

Digital challenges for the payment system

Speech by Deputy Governor Jon Nicolaisen at the Financial Industry's Digital Services Conference on 9 June 2016

Introduction

Technology advances rapidly, giving rise to opportunities and challenges. Norges Bank will actively promote efficient solutions for payments and financial transactions. I presume that the participants at this conference have the same goal, so we have common interests in this area.

The Norwegian banking industry was among the first to adopt digital solutions. The giro systems were integrated and a common debit card system was put into place. The first internet bank giro was available already 20 years ago. Internet giro payments and BankAxept card payments in shops are cheap, efficient and widely used. Payment system costs in Norway have been considerably lower than in most other countries for a long time.

Common solutions do not impede competition. Banks and other operators have their own customer interfaces, services and prices. But underlying that are a common infrastructure and common standards. This provides economies of scale and accessible solutions for customers, regardless of where they hold an account. Cooperation has rendered the payment system efficient and robust.

New operators and new technology are now entering the payment market. This can, in principle, strengthen competition and improve efficiency. But it is important that the competition is rooted in a robust and cost-efficient common infrastructure. Norges Bank will actively pursue profitable solutions in the best interest of all the parties concerned.

Payments should become faster

Norway's efficient payment system is a competitive advantage for the Norwegian business sector. This is positive, but there is no room for complacency. Other countries are catching up and may be ahead of us in some areas, in particular in terms of real time payments and the infrastructure for mobile payments. We have a job to do here.

The Norwegian banking industry has collectively developed a payment solution where money is immediately received by the payee, so-called instant payments. A common system offers several advantages: The solution is cost-efficient and ensures fast payment services for customers. All banks and their customers can use the solution and it is not owned by an individual private market participant.

Yet, to date, few banks offer instant payment services. This may be due to technical factors, or because mobile apps need to be more user-friendly. It may also be that the competition among participants to promote their own solutions is ultimately an obstacle to an overall efficient infrastructure. Competition is best pursued in the area of customer interface.

In our neighbouring countries Sweden, Denmark and the United Kingdom, the situation is different. There has been broad cooperation in the area of instant payments in those countries. Banks have been engaged in developing common solutions – not only in the development phase, but also in the application phase. In all these countries, instant payments are widely used. In Sweden and Denmark, they are the underlying solution for most mobile payments. The result is faster and cheaper payments.

A common solution for instant payments is a step forward for both users and banks. At the same time, banks should think in terms of further development. One ambition should be to eliminate the risk that arises between banks when the payee receives the funds before bank settlement occurs. International experience shows that this can be done in several ways.

A long-term goal should be that payments occur in real time both between users and between banks. This will require adjustments to settlement systems. In the near term, it is also possible to use today's infrastructure to make payments faster. I have noted that the banking industry is working towards increasing the number of daily net settlements from four to five, and more payments will be settled individually and immediately.

Considerable work is underway under the aegis of Finance Norway and the new joint venture company Bits, which may lead to faster payments. Norges Bank, for its part, will explore whether possible adjustments to the bank settlement system could enhance payment efficiency. Norges Bank will do its utmost. We will seek a dialogue with the financial industry in order to find good solutions.

Several aspects of mobile payments should be improved

Mobile payments are becoming increasingly common. New features are the customer interface and additional services tailored to customers' individual needs. The underlying payment chain is largely the same as earlier.

So far mobile payments have primarily been used for transfers between private individuals or to charities, clubs and associations. In some cases, the payee receives the funds immediately, while in other cases it may take several days. For purchases in shops, cash and cards are fast and user-friendly payment instruments. This has probably held back the rise of mobile payments in shops, although they are rising there as well. A third area is mobile payments linked to online purchases. Services are being developed in all three areas. A look at the conference programme indicates that we will be hearing more about that today.

There are still some challenges facing mobile payments. Most mobile payments are made using an international payment card. As their use becomes more widespread, this solution will not be viable in the long term. It will be too expensive.

Another challenge is that users have to download a large number of apps to make sure that they can send and receive mobile payments. This is not very practical for users. Communication between apps, so-called interoperability, is key. Moreover, a solution with many different terminals at the cashier counter is not practical for customers or shops. Also

for mobile payments, it is clear that standardisation and common solutions is the only viable path.

Our aim is for mobile payments to be cheap and fast, and that apps can communicate and use the same shop payment terminal.

