

Resilient payments in Denmark

Payments in Denmark are secure and efficient, but situations may still arise when one or more payment solutions suffers an outage. In such cases, Danmarks Nationalbank has prepared a number of recommendations that enable citizens and merchants to help maintain payments in cases where it is not possible to pay as usual – whether for a short or extended period. The recommendations are generally about being prepared, having concrete plans and using and receiving several different payment solutions. This helps ensure that payment can be made under a wide range of circumstances. It is important that citizens and merchants are prepared, to help reduce inconvenience and to increase the resilience of payments in Denmark.

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Offline payments with payment cards is the primary payment contingency measure

Offline payments with physical payment cards are already a widespread and important solution in physical commerce, making it possible to pay with most payment cards, even in the event of card payment system or internet outages. Under the auspices of the Danish Payments Council, work is also underway to complete the implementation of a new solution, in which citizens will be able to pay offline at pharmacies and nationwide supermarket chains with virtually all payment cards and wallets, such as Apple Pay and Google Pay. Other businesses can also implement this solution.



Citizens should have several different payment solutions available

Danmarks Nationalbank recommends citizens to prepare for temporary outages of one or more payment solutions. This is done by having at least two physical payment cards from different card brands and a small amount of cash (a benchmark of kr. 250 per person in the household), plus a mobile payment solution based on account transfers, e.g. MobilePay. By following these recommendations, the risk of being in a situation where payments cannot be made due to one or more solutions not functioning as normal is reduced.



Merchants in physical commerce should prepare for payment system disruptions

Danmarks Nationalbank recommends that individual merchants in physical commerce plan in advance how to handle situations where one or more payment solutions do not function as usual. For many merchants, it may be relevant to accept offline card payments and offer alternative payment solutions beyond cards and cash. Regardless of the chosen plan, it is important that any staff are familiar with the procedures and able to carry them out.

Why is it important?

One of Danmarks Nationalbank's most important tasks is to help ensure that payments can be made safely and efficiently. The payment infrastructure in Denmark is secure, efficient and stable, but digital payment system disruptions can occur for both short and longer periods of time. Both citizens and merchants have an important role to play in ensuring that payments can still be made in such situations to limit inconvenience and strengthen the resilience of society in the event of protracted national events.



Topics

Payments

Digitisation

The Payment Council

01 Introduction

The citizens of Denmark are among the most digital in the world when it comes to payments.¹ That's why having a resilient and smoothly functioning infrastructure for digital payments is important.² Danmarks Nationalbank seeks to continuously support resilient payment systems in Denmark so that they work whenever a purchase is made, see box 2.

Even though the payment infrastructure in Denmark is secure, efficient, and stable, temporary outage situations may arise affecting one or more payment solutions.³ Typically, such incidents are short-lived and affect a single store or retail chain, but it cannot be ruled out that longer-lasting, nationwide situations may occur in which payments at merchants in physical commerce⁴, e.g. supermarkets, restaurants, dentists, public transport and bridge crossings, cannot be made as usual.

An example of an operational incident is the incident on 19 July 2025 at Nets⁵, which is a key player in the card payment systems in Denmark. As a result of the incident, most card payments could not be processed as usual for about three hours. The incident made it clear that resilient digital payments are important and that citizens and merchants are prepared for temporary outages, see box 1.

Payment systems, like the rest of society, are dependent on electricity, telecommunications and data connections. Outages can therefore occur for reasons other than technical failures in the payment infrastructure or on the part of payment market participants. This was seen, for example, during the extensive power outage on April 28, 2025 in Spain, Portugal and some parts of France, which were much more widespread than the impact on payment systems.

¹ Danmarks Nationalbank, Denmark is among the most digitalised countries when it comes to payments, *Danmarks Nationalbank Analysis*, no. 2, February 2022 ([link](#)).

² The payments infrastructure in Denmark consists of a number of interconnected systems and solutions that enable consumers, businesses and financial entities to exchange payments and securities with each other.

³ See Danmarks Nationalbank, Oversight of the financial infrastructure 2024, *Danmarks Nationalbank Report*, no. 3, May 2025 ([link](#)).

⁴ *Physical commerce* includes self-service environments, shops and service industries with a physical presence.

⁵ Nets is a Danish company providing payment solutions and serving as a central part of Denmark's payment infrastructure. It is owned by the Italian payment company Nexi.

BOX 1

Nationwide disruption in card payments 19 July 2025

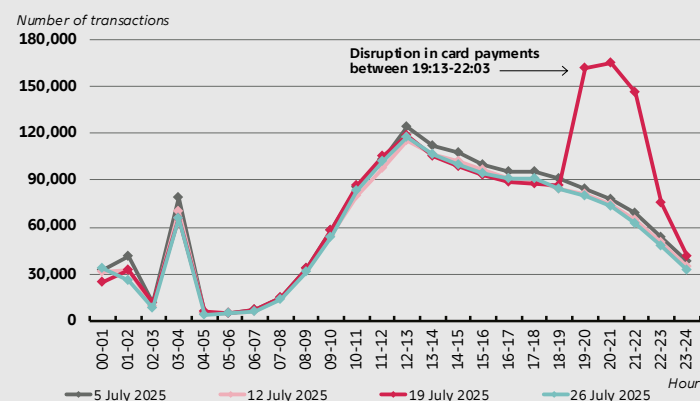
On Saturday, July 19, 2025, Nets had a serious operational incident when an error in their systems caused the vast majority of transactions with payment cards to fail between 19:13 and 22:03.¹

During the disruption, merchants in physical commerce to a varying degree used offline card payments to maintain payments, despite the feature being widespread in Denmark. This may be because citizens and merchants were not sufficiently prepared to pay and receive payments offline with payment cards. The incident also showed that some merchants could take into account the changed payment habits among citizens in their contingency plan, including the decline in use of physical payment cards in favour of card-based wallets on their mobile phones, e.g. Apple Pay and Google Pay.

