ecb.blog200428~328d7ca065.en.html>.

9. ECB (2020) Study on the payment attitudes of consumers in the euro area (SPACE), December 2020, European Central Bank, <https://www.ecb.europa.eu/pub/pdf/other/ecb.spacereport202012~bb2038bbb6.en.pdf?05ce2c97d994fbcf1c93213ca04347dd>.

10. See: Jonker, N. – van der Cruijssen, C. – Bijlsma, M. – Bolt, W. (2020), Pandemic payment patterns, December 2020, De Nederlandsche Bank, DNB Working Paper, No. 701, <https://www.dnb.nl/media/xbrj1xuc/working-paper-no-701.pdf>, Ardizzi, G. – Nobili, A. – Rocco, G. (2020), A game changer in payment habits: evidence from daily data during a pandemic, December 2020, Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers), No. 591, [https://www.bancaditalia.it/publicazioni/qef/2020-0591/QEF\\_591\\_20.pdf?language\\_id=1](https://www.bancaditalia.it/publicazioni/qef/2020-0591/QEF_591_20.pdf?language_id=1) and Caswell, E. – Smith, M. – Learmonth, D. – Pearce, G (2020), Cash in the time of Covid, November 2020, Bank of England, Quarterly Bulletin, 2020 Q4, <https://www.bankofengland.co.uk/quarterly-bulletin/2020/2020-q4/cash-in-the-time-of-covid>.

Chart 7.

### Reasons for change in payment behaviour during pandemic

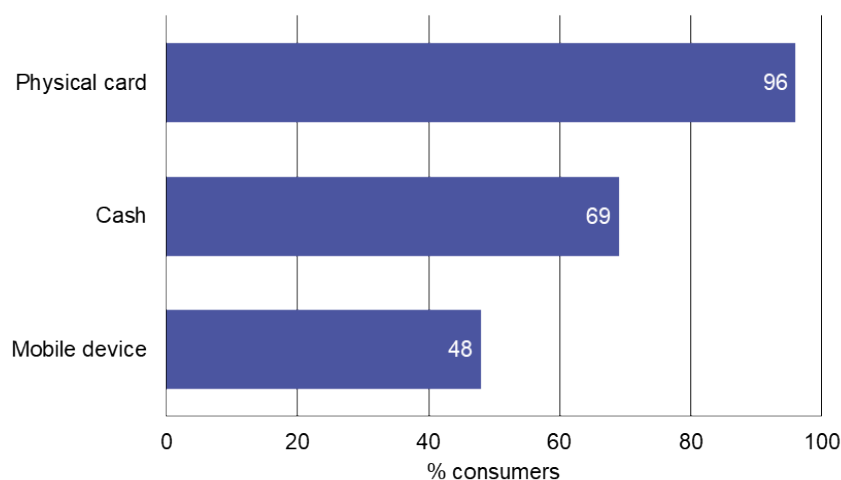


Source: Bank of Finland consumer survey, March 2021.

Despite the decline in its use, cash remains an important means of payment for many Finns. According to the consumer survey conducted in March 2021, around 350,000 Finns use cash as their primary means of payment (Chart 3). In purchases of consumer non-durables, the proportion of consumers favouring cash has hardly changed, even during the pandemic. Instead, it is particularly consumers who previously used both cash and cards for payments who have reduced their use of cash. The proportion of such consumers has fallen from 10% to just 2% during the pandemic. Based on the survey, it therefore appears that this group has largely switched to using payment cards only for daily purchases.

Chart 8.

### Retail payment instruments used by Finns



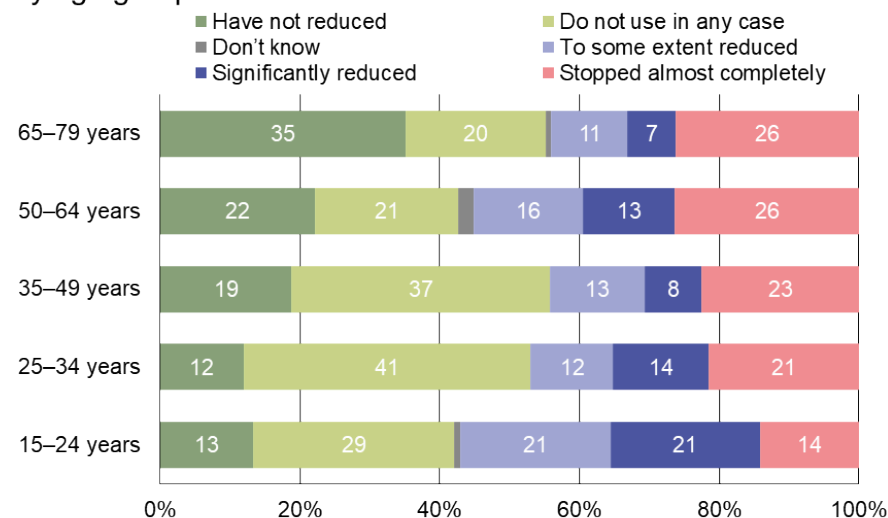
Source: Bank of Finland consumer survey, March 2021.

Nearly 70% of Finns, however, still pay in cash in some situations (Chart 7). According to the consumer survey, cash is used mainly because it is not always possible to use an electronic payment method. In addition, nearly one in five consumers still use cash particularly when making small purchases. Use of cash is most common mainly in the oldest age groups, although it also declined most strongly among these age groups in 2020 (Chart 8). One reason for this may be that older people have been particularly affected by COVID-19 restrictions and recommendations. In addition, the risk of severe illness from the virus increases with age, which may have enhanced the change in payment behaviour among older people in particular<sup>[11]</sup>.

11. Eichenbaum, M. – Godinho de Matos, M. – Lima, F. – Rebelo, S. – Trabandt, M. (2020), How people respond to rare events, November 2020, VOX (CEPR Policy Portal), <https://voxeu.org/article/how-people-respond-rare-events?fbclid=IwAR3KtDBQZ1rJLETv1NuhNhR8k7O8elNHIVrZtJbx648aujZhlhY9-rWzYzQ>.