During the disruption, the number of instant payments also increased, which is a type of account transfer in which the payee receives money within a few seconds and which works independently of card systems, see chart. The increase was particularly driven by payments with MobilePay, which uses instant payments as its underlying payment system. This incident showed that different payment solutions can complement each other in situations where one or more of them fail to work as usual. However, this requires citizens and merchants in physical commerce to be prepared to use them.

CHART

Instant payments increased during a card payment system disruption



Note: Number of instant payments settled in TIPS-DKK on Saturdays in July 2025. TIPS-DKK is the system used to settle instant payments in Danish kroner.

Source: Danmarks Nationalbank.

¹ See press release from Nets, *Sjælden komponentfejl årsag til lang nedetid* (rare component failure causes long downtime, in Danish only), 24 July 2025 ([link](#)).

Payment cards are the primary contingency solution, but several others provide resilience

In Denmark, several widely used payment solutions are available: payment cards, cash and account transfers. The three solutions use different systems and can therefore work independently of each other in most situations.

Card payments with physical payment cards are the most commonly used, and can be used offline, e.g. if there is no internet connection or in the event of payment card system disruptions. The offline option makes card payments suitable as a basis for a national payment contingency measure, i.e. in the event of long-term regional or national incidents when it is not possible to pay with payment cards, cash or account transfers as usual. Work is therefore being done under the auspices of the Danish Payments Council to complete the implementation of a payment contingency measure that will ensure that all adults can pay offline for medicine and food at pharmacies and in nationwide supermarket chains for at least one week with physical payment cards and with payment cards linked to wallets, e.g. Apple Pay and Google Pay. The contingency measure must work in all outage situations when the businesses involved continue to be open and sell goods. This requires that there is power to maintain the store's basic functions and thus the ability to serve customers.⁶

This summer's incident at Nets and the extensive power outage in Spain, Portugal and parts of France showed that different payment solutions can complement each other in situations where payments cannot be made as usual. During the incident at Nets, citizens in Denmark made extensive use of account transfers, primarily via MobilePay, see box 1, and during the power outage, cash payments increased significantly in Spain in the shops that stayed open. These examples demonstrate that the three payment solutions, payment cards, cash

⁶ See the Danish Payments Council, *Status of the card payment contingency measure in Denmark*, *The Danish Payments Council's Status report*, 2 July 2024 ([link](#)).

and account transfers, support being able to pay in the event of short and long-term, local and nationwide events. In doing so, they form the foundation for resilient payments in Denmark.

Citizens and merchants should prepare

Resilient payments in Denmark require that citizens and merchants are prepared. Citizens should have more solutions available and be able to use them in practice, while merchants in physical commerce should have plans in place to deal with disruptions where payments cannot be made as usual. In many cases, it will still be possible to receive payments, e.g. offline with a payment card, if the merchant has prepared. By doing so, merchants can reduce the inconvenience for themselves and customers while supporting resilient payments in Denmark. This became clear during the summer's incident at Nets, when several merchants were prepared and used the offline functionality for payment cards.

This analysis takes a closer look at the payment options available to citizens and merchants in physical commerce during payment solution disruptions, and what criteria must be met for payments to still be made by payment cards, cash or account transfers.

Based on the results of the analysis, Danmarks Nationalbank has prepared recommendations for citizens and merchants in physical commerce to support payments in the event of local and short-term disruptions, e.g. in a single store or chain, and in the event of national, long-term disruptions. By following the recommendations, citizens and merchants can reduce the inconvenience if one or more payment solutions fail. They will also contribute to making society more resilient to major and national payment disruptions.

BOX 2

Danmarks Nationalbank's work on secure payments

Danmarks Nationalbank's work to support secure payments and financial stability is directly anchored in Danmarks Nationalbank's overall purpose. This task is solved both by being a settlement bank, in the role of overseer of the payment infrastructure, as a leader of cooperation forums between authorities and private companies, and by issuing notes and coins with high security.

Settlement of payments and securities transactions in Danish kroner

In 2024, payments worth DKK 732 billion were sent through the Danish payment infrastructure on an average banking day. Danmarks Nationalbank helps to ensure that these digital payments can be settled securely and efficiently. Danmarks Nationalbank plays a key role in the infrastructure, both in the settlement of large, time-critical payments between banks (interbank payments) and by virtue of Danmarks Nationalbank's role as settlement bank for the other payment and settlement systems.¹

Oversight of the financial infrastructure

Danmarks Nationalbank oversees that the most important payment solutions and the systemically important payment and settlement systems function safely and efficiently and comply with the international standards in this area. These include TARGET DKK, Danish retail payment systems and payment solutions such as Dankort and Betalingsservice. Danmarks Nationalbank's overall assessment of and recommendations for payment systems and payment solutions are published in an annual report.²

The Danish Payments Council

Danmarks Nationalbank holds the chairmanship and is the secretariat for the Danish Payments Council, which is a forum for cooperation in the area of retail payments in Denmark.³ The Council was established by Danmarks Nationalbank in 2012 and has the participation of interest groups, companies and authorities with a broad interest in the area of payments in Denmark. The purpose of the council's work is to promote the efficiency and security of retail payments for all parties involved, i.e. citizens, businesses, financial institutions, etc.

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Since 2023, work has been carried out under the auspices of the Danish Payments Council on a national payment contingency plan, where adult Danes will be able to make offline card payments with both physical payment cards and mobile-based card payments, e.g. Apple Pay and Google Pay, at pharmacies and in nationwide grocery chains. The goal is for citizens to be able to pay for a basic consumption of food and medicine for at least one week if the digital payment solutions do not work.⁴ The implementation of the contingency plan is in the final phase in the nationwide grocery chains and pharmacies, and the last stores are expected to have completed the implementation by mid-2026 at the latest.

Financial Sector Forum for Operational Resilience, FSOR

Danmarks Nationalbank holds the chairmanship and is the secretariat for the Financial Sector Forum for Operational Resilience (FSOR). Established in 2016, the FSOR is a public-private cooperation forum for the financial sector with the participation of the financial sector's most central actors, such as systemically important banks, data centres, owners of critical financial infrastructure and relevant authorities. The purpose of the FSOR is to increase operational resilience across the financial sector, including in the payment infrastructure.⁵ Under the auspices of the FSOR, a risk analysis is carried out every six months, among other things, which creates a common updated view of systemic risks for the most important financial activities. Danmarks Nationalbank and FSOR use the risk analysis to ensure focus on what is most important to do something about and to initiate new initiatives

Ongoing analysis work

In order to support safe and efficient payments in Denmark, Danmarks Nationalbank regularly prepares analyses of, among other things, retail payments and makes recommendations for the payment market in Denmark and contributes to international initiatives to improve cross-border payments.⁶

¹ See Danmarks Nationalbank, Oversight of the financial infrastructure 2024, *Danmarks Nationalbank Report*, no. 3, May 2025 ([link](#)).

² See Danmarks Nationalbank, Oversight of the financial infrastructure 2024, *Danmarks Nationalbank Report*, no. 3, May 2025 ([link](#)).

³ See the Danish Payments Council, nationalbanken.dk ([link](#)).

⁴ See the Danish Payments Council, Status of the card payment contingency measure in Denmark, *The Danish Payments Council's Status report*, 2 July 2024 ([link](#)).

⁵ See FSOR: Operational resilience collaboration, nationalbanken.dk ([link](#)).

⁶ See, for example, Danmarks Nationalbank, The digital retail payment market is changing, *Danmarks Nationalbank Analysis*, no. 2, February 2025 ([link](#)), and Danmarks Nationalbank, The role of cash in a society with low usage of cash, *Danmarks Nationalbank Analysis*, no. 21, November 2023 ([link](#)).

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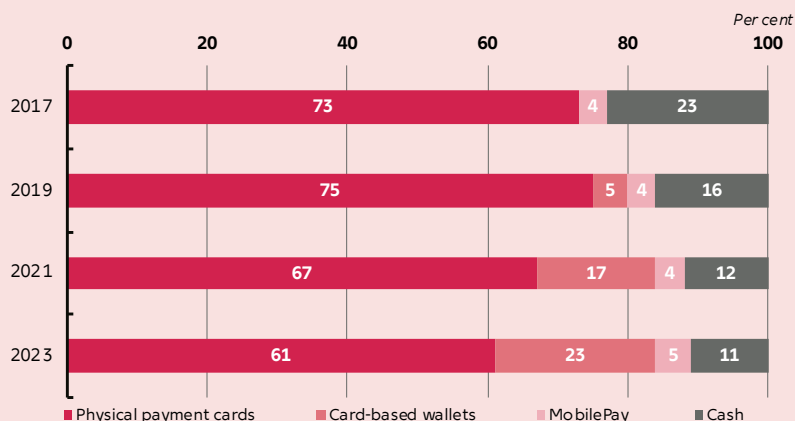
Payment solutions used in physical commerce

Developments in the payment market in Denmark have been rapid, and new digital payment solutions have been introduced continuously, including wallet payments on mobile phones such as Apple Pay and Google Pay. The result is access to a wide range of payment solutions for citizens.

The most commonly used form of payment in physical commerce is the physical payment card, see chart 1. But there has been a significant shift in recent years towards card-based wallet payments on mobile phones, e.g. Apple Pay and Google Pay. The proportion of card payments made with a wallet solution has continuously increased since 2023 and in Q2 2025 accounted for almost 39 per cent of card payments in physical commerce. The use of cash has continued to decline in recent years and accounts for approximately one in 10 payments.⁷ When account transfers are used in physical stores, MobilePay is most often used, accounting for about 5 percent of citizens' payments in 2023.⁸

CHART 1

Breakdown of payment solutions used in physical commerce



Note: Card-based wallets includes, for example, Apple Pay and Google Pay. The chart is based on data from Danmarks Nationalbank's surveys of Danish citizens' payment habits.

Source: Danmarks Nationalbank.

⁷ See also Danmarks Nationalbank, The role of cash in a society with low usage of cash, *Danmarks Nationalbank Analysis*, no. 21, November 2023 ([link](#)).

⁸ MobilePay does not make direct account transfers between the payer's and payee's accounts, but uses account transfers as the underlying payment in their payment solution.

Card-based payments

Card payments are a resilient form of payment, as card payment systems have measures that make it possible to pay with payment cards and card-based wallets, e.g. Apple Pay and Google Pay even in the event of disruptions in the systems.⁹

An important factor behind the resilience is the offline functionality of payment cards. It ensures that merchants in physical commerce can accept card payments even if the internet connection is lost or there are disruptions in the card payment system, as long as the payment terminal has power and is otherwise functional. In this way, offline card payments help maintain the continuity of payments, regardless of what causes the disruption in the underlying systems. This was seen during the incident at Nets this summer, when several stores were able to continue sales by using the offline function.

In Denmark, most card acquirers and payment terminal providers offer as standard that merchants in physical commerce can accept offline card payments with *local authorisation*, see box 3.¹⁰ This offline feature has been available since the introduction of chip-based payment cards in the mid-00s and is well-known and widely used in the retail trade.

BOX 3

Offline card payments with local authorisation

A card payment with local authorisation is a payment in which the transaction *is authorised* locally at the payment terminal without connection to a payment system at the time of payment. This means that the payment terminal does not need to be online to approve and complete the payment. This means that payments can still be made with a payment card in the event of network and card payment system disruptions. The card and terminal perform local authorisation using the payment card's chip and PIN instead. The terminal checks the security mechanisms built into the physical payment card's chip and approves the transaction. Therefore, the physical payment card has to have the functionality to make local authorisation. Not all payment cards have this functionality, nor is it possible to pay with e.g. Apple Pay and Google Pay with local authorisation. Individual cardholders can seek information from their bank about whether their payment card supports local authorisation.