Chart 9.

### Those who have reduced their use of cash due to the pandemic, by age group



Source: Bank of Finland consumer survey, March 2021.

Cash has certain special features that other payment methods do not fully provide.<sup>[12]</sup> It is therefore important that cash is available and can be used as long as people need and want it.<sup>[13]</sup> If use of cash continues to decline, however, the costs to merchants and various cash supply actors in relation to its use may increase further. If maintaining a network for the availability and acceptance of cash does not continue to be a sufficiently profitable business activity, there is a risk that it will shrink and become too small. In that case, it may be impossible to restore the network in the event of a serious disruption to electronic payments. The change in payment habits accelerated by the COVID-19 pandemic may thus bring forward the possible need to secure the position of cash in the Euro area and in Finland through legislation. This may become of immediate concern should the availability and acceptance of cash deteriorate significantly and it is not possible to create other effective fall-back systems for payments from a national contingency perspective.

The number of bank branches providing cash services has long been in decline, and this trend also continued in 2020 (Chart 9). During the crisis, branches have also been temporarily closed or their opening hours reduced<sup>[14]</sup>. The number of ATMs, on the other hand, increased before the pandemic with the entry onto the market of a new operator, but their total number also decreased slightly last year. Nevertheless, the availability of

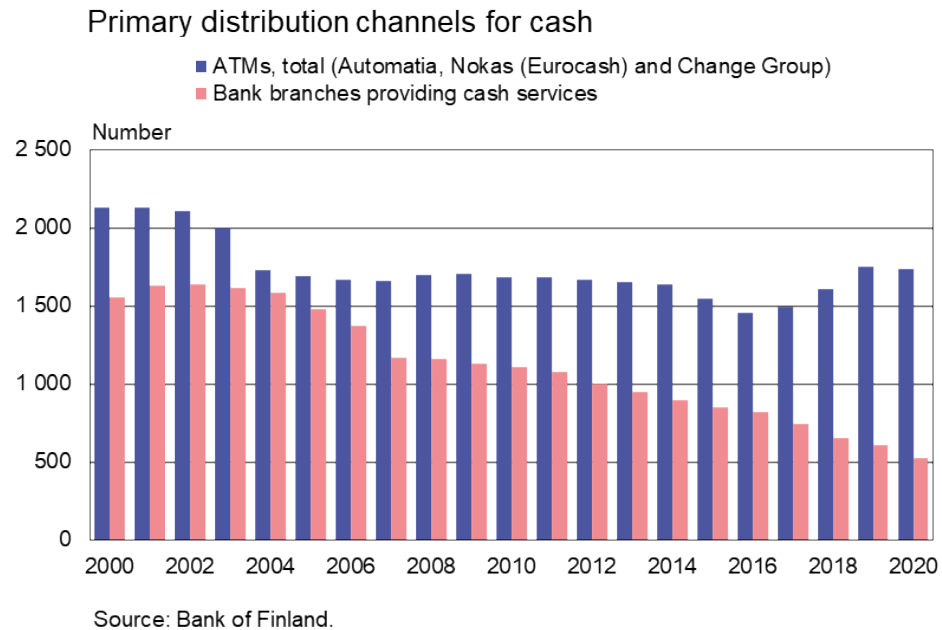
12. Harju, A. – Snellman, H. (2021) The future of cash in Finland – a basic service secured by law?, November 2021, Bank of Finland Bulletin, <https://www.bofbulletin.fi/en/2021/articles/the-future-of-cash-in-finland-a-basic-service-secured-by-law/>.

13. See: The Eurosystem cash strategy, European Central Bank, [https://www.ecb.europa.eu/euro/cash\\_strategy/html/index.en.html](https://www.ecb.europa.eu/euro/cash_strategy/html/index.en.html).

14. See: Survey of availability and pricing of basic banking services 2020, Financial Supervisory Authority, December 2020, <https://www.finanssivalvonta.fi/en/Consumer-protection/banking-services/basic-banking-services/availability-of-basic-banking-services/>.

cash has diversified in recent years, and it is also possible to withdraw cash with most cards from over 3,200 retail outlets at checkout, as long as the retail outlet has sufficient cash available to enable this. In addition, over the past year, some banks have added the option of ordering cash by post. Most cash distribution still takes place, however, via ATMs and bank branches.<sup>[15]</sup> Although the primary distribution channels for cash decreased slightly during 2020, Finns consider that the availability of cash has remained good during the pandemic. In March 2021, nearly 90% of Finns remained satisfied with the availability of cash.

Chart 10.



## Pandemic further accelerated growth in contactless payments

As use of cash declines and card payments become more common the popularity of contactless payments has also grown due to the pandemic. Based on data received from banks, however, the proportion of contactless payments made with payment cards initially declined slightly in spring 2020 due to tight restrictions and an increase in the value of the average purchase. In the summer, the lifting of restrictions and a decline in infections returned contactless payments to a growth track. Although growth in the proportion of contactless payments slowed towards the end of the year as the COVID-19 situation deteriorated again, nearly 60% of card payments were made as contactless payments in December 2020.<sup>[16]</sup> This was over 10% higher than a year earlier.