The payment card's chip contains information about whether the card may be used for local authorisation, and if so, the permitted amounts – both per individual transaction and in total across multiple transactions. It is these parameters that are used to approve payment locally at the terminal.¹ If the set amount limits in the card are exceeded, payment will be rejected and the customer will not be able to complete the purchase. If, on the other hand, payment is within the amount limits, the store generally has a guarantee that the purchase has been completed, meaning minimal risk of loss for the payee.

This type of offline card payment is offered by default by the largest card acquirers and payment terminal providers in Denmark. However, it may be necessary for a merchant in physical commerce to have entered into a separate agreement with its provider.



¹ For a more detailed description of card payments with local authorisation, see the Danish Payments Council, Status of the card payment contingency measure in Denmark, *The Danish Payments Council's Status report*, 2 July 2024 ([link](#)).

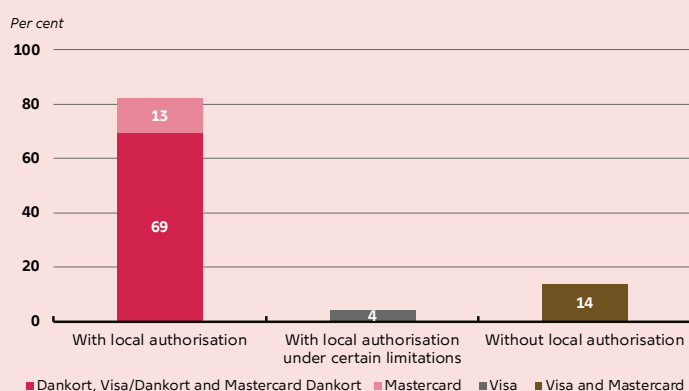
⁹ This applies, for example, to stand-in processing, STIP, which is a function in card systems where another party temporarily approves payments on behalf of the cardholder's bank if the bank or the connection to the bank is not available. STIP is typically made by the card-issuing bank's processor or the card company and ensures that payments can be made for a period of time, even in the event of technical outages, but when internet access is available.

¹⁰ The use of card payments with local authorisation by stores may require that the store has entered into a separate agreement with its acquirer and supplier of payment terminals, and that the card payment terminal is set up accordingly.

For cardholders to use the offline function, their payment card has to support local authorisation and payment must be made with the physical card and PIN code. According to a report from the Danish Payments Council from 2024, 82 per cent of adults over the age of 18 have at least one payment card that can be used for offline card payments with local authorisation, see chart 2. The offline spending limits vary and are higher for Dankort than for the international payment cards from Visa and Mastercard, see chart 3.^{11,12}

CHART 2

82 per cent of citizens over the age of 18 have at least one payment card that allows card payments with local authorisation

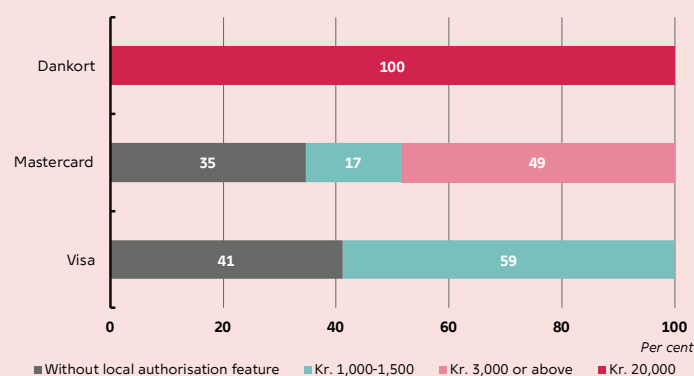


Note: The chart shows the breakdown of Danish bank customers over the age of 18 by which payment card they have available and whether the card has the functionality to make card payments with local authorisation. A bank customer is only included once in the statement, even if they have several payment cards or multiple bank accounts. The chart is hierarchically divided according to the card brands' spending limits for local authorisation. This means that if a citizen has a Visa/Dankort and a payment card from Mastercard or Visa, they will only be included in the chart for Dankort, as Dankort has the highest spending limit for locally authorised card payments. For a breakdown of spending limits, see chart 3. Visa's rules dictate that their payment cards may only be used for local authorisation in certain situations and within selected parts of the retail trade, see footnote 12.

Source: Data is based on an analysis by Finance Denmark, but conclusions are based on insights from several players.

CHART 3

Payment card brands have different spending limits for local authorisation



Note: The chart shows Danish-issued payment cards broken down by card brand and associated spending limits for card payments with local authorisation.

Source: Data is based on an analysis by Finance Denmark, but conclusions are based on insights from several players.

In order to ensure that cardholders can pay for the most basic necessities, work is being done under the auspices of the Danish Payments Council to complete the roll-out of another offline technology at pharmacies and in nationwide supermarket chains as a national payment contingency measure, known as offline card payments with *deferred authorisation*, see box 4. This solution can be used with all payment cards from Dankort, Mastercard and Visa, but also with wallet solutions on mobile phones, including Apple Pay and Google Pay. Offline card payments with deferred authorisation do not require the cardholder to pay with specific payment cards or chip and PIN. They can therefore continue to pay

¹¹ See the Danish Payments Council, Status of the card payment contingency measure in Denmark, *The Danish Payments Council's Status report*, 2 July 2024 ([link](#)).

¹² Visa's rules did not use to allow payments with local authorisation with their cards, but the rules were changed in early 2025. Visa's payment card can therefore now be used to carry out local authorisation in the parts of the retail trade that sell groceries, medicine and transport, e.g. fuel.

in the same way as usual, which increases the resilience of the contingency solution.

BOX 4

Offline card payments with deferred authorisation

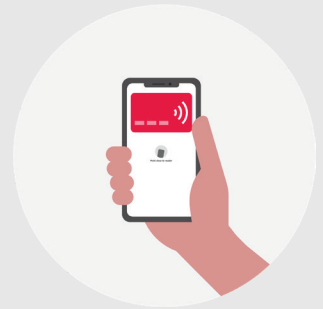
A card payment with deferred authorisation is a payment in which the transaction *is registered* locally on the payment terminal, but is not approved at the moment of payment. The payment terminal does not need to be online to register and store the payment locally, making it possible to use cards in the event of network and card payment system disruptions. Once the payment terminal has re-established connectivity to the payment systems, the transaction is sent to the payment systems to be authorised. If the transaction is approved, it will subsequently be settled.