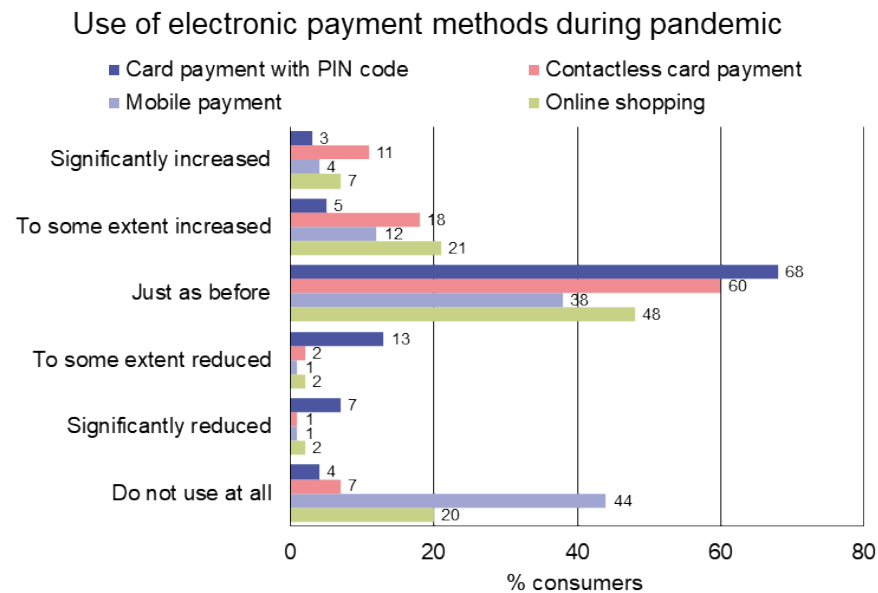
15. Bank of Finland payments statistics: <https://www.suomenpankki.fi/en/Statistics/payments-statistics/payments-statistics/>.

16. These figures do not include mobile payments made at POS, which slightly reduces the share of contactless payments.



In addition, nearly one third of Finns has increased their use of contactless card payments during the COVID-19 pandemic (Chart 10). In this respect the pandemic has introduced the desire for hygiene as a new requirement for payments in addition to speed, ease-of-use and security (Chart 6). The change in payment behaviour related to COVID-19 is also reflected in the first-time use of the contactless payment feature of cards: for example, nearly 20% of consumers over 50 years of age had tried the feature for the first time in the past year (Chart 11). According to the consumer survey, as many as 93% of consumers had tried contactless payments by March 2021.

Chart 11.



Source: Bank of Finland consumer survey, March 2021.

Even before the start of the pandemic, Finland had adopted the EUR 50 maximum limit set by EU legislation, with the entering of a PIN code always required for larger amounts.<sup>[17]</sup> The upper limit for contactless payments was raised from EUR 25 to EUR 50 in April 2019, since when contactless payments have already increased sharply. In many other European countries, a corresponding increase was made only during the pandemic itself.<sup>[18]</sup> The COVID-19 pandemic has further accelerated the spread of contactless payments, but little room for growth remains within the security limits permitted by current regulations. Contactless payment limits do not, however, apply to mobile payments, because these require the customer to unlock the device, for example with a password or fingerprint authentication, in order to pay. This meets the requirement for strong authentication, and therefore it is already possible with mobile payments to make purchases of more than EUR 50 at point of sale (POS) without having to enter a PIN code in the payment terminal.

17. Contactless payment limits are set out in Commission Regulation 2018/389, which restricts the value and number of contactless payment transactions that can be initiated without strong customer authentication.

18. In Estonia, Latvia and Lithuania, for example, the contactless payment limit was raised to EUR 50 in March 2020 and in France and Slovakia in April 2020.

## Growth in mobile payments still in its infancy

Greater consideration of hygiene and avoidance of physical contacts have also increased interest in mobile payments. Mobile payments usually refer to payment transactions initiated via a smartphone or other mobile device. To pay with a mobile device, one of the many mobile payment solutions available must be installed on the device.<sup>[19]</sup> The applications can be used to make contactless payments at POS, pay for online purchases or transfer money to another user. The amount of the payment transaction is usually debited from a payment card or directly from the user's own bank account.

According to payment service providers, there was a significant growth spike in the use of mobile payment solutions in the early stage of the COVID-19 crisis in spring 2020, when new users and a shift from other payment methods increased the popularity of mobile payments. Based on data received from banks, the total value of mobile payments increased by 62% from the previous year during the first year of the pandemic. Despite this strong growth, however, the proportion of mobile payments relative to the total value of card payments has remained small, at less than 3%. Thus, the growth in mobile payments is still in its infancy.

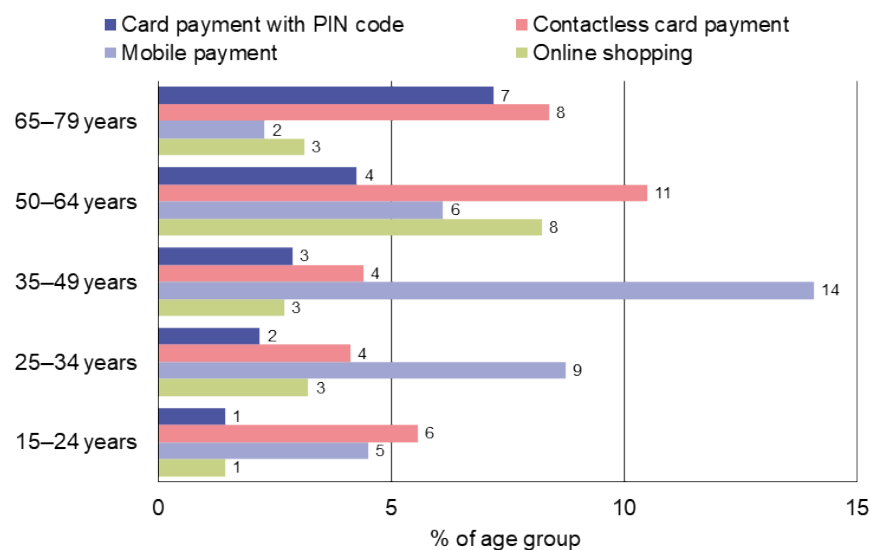
Nevertheless, according to the consumer survey, 48% of Finns already use mobile payments in some situations (Chart 7). Nearly one third of mobile payment users stated that they had increased their use of payment applications during the past year. Use of mobile payment services is most common among younger people, but, due to the COVID-19 pandemic, the average age of users would appear to have risen (Chart 11). Use of mobile payments has become more common in nearly all age groups and is largely dependent on how active the consumers are in general as users of mobile devices.

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19. In Finland, the mobile payment applications in general use include MobilePay, Pivo, Siirto, Apple Pay and Google Pay.

Chart 12.

### Adoption of electronic payment methods during pandemic



Source: Bank of Finland consumer survey, March 2021.

With regard to the speed of adoption of mobile payments, the extent to which consumers switch to using them at POS and in online shopping will be decisive. According to data received from mobile payment service providers, mobile payments had already become more common before the pandemic, particularly due to person-to-person payments, but during the COVID-19 crisis, mobile payments have increased most in consumer-to-business payments. Among the most common payment methods, use of mobile payments for daily purchases is still modest, however (Chart 3). If an existing technology, such as card payments, has already been found to be good enough, consumers will not necessarily be willing to try new means of payment unless they bring some significant additional benefit. Mobile payments would appear to have gained a firmer foothold as a payment method in online stores.

The payments market in the EU remains highly fragmented, however. Many mobile payment solutions do not currently work across borders, for example. Indeed, one of the next natural steps is the interoperability of different mobile payment solutions at both a European and a national level. European actors have, in fact, already launched many cooperation projects aimed at harmonising electronic payments in Europe.<sup>[20]</sup> In addition to national solutions, there are currently already on the market many global payment solutions that can also be used abroad. In the payments sector generally, there has long been a trend towards internationalisation and concentration, and it is possible that a similar trend will be seen in mobile payment services in the future.

20. As two examples of European retail payment harmonization projects, see the European payments initiative (EPI), <http://www.epicompany.eu/> and the European Mobile Payment Systems Association (EMPSA), <https://empsa.org/>.

## Multi-channel consumption is here to stay

The COVID-19 pandemic has increased the time we spend at home, which has also led consumers to shop remotely more than before. Where, previously, products were rarely purchased online or only for a certain product group, online shopping has become more of an everyday occurrence, and the product range has expanded. Data from banks show that in 2020 the total value of e-commerce payment transactions grew by around one quarter from the previous year. Taking into consideration that in normal circumstances before the pandemic a significant proportion of online sales consisted of travel-related services, such as airline tickets or hotel reservations, the growth figure is significant.

Some 28% of Finns have increased their online shopping during the pandemic (Chart 10). Shopping online has increased among younger people, in particular, and seems to have become a part of everyday life, especially for the young. In the oldest age groups, products and services are still purchased quite rarely online, although many people over 50 years of age, in particular, have tried shopping online for the first time during the pandemic (Chart 11). Despite the proliferation of e-commerce, up to one fifth of consumer survey respondents had not yet made purchases online by March 2021.

What is vital for the growth of e-commerce is whether consumers who increased their online shopping during the pandemic will continue to do so or whether they will return to their former behaviour. Domestic banks and agents providing e-commerce payment services believe that the change will be to a large extent permanent. Ease and simplicity as well as a larger range of products and more competitive prices than in physical stores contribute to the popularity of shopping online. Many consumers have only just become familiar with digital shopping and may have found it to be an easy way to make purchases. In addition, the number of online merchants has increased sharply during the pandemic, as many traditional brick-and-mortar stores have transitioned to serving their customers online as well. With the pandemic, such multi-channel consumption has probably come to stay.

The growing popularity of digital shopping may also promote some negative side effects, however. For example, in online shopping, consumers are often offered flexible consumer credit or instalment agreements in connection with payment transactions. The real costs associated with these may later come as a surprise, which may contribute to increasing the risk of over-indebtedness. The overall picture of one's own indebtedness may also be blurred if debt has been taken from many different agents. The COVID-19 pandemic has also brought new customer groups to online shopping, and first-time online shoppers, in particular, are at greater risk of falling victim to payment fraud. When shopping online, consumers should be aware as to whether the seller is reliable and delivery of the product is guaranteed<sup>[21]</sup>. There are also certain differences in the security of different e-commerce payment methods<sup>[22]</sup>.

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21. See: Online shopping checklist, European Consumer Centre Finland, <https://www.ecc.fi/en/themes/online-shopping/online-shopping-checklist/>.

22. See: Selecting a payment method, Finnish Competition and Consumer Authority, <https://www.kkv.fi/en/facts-and-advice/payment-bills-debt-collection/methods-and-means-of-payment/>.

## Overview of effects of COVID-19 pandemic on payments

The COVID-19 pandemic has compelled people worldwide to change their daily habits, which has also been strongly reflected in purchasing and payment behaviour. The effects of the pandemic have also been evident in the payment habits of Finns and have accelerated the digitalisation of payments. In Finland, electronic payment methods have been growing in popularity for a long time, but the COVID-19 situation has lowered the threshold for their wider adoption. Surveys conducted by the Bank of Finland for both payment service providers and consumers have revealed new findings on the effects of the pandemic on payments.

The use of cash as a means of payment has declined substantially during the pandemic, and it is expected that a significant part of the decline will be permanent. Cash remains an important means of payment for a significant number of people, however, and it also continues to play a key role as a fall-back in the event of disruptions to electronic payments. Ensuring the sufficient availability and acceptance of cash is therefore essential for the smooth operation of the economy and for equal participation in society. The change in payment habits accelerated by the COVID-19 pandemic may, however, bring forward the possible need to secure the position of cash in Finland through legislation, if the availability and acceptance of cash should weaken significantly.

The COVID-19 pandemic has also expanded the requirements for payments, namely the desire for hygiene in addition to speed, ease-of-use and security. This has particularly increased demand for contactless payment methods, such as contactless card payments and mobile payments. Use of mobile payments, in particular, has grown strongly during the pandemic, but relative to card payments the value of mobile payments is still modest. Time spent at home has increased during the pandemic, which has also led consumers to shop more online than before. Growth of mobile payments and online shopping is still in its infancy, however, and it is likely that their development and growth will only accelerate in the future.

Digital payment applications and solutions make payments easier and smoother, but at the same time make them less noticeable. As payments shift increasingly into the background of purchase transactions, the perception of one's own spending may become blurred. In addition, the growing popularity of digital shopping may also promote some negative side effects, such as the risks of over-indebtedness or payment fraud. Furthermore, the growing popularity of electronic payments and the proliferation of online shopping further underline the importance of safety of payment solutions and [the financial literacy required in a digital society](#).