In contrast to local authorisation, the cardholder is not subject to a spending limit set for the physical payment card, and any card can be used, including payment cards issued abroad. It is also possible to pay via mobile phone wallets, e.g. Apple Pay and Google Pay.²

Offline card payments with deferred authorisation are, among other things, known from payments on board passenger aircraft, but are not yet very common among merchants in physical commerce. Under the auspices of the Danish Payments Council, work is underway to complete the roll-out of this type of card payment as a national payment contingency measure at pharmacies and in nationwide supermarket chains, but the solution can also be used by other merchants in physical commerce – typically through agreement with their card acquirer and terminal supplier.

With deferred authorisation, payments are generally not rejected at the moment of payment. The payee therefore assumes a risk of loss if the goods have been handed over and the payment is subsequently rejected when the terminal has reestablished connection. The risk of loss must be weighed against the potential loss associated with either not being able to accept card payments at all or expecting the customer to come back to pay at another time. However, the risk of loss can be limited by setting amount limits for deferred authorisation payments on the payment terminal and possibly stopping or restricting the sale of certain goods or services in situations where regular card payments are not possible.

¹ For a more detailed description of card payments with deferred authorisation, see the Danish Payments Council, Status of the card payment contingency measure in Denmark, *The Danish Payments Council's Status report*, 2 July 2024 ([link](#)).



Although offline card payments with deferred authorisation will initially be implemented by pharmacies and the nationwide supermarket chains under the auspices of the Danish Payments Council, other shops and businesses can also implement this solution by agreement with their card acquirer and terminal supplier. Some shops other than pharmacies and supermarket chains have therefore already implemented deferred authorisation as part of their payment contingency plans.¹³

Offline card payment solutions are relevant for many merchants in physical commerce for several reasons: Most Danes primarily use payment cards when paying, and many merchants already accept card payments. Many businesses can therefore benefit from having one of the two offline solutions as a key part of their own payment contingency plan to reduce the consequences of a disruption and make it possible to continue to accept card payments as long as their payment terminals work. Offline card payments are particularly relevant in situations where the product or service has already been used or is being delivered when the payment is made or when the purchase cannot be postponed to a later date, e.g. at a restaurant.

When choosing an offline card payment solution, it is relevant to take into account how many customers pay with foreign payment cards or wallets on their

¹³ Card payments with deferred authorisation are a service offered by several of the largest card acquirers and terminal providers in Denmark.

mobile phones such as Apple Pay and Google Pay. If a merchant has many such customers, it may make particular sense to choose deferred authorisation as part of contingency planning.¹⁴ Payments using wallets is also expected to become more widespread. Deferred authorisation will therefore be a resilient and relevant solution for many merchants who already accept card payments.

Additional measures to support card payments may be relevant for some merchants

For some businesses, e.g. shops with many daily payments or high turnover, it may be relevant to supplement with additional measures to reduce the number of situations where card payments have to be made offline. Avoiding situations where payments can only be made offline will be an advantage, as offline payments involve a certain amount of uncertainty and subsequent handling, which may entail a risk of loss for the merchant, see boxes 3 and 4.

Additional measures could e.g. include using multiple card acquirers to reduce the consequences of a disruption at a single card acquirer or establishing backups for fixed cash registers and payment terminals. For example, self-scan solutions on the customer's smartphone, handheld terminals or SoftPOS solutions facilitating card payments directly on a smartphone or tablet without the use of a traditional payment terminal are options, if the primary POS system or payment terminal do not work.¹⁵

Criteria for citizens to be able to pay with a payment card offline

Offline card payments with local authorisation require a citizen to have a payment card that supports this feature. Individual citizens can seek information from their bank about whether the payment card supports local authorisation. At the same time, citizens must use the physical payment card by inserting it into the payment terminal and entering the PIN code. This criterion does not apply to merchants that offer offline card payments with deferred authorisation, as citizens can then pay as usual with their physical payment cards and wallet solutions such as Apple Pay and Google Pay.

Criteria for merchants in physical commerce to be able to receive card payments offline

In order for merchants in physical commerce to receive offline card payments, payment terminals must support local authorisation and/or deferred authorisation, and can store offline transactions. This may require merchants to have an agreement with their acquirer and terminal provider.¹⁶

Most card acquirers and terminal providers offer offline card payments with local authorisation as standard, while offline card payments with deferred authorisation require an agreement with the card acquirer and terminal provider as well as implementation on the store's payment terminal and possibly also the POS system.

The merchant, or its staff, must also be able to activate offline mode on its terminals, which applies to offline card payments with both local and deferred authorisation. This can be done automatically or manually and thus requires active input from the staff. Merchants must therefore have procedures for when and how the terminal is to be put into offline mode, and the staff must be aware

¹⁴ Foreign customers can also make payments with local authorisation if their bank has given the payment card that functionality. Most payment cards issued by Danish banks have the functionality, but this is not necessarily the case for cards issued by banks in other countries – not even within the EU.

¹⁵ SoftPOS solutions can typically only accept payments with payment cards contactless or via card-based wallets, e.g. Apple Pay and Google Pay. Therefore, they cannot accept offline card payments with local authorisation.

¹⁶ The largest card acquirers in physical commerce and terminal suppliers in Denmark are Nets, Swedbank Pay, Worldline and Verifone.

of this – regardless of whether the transition to offline mode on the payment terminal takes place automatically or manually.¹⁷ It is important that the staff is familiar with the procedures in advance, as in some situations it may not be possible to get in touch with the card acquirer or, for example, the store's head office if the lines of communication are disrupted. If offline card payments with local authorisation are used, the staff must also be able to advise customers that the solution requires a physical payment card that can be used and which is inserted into the terminal, after which a PIN code is entered.