The changes brought by the COVID-19 pandemic have been rapid and may have long-term effects. It will be some time, however, before we see which of the changes will ultimately be permanent and which will only be temporary. Nevertheless, the prolonged duration of the pandemic increases the likelihood that changes in payment habits will be permanent. Both market participants and the central banks, which [oversee](#) the market infrastructures, must be prepared for this.

## Tags

cash, contactless payment, COVID-19 pandemic, mobile payment, payments, online shopping

# Payment and settlement systems subject to oversight

Today – Bank of Finland Bulletin 2/2021 – Money and payments



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Payment and settlement systems comprise the financial market infrastructure. A reliable, undisrupted infrastructure makes economic activity a smoother process and promotes the efficient movement of capital. It allows financial institutions to make payments and settle securities transactions. There are also risks involved, however, and if these become widespread, they can affect the stability of the financial markets and society as a whole. Central bank oversight aims to reduce the risks associated with payment and settlement systems.



## Financial market infrastructure

In order to function properly, the financial markets need systems that link the financial institutions and allow financial market operations to be carried out. [The Bank of Finland's oversight policy](#) defines the financial market infrastructure as systems that are used to clear, settle and record payments as well as securities, derivatives and other financial transactions.<sup>[1]</sup>

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1. The CPMI-IOSCO: [Principles for Financial Market Infrastructures \(bis.org\)](#), published by the Bank for International Settlements and used globally for oversight work, define infrastructure as a multilateral system among participating institutions (including the operator of the system), used for the purposes of clearing, settling,

**Payment systems** are the multilateral arrangements and systems used for the transmission of electronic payments between payer and payee.

**Settlement systems** refer to the multilateral arrangements and systems used to clear, settle and record securities, derivatives and other financial transactions.

Payment and settlement systems that work reliably and without disruption promote the efficient movement of capital and ensure that all financial activities run smoothly. For example, in commerce and the production of goods there is a need for viable systems. Thus, payment and settlement systems contribute towards the stability of the financial system and society as a whole.

## Infrastructure and financial stability

The financial institutions, the market infrastructure and the way in which they interrelate are important for the stability of the financial system. The problems faced by a single operator can spread through the infrastructure, have a widespread impact on the financial markets and society and pose a systemic risk. If a risk to the infrastructure materialises, its impact can at the same time extend to the parties involved and even directly, or via those parties, to other infrastructures.

The stability of the financial system is promoted, inter alia, by the identification, assessment and management of systemic risks associated with the activities of operators in the financial sector. Of crucial importance is the reliability of the financial market infrastructures (FMIs).<sup>[2]</sup>

The infrastructures connected with the Finnish financial markets are almost entirely systems maintained by international actors that link the financial markets of many countries together. Centralised infrastructures boost the efficiency of the financial markets, but when they function poorly, they can have an adverse impact on society. The market infrastructures are of crucial importance for the stability of the financial system, and ultimately for society as a whole. For that reason, they are monitored closely and need to meet certain requirements.

The Bank of Finland ensures that the infrastructures function effectively and securely. This is known as oversight and is a key component in improving the risk resilience of the financial system and in safeguarding the continuity of operations that are critical for society to function satisfactorily. Oversight is part of the central banks' role in preserving stability.

## Oversight

Oversight refers to the systemic supervision by central banks of payment and settlement systems. Its main purpose is to prevent systemic risks and safeguard the efficient implementation of monetary policy. Payment and settlement systems must be secure, to ensure that the technical problems of an individual party or system, or a party's inability

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or recording payments, securities, derivatives, or other financial transactions.

2. See also <https://www.bofbulletin.fi/en/2016/2/market-infrastructures--the-pillars-of-financial-stability/>.



to honour their obligations, do not affect other parties or systems over the entire network, thus compromising their ability to function properly. One key objective of oversight is also considered to be to promote the efficiency of systems.

There is oversight of systems and of entire structures comprised of systems. Oversight should not be confused with the supervision of single institutions, as practised by the financial and banking supervisory authorities.<sup>[3]</sup> In oversight and institutional supervision there are areas where the authorities collaborate.<sup>[4]</sup> In Finland, the relevant authorities are the Bank of Finland, responsible for oversight, and the Financial Supervisory Authority (FIN-FSA), which supervises institutions. The other authorities involved in the process are the Ministry of Finance and the Financial Stability Authority.

## Oversight as a function of the Bank of Finland

The Act on the Bank of Finland states that the Bank of Finland is part of the European System of Central Banks (ESCB). When carrying out its tasks under the Eurosystem, the Bank of Finland acts in accordance with the instructions and guidelines issued by the European Central Bank (ECB).

Oversight is based on the Bank of Finland's function as defined in law. The Bank must help ensure that the payment system and overall financial system work reliably and efficiently and may contribute to their development.<sup>[5]</sup> Under the law, the Bank of Finland has a broad mandate to obtain from authorities and credit and financial institutions the information it needs to perform its statutory tasks.<sup>[6]</sup> This also applies to confidential information.

In its oversight work, the Bank of Finland adheres to the principles agreed within the Eurosystem.<sup>[7]</sup> Article 22 of the Statute of the European System of Central Banks and of the European Central Bank states that the ECB may make regulations to ensure efficient and sound clearing and payment systems.

The Bank of Finland functions as an overseer of the European financial market infrastructure as part of the Eurosystem.<sup>[8]</sup> Its main task is oversight of the infrastructure that is vital to the health of the Finnish economy and Finnish society.

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3. Hannu Karppinen – Kari Kemppainen: Keskuspankkien tehtävistä ja roolista maksujärjestelmien yleisvalvojana (The Functions and Role of Central Banks as Overseers of Payment Systems), 1999.

4. In Finland, oversight and the supervision of institutions are the responsibility of separate authorities, although elsewhere in Europe the same authority may be responsible for both tasks.