Cash payments

Cash payments in physical commerce can generally be made without access to the internet or digital payment infrastructure. In practice, however, cash payments have become increasingly dependent on digital equipment. For example, a number of merchants now use cash register systems, where payment with cash is made through machines that automatically count and register the amount, and where the staff do not have direct access to the cash.

Cash payments make up a smaller and decreasing share of citizens' payments, which also means that citizens today typically have no or only little cash on them.¹⁸ The cash infrastructure in Denmark is also adapted to this low use of cash among citizens, and the primary access to cash today is at ATMs or by cashback in shops. Access to cash therefore often requires that there is electricity, a functioning payment card infrastructure and an internet connection, and thus the use of cash is not independent of digital systems.¹⁹

Prerequisites for citizens to be able to pay with cash

Cash payments require citizens to have cash available. It is important that they have cash before an incident occurs, as the possibility of withdrawing cash, e.g. from ATMs or cashback in stores, may be severely limited or not available.²⁰ For the sake of the shops and their change, it can be an advantage to have the cash in coins and smaller notes.

Criteria for merchants to take cash payments

Merchants in physical commerce in Denmark are used to receiving and handling cash, as they are legally obliged to accept cash payments.²¹

However, the use of cash can increase significantly in the event of a long-term disruption of digital payment solutions. It may therefore be necessary for merchants to have established procedures or agreements on, for example, the delivery of change and the collection of cash in the event of long-term digital payment solution disruptions. Merchants can also benefit from ensuring that their cash register system and cash handling equipment will work, even if digital

¹⁷ If a merchant chooses an automatic transition to offline mode on the terminal, it may be an advantage that the staff can put the terminal into offline mode manually and knows the procedures for doing so. This is because, in some cases, the terminal may still be connected to the system and therefore will not transition to offline mode, even though it is not possible to make online card payments.

¹⁸ Half of the population has no or only very little cash on them (less than kr. 100) for everyday payments, according to Danmarks Nationalbank's latest survey of citizens' payment habits in Denmark from 2023, see Danmarks Nationalbank, The role of cash in a society with low usage of cash, *Danmarks Nationalbank Analysis*, no. 21, November 2023 ([link](#)).

¹⁹ See Danmarks Nationalbank, The role of cash in a society with low usage of cash, *Danmarks Nationalbank Analysis*, no. 21, November 2023 ([link](#)).

²⁰ The capacity of ATMs in Denmark will hardly be sufficient if all citizens want to withdraw cash at the same time. Especially in densely populated areas, there will be a high risk of long queues at the ATMs, see Danmarks Nationalbank, The role of cash in a society with low usage of cash, *Danmarks Nationalbank Analysis*, no. 21, November 2023 ([link](#)).

²¹ See the section 81 of the Payments Act, cf. LBK no. 651 of 10/06/2025 ([link](#)).

payments cannot function as usual, or they have alternatives in place to allow deposits and withdrawals to be registered and processed safely and efficiently.

Payments based on account transfers

Account transfers in Denmark are primarily made via online banking, mobile banking or MobilePay. They are widespread among the public, especially for the payment of large bills and for transfers between private individuals. Account transfers can be made as *instant payments*, where the recipient receives the money immediately, or as *ordinary account transfers*, settled during bank opening hours.²²

In physical commerce, account transfers are largely only used via MobilePay, which accounted for 5 per cent of payments in physical commerce in 2023, see chart 1. This figure, among other things, reflects that a number of stores do not offer their customers to pay with payment solutions based on account transfers, e.g. MobilePay. In addition, payment solutions based on account transfers require a working network connection, as there are currently no widespread account transfer-based solutions with offline functionality in Denmark.

More widespread use of mobile payment solutions based on account transfers in physical commerce could strengthen the resilience of payments in point of sale and in the payment system as a whole, as it reduces the vulnerability to technical errors or disruptions at specific players in the card payment systems.

Account transfers can also be made via mobile or online banking, but this will typically be more difficult to use in practice. However, more than 90 per cent of people over the age of 15 have MobilePay available, and its users are widely represented across age groups.²³ Merchants may want to consider having an account transfer-based solution, e.g. MobilePay, either as a fixed payment option or as part of a contingency plan that can be activated if needed. For example, it could be a solution based on QR codes that does not require payment terminals.²⁴ This would require a separate agreement with a payment provider offering account transfer-based payments to merchants.

The market for digital payments is developing rapidly, and new payment solutions are being introduced continuously. Citizens and merchants can therefore benefit from keeping up to date on which account transfer-based solutions are available on the market. In this connection, merchants can assess whether there may be new solutions that are relevant to offer – either as a fixed payment option or as part of their payment contingency planning.

Criteria for citizens to make account transfers

Account transfers in physical commerce typically require a mobile phone with a payment solution based on account transfers, e.g. MobilePay or a mobile

²² See Danmarks Nationalbank, The digital retail payment market is changing, *Danmarks Nationalbank Analysis*, no. 2, February 2025 ([link](#)), and Anders Toftøj Andersen and Tommy Meng Gladov, Initial experience with instant payments, *Danmarks Nationalbank Quarterly Review*, pages 79-84, vol. 54(1), March 2015 ([link](#)).

²³ See Danmarks Nationalbank, The digital retail payment market is changing, *Danmarks Nationalbank Analysis*, no. 2, February 2025 ([link](#)) and MobilePay, *Halvdelen af Danmarks ældste borgere benytter nu MobilePay* (half of Denmark's oldest citizens now use MobilePay, in Danish only), 22 September 2022 ([link](#)).

²⁴ In connection with a cyber attack on 7-Eleven in Denmark in August 2022, the POS system was out of operation, making it impossible to use payment terminals for card payments. As a temporary solution, the stores used MobilePay via QR codes and cash until the cash register system was working again. In addition, 7-Eleven, together with other players, established a new payment solution that made it possible for the staff to accept card payments via an Android phone with an app, including card payments via Apple Pay and Google Pay ([link](#)).

banking app. But users should be aware that payments based on account transfers cannot currently be used in all transactions and in all situations.

Criteria for merchants to receive account transfers

Payment solutions based on account transfers, e.g. MobilePay, typically require the merchant to have an agreement with a payment provider.

Account transfers via mobile and online banking can also act as a contingency measure for some types of stores and points of sale, e.g. stores with few daily payments, but account transfers will be time-consuming to make as the customer has to make a manual account transfer. It also requires that the staff know the store's account number, and possibly that the sales system, i.e. the cash register, can handle such payments.

03

Recommendations for maintaining payments

Denmark has a solid foundation for resilient payments, as the three widely used payment solutions, payment cards, cash and account transfers, can work independently of each other in most situations. In addition, payment cards have offline functionality, which makes it possible for citizens and merchants in physical commerce to make and receive card payments, even if the internet is down or there are disruptions in the card payment systems.

However, the foundation for resilient payments rests on citizens and merchants being prepared and able to use and receive these solutions – even during situations where digital payment systems are not functioning normally for shorter or longer periods.

Citizens are well placed in this respect, as most already have one or more payment cards and can make payments with account transfers via mobile banking or MobilePay. But half of the population has no cash or less than kr. 100 on them for everyday payments.²⁵ The experience from the extensive power outage in Spain, Portugal and parts of France showed that it is an advantage to have cash in case a similar incident should occur in Denmark.

For merchants in the physical commerce, the incident at Nets in July 2025 showed how important it is that merchants and other physical points of sale are prepared for situations in the event of a disruption in one or more digital solutions. It may therefore be relevant for many merchants to have a payment contingency plan so that several payment solutions can be accepted, including offline card payments. Other merchants may consider it necessary to close temporarily. The crucial thing is that merchants have considered the various possibilities and consequences in advance, and be able to translate those considerations into actual planning.

Danmarks Nationalbank has prepared recommendations for citizens and merchants in physical commerce. The recommendations apply to all merchants in physical commerce, even though they can be very different. The individual merchant knows their own circumstances best, and the recommendations are therefore general. This leaves room for merchants to implement the recommendations as they see fit.

²⁵ See Danmarks Nationalbank, The role of cash in a society with low usage of cash, *Danmarks Nationalbank Analysis*, no. 21, November 2023 ([link](#)).

Recommendations for citizens: Have several different payment solutions

The risk of not being able to pay can be reduced by preparing for temporary disruptions in one or more payment solutions. Having several different payment solutions gives more opportunity to pay in the event of a preferred payment solution disruption. This applies both in the event of local, short-term disruptions in a single store or chain of stores and in the event of national, long-term incidents.

To be well prepared, Danmarks Nationalbank recommends that all households in Denmark have minimum two physical payment cards from different brands and a small amount in cash. Danmarks Nationalbank also recommends that citizens have a payment solution installed on their mobile phone based on account transfers, e.g. MobilePay or mobile banking, see chart 4.

CHART 4

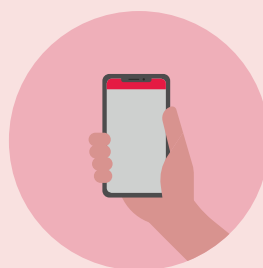
Have access to different payment solutions



Two physical cards from different card brands. Remember the PIN codes.



A small amount in cash.



A mobile payment solution based on account transfers.

Source: Danmarks Nationalbank

Two physical payment cards of different brands – and remember the PIN codes

Danmarks Nationalbank recommends that each household has a minimum of two payment cards from different brands from the most common card brands in Denmark, i.e. Dankort, Mastercard or Visa. If payment cannot be made with one card brand, it may be possible with another.

If a household has two physical payment cards that combine two different card brands (co-badged²⁶), e.g. a Visa/Dankort or Mastercard-Dankort, the household should obtain a card from either Mastercard or Visa.

Many households will already be well covered, as 44 per cent of Danes have at least two payment cards of different brands or types. Many households will therefore have at least two payment cards of different brands, making it unnecessary to acquire additional cards.

²⁶ A co-badged payment card typically combines two different card brands on the same physical payment card. Visa/Dankort and Mastercard-Dankort are examples of co-badged payment cards in Denmark.

Physical payment cards from Dankort, including Visa/Dankort and Mastercard-Dankort, as well as most payment cards from Mastercard, can currently be used offline if, for example, the network connection is down or there is a disruption in the card payment systems.²⁷ This may require the use of a PIN code.

Remembering PIN codes for physical payment cards is therefore important. A PIN code reminder can be downloaded free from most bank websites. Citizens can seek information from their bank about whether their payment card from Visa and Mastercard support offline card payments.

In Denmark, work is underway on a card payment contingency measure for basic necessities

Today, many stores can accept offline card payments, and 82 per cent of adult Danes have a physical payment card from Dankort, including Visa/Dankort and Mastercard-Dankort, as well as Mastercard, which can be used offline without being limited to specific parts of the retail trade. Under the auspices of the Danish Payments Council, work is underway to expand the possibility of making card payments offline. The goal is that all citizens over the age of 18 with payment cards from Dankort, Visa and Mastercard issued by a Danish bank are able to pay for medicine and groceries for at least one week with their physical payment card and payment card on their mobile phone, e.g. via Apple Pay and Google Pay. Implementation of this contingency measure is being completed in the nationwide supermarket chains and pharmacies, and the last stores are expected to have implemented it by mid-2026 at the latest.

A small amount in cash

Danmarks Nationalbank recommends having a small amount of cash in coins and small notes, as they are a good supplement if one is unable to pay with a payment card for one reason or another.

Having the cash before an incident occurs is important, as being able to withdraw cash, e.g. from ATMs, may be severely limited or even impossible. Having the cash in small notes and coins is an advantage, as it makes it easier for stores to give change back.