5. Act on the Bank of Finland, Section 3.

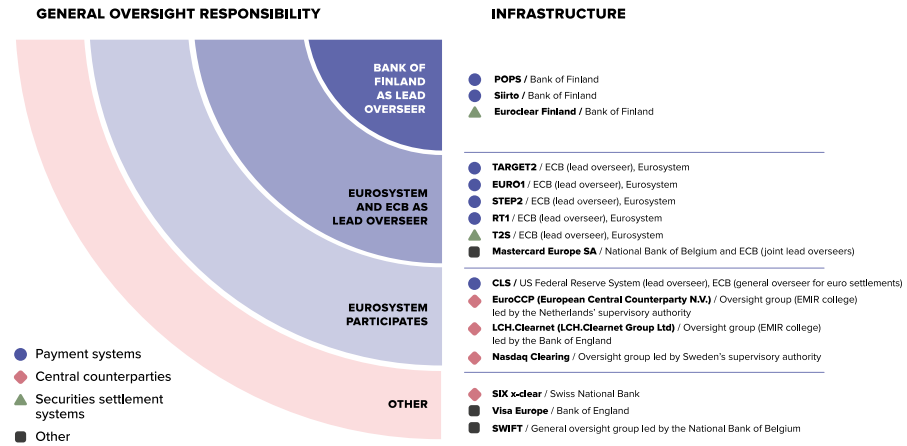
6. Act on the Bank of Finland, Section 26.

7. The Treaty on European Union and the Statute of the European System of Central Banks and of the European Central Bank define the basics of oversight work carried out by central banks participating in the Eurosystem. According to Article 127(2) of the Treaty on the Functioning of the European Union, one of the four basic tasks to be carried out through the European System of Central Banks is to promote the smooth operation of payment systems. Accordingly, the members of the Eurosystem conduct oversight by ensuring that settlement, clearing and payment systems function efficiently and stably.

8. The Eurosystem oversight report 2020 was published in April 2021: <https://www.ecb.europa.eu/pub/pdf/eurosystemoversight/eurosystemoversightreport2020~a1e4fce1d7.en.pdf>.

Chart 13.

## Infrastructure critical to Finland's financial system and general oversight responsibility



Source: Bank of Finland.

## Oversight of payment systems

### Division of roles and oversight cooperation

The euro area currently has 42 payment systems. They differ from one another in many ways. Overseers divide them into systemically important payment systems (SIPS), prominently important retail payment systems (PIRPS) and other retail payment systems (ORPS).<sup>[9]</sup> SIPS cover several countries in the euro area. On the other hand, the volume of payments transmitted by prominently important systems plays a significant role locally. Payment systems that are not systemically or prominently important are classified as other payment systems.

For example, TARGET2, a system owned by the Eurosystem, transfers funds for the settlement of payments via other payment systems. If TARGET2 is unable to effect settlement, the other payment systems also cannot forward the payments to the payees. TARGET2 is thus classified as systemically important.

The central banks in the Eurosystem and the European Central Bank (ECB) are jointly responsible for oversight of the payment systems. Every year the ECB website publishes details of the division of the payment systems in the euro area into the categories referred to above, as decided by the overseers.<sup>[10]</sup> The general principle here is that the main responsibility for oversight lies with the central bank best equipped for the task. In practice this means that if a system is associated with a head office in a certain country or

9. See <https://www.ecb.europa.eu/paym/pol/activ/systems/html/index.en.html>.

10. See <https://www.ecb.europa.eu/paym/pol/activ/systems/html/index.en.html>.

the laws of a certain country are applied to the system, it is generally the central bank of that country that is also the lead overseer of the system. The other central banks in the Eurosystem may, should they so wish, contribute to the system's oversight. The Eurosystem can also decide that the lead overseer should be the ECB, with which the other central banks in the euro area will then collaborate.

Thus, the Bank of Finland is the best candidate for overseer of payment systems which have their head office in Finland. Many payment systems used by the financial markets, however, are pan-European, and hence oversight on the part of the Bank of Finland is largely based on cooperation with other banks in the Eurosystem.

The systemically important payment systems as far as Finland is concerned are TARGET2, EURO1, STEP2 and card payment systems. The ECB is the lead overseer for TARGET2, a system mainly used for transmitting large-value payments between banks and owned by the Eurosystem. It is also the lead overseer for EURO1, again used for transmitting large-value payments between banks, and the STEP2 system for the processing of SEPA credit transfers throughout the euro area. The latest newcomer to the systemically important group is the Mastercard Clearing Management System, which provides credit card services and whose lead overseer is the ECB in collaboration with the central bank of Belgium.<sup>[11]</sup>

From a Finnish perspective, important international payment systems are also the Continuous Linked Settlement (CLS) for the settlement of foreign exchange transactions and the RT1 instant payment system. Important national payment systems are the POPS system for traditional express transfers and the newer Siirto system for real-time transfers of money, in use by some of the Finnish banks.

## Objectives and standards

In order to fulfil its function as overseer as provided in law and regulations, the Eurosystem, and thus also the Bank of Finland, has defined the principles, guidelines, recommendations and standards that are associated with oversight of payment systems and that help to ensure that the task is performed properly. These standards and recommendations are what the entire task of oversight is based on. The central banks make an oversight assessment of each of the payment systems concerned with reference to the relevant oversight standards.

Teams of experts known as joint oversight teams have been set up to deal with the oversight of payment systems. These teams lay the groundwork for oversight assessments. The provisional oversight assessments they make are reviewed, modified and adopted by the ECB and the Eurosystem. The Bank of Finland is involved both in the work done by the oversight teams and in the adoption of the final assessments. An oversight assessment is a reflection of how reliable and efficient the payment system being overseen is. The overseers use the assessments and other monitoring exercises to make recommendations on how the systems can be improved. Continuous oversight work allows the central bank to ensure that the recommendations for improvements are also actually followed up. If a systemically important system does not follow the

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11. See [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020D0026\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020D0026(01)&from=EN).

recommendations, sanctions may be imposed. With other systems, proposed remedial measures are just recommendations.

When oversight assessments are being made in respect of systemically important systems, use is made of the Principles for Financial Market Infrastructures (PFMI) created by the Bank for International Settlements (BIS) and the national central banks working together with it, or standards derived therefrom. These are used globally as oversight tools for the central banks. The first standard was published by BIS in 2001. It was updated and extended in 2012, e.g. to cover securities brokering systems.

The PFMI standard incorporates 24 principles in all. These comprise recommendations concerning systemic, legal, credit, liquidity and general business risk, custody of securities and operational risk.

The Eurosystem has established its own [PFMI-based](#) regulation and other definitions as a basis for oversight in the euro area. The Eurosystem distinguishes between [systemically important payment systems, prominently important systems and other payment systems](#). The oversight regulation for systemically important systems (SIPS)<sup>[12]</sup> sets out the criteria for a payment system to be regarded as systemically important and the requirements the system must meet. It also provides for sanctions and mandatory remedial measures, which are not mentioned in the PFMI.

Systemically important systems must fulfil all the oversight requirements under the SIPS Regulation. Prominently important retail payment systems and other retail payment systems must meet the subset of oversight requirements in the PFMI, as defined on the basis of their degree of importance.<sup>[13]</sup>

When the customer of a bank pays a bill via that bank, the customer does not know what payment system the bank will be using. Banks and other payment service providers always choose the most appropriate channel of payment from among a group of payment systems at their disposal. They often, furthermore, customise the best solution for their clients by offering additional services and assign their own marketing name to these solutions.

Payments have long been in a state of rapid change. Technical developments and changing regulatory frameworks create new payment options. In addition to the conventional payment systems, there are many additional, supplementary services associated with payment. For this reason, the Eurosystem has established a framework known as [PISA: a single Eurosystem oversight framework for electronic payment instruments, schemes and arrangements \(europa.eu\)](#). The requirements under PISA extend to payment arrangements, the agencies that administer them and the producers of the support services for electronic payments. The instruments and arrangements typically affected are card payment services, electronic money, direct debits, credit transfers, digital wallets and payment initiation services. The new oversight

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12. See <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0795&from=EN> and <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R2094&from=EN>.

13. See [https://www.ecb.europa.eu/pub/pdf/other/Revised\\_oversight\\_framework\\_for\\_retail\\_payment\\_systems.pdf](https://www.ecb.europa.eu/pub/pdf/other/Revised_oversight_framework_for_retail_payment_systems.pdf).

requirements set for these are largely the same as those for regular payment systems.

## Oversight of securities settlement systems

The Eurosystem has been assessing the securities settlement systems it uses in its credit operations and the links between them since European Monetary Union was established. This has ensured that the Eurosystem's credit operations adhere to practices that reduce risks to the central banks posed by the settlement systems when they conduct monetary policy operations.

The PFMI published by BIS were implemented in the Central Securities Depositories Regulation (CSDR), which entered into force in 2014. The CSDR sets out harmonised requirements for securities settlement and central securities depositories (CSDs) in the European Union.

When the CSDR and the related regulatory technical standards entered into force, the Eurosystem switched to a system of assessment based on the new Regulation. This covers the requirements under the Eurosystem User Assessment Framework previously in use. The Eurosystem qualifies as relevant authority in the role of a central bank of issue.<sup>[14]</sup> The Bank of Finland represents the Eurosystem in relation to the central securities depository (CSD) in Finland and acts as overseer of said depository.

The CSDR requires CSDs to apply for authorisation, in connection with which the Eurosystem is consulted by the national competent authorities<sup>[15]</sup>. The view expressed is based on a comprehensive assessment conducted by the Eurosystem as to whether the features of the securities settlement system meet the requirements under the Regulation. After authorisation is granted, the Eurosystem produces at least once a year an assessment of how the settlement system is functioning. The annual review and evaluation focuses on earlier observations made by the Eurosystem, risk management, operational activity, changes to the operation, and insolvency and preparedness tests.

The Bank of Finland produces assessments of the securities settlement system in Finland, and these are considered by the Payment and Securities Oversight Working Group and the Market Infrastructure and Payments Committee of the Eurosystem before they are approved by the ECB Governing Council. The Bank of Finland mentions any shortcomings identified to the Financial Supervisory Authority (FIN-FSA) and the CSD, and ensures that the problems are addressed.

In addition to conducting these assessments, the Bank of Finland regularly organises oversight meetings, which are also attended by the FIN-FSA. The Bank also monitors any

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14. The CSDR describes the authorities responsible for the authorisation and supervision of CSDs. The competent authorities in Finland include the Ministry of Finance, which is responsible for granting authority, and the Financial Supervisory Authority, which is responsible for the ongoing supervision of the CSD. Relevant authorities include the Bank of Finland, which is responsible for oversight of the securities settlement systems in Finland, and the Eurosystem as the central bank of issue and as the central bank in whose books the cash leg of securities transactions is settled. On its website, ESMA publishes a list of the competent and relevant authorities for CSDs: <https://www.esma.europa.eu/document/csd-register>.

15. In Finland it is the Ministry of Finance that grants authority.

disruptions to the settlement system, notification of which must always be made immediately by the CSD both to the FIN-FSA and to the Bank of Finland. The volume of settled transactions and the availability of the systems are monitored with reference to monthly statistics.

The Bank of Finland oversees settlement system development projects both while they are being implemented and after the changes have been introduced.



## THE BANK OF FINLAND OVERSEES EUROCLEAR FINLAND AND CONTRIBUTES TO THE OVERSIGHT OF T2S AS PART OF THE EUROSISTEM

### Euroclear Finland

There is one central securities depository in Finland, Euroclear Finland, and the Bank of Finland acts as its overseer. Euroclear Finland was granted its authorisation under the CSDR in 2019, at which time the Bank of Finland conducted a comprehensive assessment of it. Since authorisation was granted there has been one annual review and evaluation, which relates to the period from that time up to the end of April 2020.