The amount of cash a household should keep depends on its needs and expected purchases. Payment needs partly reflect how many basic necessities, such as food, the household already has at home. A benchmark can be kr. 250 per person in the household. This would allow most households to cover essential expenses for at least three days, although some households may require more.²⁸ Each household should therefore assess whether they need to keep a larger amount of cash. If the necessary amount of cash is not already available at home, it is not necessary to obtain it immediately; households can gradually build up their cash holdings – for example, by setting aside change or withdrawing smaller amounts from an ATM.

A mobile payment solution based on account transfers

Danmarks Nationalbank recommends having a mobile payment solution that makes account transfer-based payments, e.g. MobilePay and mobile banking. This increases the ability to pay in the event of an incident in the payment card systems, but when there is still an internet connection.

However, mobile payment solutions that make account transfer-based payments are currently only used to a limited extent in physical stores. Wider use can

²⁷ A large part of Visa's payment cards can also be used for local authorisation, but according to Visa's rules, it is only allowed in certain situations and at selected parts of the retail trade, e.g. when buying groceries, medicine or fuel. Payment cards from Dankort, including Visa/Dankort and Mastercard-Dankort and Mastercard are different, allowing local authorisation in principle without being limited to specific businesses or situations.

²⁸ According to Statistics Denmark, an adult Dane spends about kr. 70 per day on food.

increase the possibility of making payments. Payment solutions based on account transfers, e.g. via MobilePay, are included as part of the contingency planning of some stores.

The market for digital payments is developing rapidly, and new payment solutions are being introduced continuously. It is therefore advisable to stay informed about which payment solutions based on account transfers are available on the market.

Recommendations for merchants in physical commerce: Be prepared

It is important that all merchants in physical commerce have planned in advance how they will handle payment solution incidents that last for both short and longer periods of time.

Danmarks Nationalbank recommends that merchants in physical commerce, e.g. in retail trade, restaurants, transport and other infrastructure, prepare for such situations.²⁹ They should plan in advance how to handle such situations and decide whether they need to continue their sales with one or more alternative payment solutions, see chart 5.

In many cases, it will still be possible to receive payments, e.g. offline with a payment card, if properly prepared. Merchants will then be able to reduce any inconvenience for themselves and customers, while helping support resilient payments in Denmark.

CHART 5

Prepare for situations where payments cannot be made as usual



Consider accepting payments by payment cards and account transfers in addition to cash



Accept offline card payments if you normally receive card payments



Have specific plans and instructions for the shop and staff

Source: Danmarks Nationalbank.

Consider accepting payments with both payment cards and account transfers in addition to cash

Payment cards, cash and payment solutions based on account transfers, e.g. with MobilePay, are the most common payment solutions in physical commerce in Denmark. The three solutions are based in different systems and can work independently of each other in many situations.

While merchants in physical commerce are generally legally obliged to accept cash, accepting two digital payment solutions can ensure that it is still possible to receive digital payments in the event of a disruption in one of the solutions. For example, payments with payment solutions based on account transfers, e.g. MobilePay and mobile banking, can act as a backup for cash and card payments.

²⁹ Merchants in physical commerce include all companies that sell goods directly to cardholders in Denmark (C2B) through physical sales outlets.

The market for digital payments is developing rapidly, and new payment solutions are being introduced continuously. Keeping up to date on which payment solutions are available on the market is therefore an advantage.

Accept offline card payments if payments are normally accepted by payment card

Offline card payments make it possible to accept card payments even when there is a disruption in the card payment systems, such as incidents at a central player or internet outage.

Danmarks Nationalbank recommends that merchants that normally offer customers to pay with payment cards can also accept offline card payments. This means that the merchants have the technical solution available before the need arises and ensures that its staff always know how to activate offline payments on the card terminal and can guide customers on how to pay with their card.

Offline card payments may require a separate agreement with the acquirer or terminal provider.

Two types of offline card payments

There are two types of offline card payments a merchant can choose from: local authorisation and deferred authorisation.

Local authorisation is a solution that many merchants already have. Local authorisation can be completed with all Dankort, including Visa/Dankort and Mastercard-Dankort, as well as most Mastercard payment cards issued by Danish banks.³⁰ This solution requires that the customer uses their physical payment card and enters their PIN code. Mobile-based card payments via wallets, such as Apple Pay and Google Pay, are therefore not supported by local authorisation.

Deferred authorisation is a relatively new solution that can be used with all types of payment cards – physical cards issued to Danes and foreigners and wallet solutions on a mobile phone such as Apple Pay and Google Pay. Customers can therefore pay as usual, for example with wallet solutions. For most merchants, this will be a robust solution, as many card payments nowadays are made via mobile wallets, and wallet payments will probably become even more common in the future. Deferred authorisation is not yet very widespread, but is being implemented in pharmacies and the nationwide supermarket chains. The solution is available to others and can with advantage be widely implemented.

Some merchants may benefit from additional measures

Some merchants have high turnover and many daily payments. For them, additional measures may be relevant to reduce the number of situations where payments cannot be made online. This is because it is most secure to accept payments online when the payment terminal is connected to the card systems, as it reduces the possibility of misuse. Examples of additional measures include using several card acquirers or having alternatives to the fixed POS system and payment terminal.

Have specific plans and instructions for the store and staff

Danmarks Nationalbank recommends that merchants in physical commerce plan for how they will handle digital payment disruptions. This includes precise instructions on what staff should know and do. It is important that the staff is

³⁰ Visa's rules dictate that their payment cards may only be used for local authorisation in certain situations and in selected areas of the retail trade, including food stores, medicine and transport, e.g. fuel. Payment cards from Dankort, including Visa/Dankort and Mastercard-Dankort and Mastercard are different, allowing local authorisation in principle without being limited to selected parts of the retail trade or situations.

aware of the plans and the exact instructions in advance, as in some situations it may not be possible to get in touch with the card acquirer or, for example, with the store's head office if communication lines are disrupted.

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The analysis consists of a Danish and English version. In case of doubt about the correctness of the translation, the Danish version will prevail.

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