Oversight on the part of the Bank of Finland has involved the supervision of the settlement system deployed by Euroclear Finland in 2018, both during the implementation project and after the system was introduced. Similarly, the Bank is overseeing Euroclear Finland's preparations for joining T2S,<sup>[16]</sup> which is scheduled for September 2023.

The Bank of Finland is also involved in cooperation between the supervisors and overseers of the CSDs in the Euroclear group. Cooperation focuses on the parent company of the CSDs in the Euroclear group, Euroclear SA, which is responsible for the joint services produced for the group's CSDs. Euroclear SA's lead supervisor and overseer is the National Bank of Belgium.

### TARGET2-Securities

Target2-Securities (T2S) is a securities settlement platform owned by the Eurosystem and now used in 20 European countries. The European Central Bank is the lead overseer for T2S. The Bank of Finland participates in this oversight work as part of the Eurosystem. Oversight of T2S is carried out using the PFMI and assessments are conducted regularly.<sup>[17]</sup> The first comprehensive oversight assessment was conducted in 2019. The Oversight Division of the European Central Bank organises quarterly oversight meetings with the T2S Operator, which are also attended by representatives of the central banks participating in T2S.

T2S operation is also supervised by the T2S Cooperative Arrangement set up by the European Central Bank. This allows the dissemination of information between the European Central Bank and the European Securities and Markets Authority (ESMA) and the supervisors and overseers of the CSDs participating in T2S.

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16. T2S, TARGET2 Securities is a securities settlement platform provided by the Eurosystem.

## Oversight of central counterparties

Regulation (EU) No 648/2012 of the European Parliament and of the Council on OTC derivatives, central counterparties and trade repositories (European Market Infrastructure Regulation, EMIR) regulates the performance of the activities of central counterparties and trade repositories and the use of their services.<sup>[18]</sup>

Central counterparties (CCPs)<sup>[19]</sup> are supervised by a college appointed by the competent authorities responsible for supervision of the CCPs. When authorisation is being sought, the competent authority undertakes a risk assessment of the CCP concerned and delivers a report on it to the college. The college considers the report and issues an opinion as to whether the CCP seeking authority fulfils all the requirements provided in EMIR. It is the competent authority's task to assess the CCP's operation at least once a year. The authority reports the results of the assessment to the college, indicating the need for any remedial action or sanctions.

Participating in the work of the college are the Eurosystem as the central bank of issue, the central bank responsible for oversight of the CCP in question, and the central banks responsible for oversight of the CCPs involved in interoperability arrangements.<sup>[20]</sup> In the colleges, the members of the Eurosystem are involved in the following activities: authorisation of CCPs, their supervision, the recognition of CCPs in third countries and the approval of interoperability arrangements. They are also closely involved in producing regulatory technical standards and instructions and making recommendations.

The central counterparties serving the Finnish securities market are EuroCCP in the Netherlands, LCH in the UK, and SIX x-clear in Switzerland. The central banks in the countries in which the CCPs are located are members of the colleges for the CCPs concerned. The Bank of Finland attends the EuroCCP college as an observer. The Eurosystem contributes to the supervision of CCPs for derivatives transactions offering services to the European Economic Area.

## Other oversight tasks

Oversight also extends to the monitoring of the development of payment and settlement systems. If necessary, the Bank of Finland itself will also contribute to this development. It is important that the oversight experts are conversant with the new technologies and services in the field. The work of the experts also involves, for example, monitoring phenomena in the area of payment and securities and developments in the area of digitalisation. The exploratory work under way in Finland concerning contingency planning for payment and settlement systems is also part of the Bank of Finland's oversight function. In addition, the Bank of Finland monitors legislative developments

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17. T2S is not a system operated by a CSD, and so no CSDR-based assessment is employed in its oversight.

18. See <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012R0648&from=EN>.

19. For an account of CCPs and the risks associated with them, see: <https://www.bofbulletin.fi/en/2016/2/central-counterparties-can-reduce-but-also-cause-risks/>.

20. An interoperability arrangement makes it possible to clear the transactions of a counterparty that uses the services of two different CCPs.



and will if necessary express its views when consulted.

## Oversight in a changing operational environment

The financial markets and their infrastructure are changing continuously, and the speed of change has increased in recent years. While new regulation in the area of payment and settlement systems imposes stringent requirements on systems and operators, it boosts competition, allows for new approaches and makes it possible for new kinds of service providers to enter the market. Furthermore, political and economic developments influence the operating conditions governing the financial markets and their infrastructure.

The focus of activities has largely switched from national markets to the euro area as a whole. Efforts are still being made to make cross-border payments and settlement a more efficient process. Technical developments, meanwhile, open up new possibilities, although at the same time they pose new risks. For example, the infrastructures may become ever more dependent on the service providers that are critical for the activity concerned. The same external service provider could also offer its services to several infrastructures and thus form a clear risk cluster. That is why it is important that payment and settlement systems focus attention on managing these risks. To ensure good risk management, Eurosystem overseers have started to identify critical service providers and, in future, oversight measures could also be targeted at these actors.

In the changing operational environment, oversight policy and practices need to be developed proactively and continuously. Oversight involves monitoring changes and opportunities on the financial markets from the perspective of digitalisation, for example. In recent years, oversight has become more and more associated with cyber risks. Over the last year, of course, oversight has been closely connected with the impact of the COVID-19 pandemic on the financial markets.

In the last few years, the standards and procedures used in the area of oversight have been developed to reflect market changes and the changes brought by regulation. As regards payment systems, the Eurosystem has introduced new requirements governing electronic payment instruments and payment arrangements. Supervisors and overseers have created a new type of collegiate regulatory supervisory framework for CCPs. Since the entry into force of the CSDR, the Eurosystem has reformed the way it assesses securities settlement systems. To deal with cyber threats, the Eurosystem has developed certain oversight guidelines. Market changes and regulatory developments mean that oversight policy and measures need to be developed continuously and that there will have to be reforms of the ongoing oversight work with overseen entities.

### Tags

[financial stability](#), [oversight](#), [payment systems](#), [settlement systems](#)