The question is how to achieve that. It is important for mobile payments to use the same underlying solutions, such as the industry's own instant payment solution or an enhanced BankAxept system. This will provide cheap and accessible solutions for customers, regardless where they hold an account, and entails economies of scale. In some cases, this will also result in faster payments. Norges Bank will seek to initiate a dialogue with the industry on this matter.

I have also noted that there are many operators that are now working to develop common terminal solutions for mobile payments. Time will show what the concrete solution will be.

For the system to work efficiently, users must have good information about the services. Optimally, the prices charged to users should reflect costs.

A more decentralised financial infrastructure?

Today's financial infrastructure is largely centralised. Transactions pass through one or several intermediaries before final approval and settlement in a central bank or a central securities depository.

At the core of a centralised payment system is the account system in the central bank. Each bank holds an account with the central bank and settlement between banks is effected by moving funds between these accounts. At the level below the central bank, the payment system consists of several layers of accounts. Banks that hold an account with the central bank have their own account system for customers. A payment between customers in different banks therefore passes through many stages, and they are verified at each stage. Similar centralised solutions also exist for the settlement of foreign exchange and securities transactions.

Society could possibly benefit greatly from replacing the existing infrastructure with more decentralised solutions, for instance based on so-called Blockchain technology. Such solutions were first used when the digital currency Bitcoin came onto the market in 2009. Such freestanding digital currencies face a series of challenges, such as significant price volatility, safety issues and pressures on IT resources. Experience shows that the public can easily lose confidence in such currencies and their payment systems, which are not backed by a central bank or a government deposit insurance scheme.

Recently, the international debate has shifted focus away from freestanding digital currencies to other uses and the underlying technology.

Decentralised systems are peer-to-peer networks where transactions are made directly between participants. They each have an identical copy of the account system or ledger,

which is updated continuously. As the ledger is distributed among incumbents, central operators or intermediaries are not needed to undertake the operations. This also provides potential for faster and cheaper settlement.

Public confidence and safety rely on encryption. It should not be possible to manipulate the ledger and transactions, and funds cannot be used more than once. It goes without saying that the quality of the security solutions is absolutely essential.

The decentralised technology can potentially be used in many areas. Besides the financial sector, proposed uses include registration of property and objects of value and in elections. However, the most common proposed uses are different forms of financial transactions, accounting and auditing.

A number of payment solutions have been raised in the international debate. One alternative is that the central bank operates a decentralised system that is open to all private individuals and businesses in a country. The currency unit could be a variant of the central bank currency, either a form of "electronic cash" or for use in bank settlement. This raises a series of fundamental questions to which we do not have the answers today – how this would affect banks' funding and credit provision, the division of roles between the private and public sector, and how monetary policy would function.

Another alternative is a network consisting of banks that settle customer payments immediately using the new technology. Each bank obtains funds to be used in the network by drawing down on the bank's account holdings with the central bank. An alternative is also to allow the banks' customers to participate directly in the network.

Securities settlement has been cited as another relevant area for decentralised technology. Funds and securities can be stored in a network, and so-called "smart contracts" ensure that delivery is made against payment. An idea that has been mentioned is that securities depositories and central banks would administer participation and regulate access to securities and funds. Securities companies and banks would settle trades in the network on behalf of investors.

Norges Bank's task is to promote an efficient and robust financial infrastructure. New decentralised technology offers the potential to increase the efficiency of our infrastructure. It is still early days, and we do not know what the outcome will be. But it is still worthwhile to take a closer look at the possibilities. Norges Bank will start work on assessing safety and efficiency, and other consequences of such solutions. We want dialogue with relevant operators in Norway and abroad.

Both the authorities and market participants should assess the need for standardisation and regulation. The timing for introducing such measures must not impede development in an early phase.

I look forward to an active debate. Many of the stakeholders participating in that debate are probably here today.

Safety and contingency arrangements

Technological advances also have implications for the security and contingency arrangements for our systems, which we as a nation must take seriously.

Developments occur rapidly. Operators want to market new solutions to strengthen their competitive position, which is natural. But payment solutions do not function efficiently if they are not secure and if there is little customer confidence in the solutions.

The payment chain includes many stages and they must all function. A chain is not stronger than its weakest link. Safety and operational stability must be adequately tested. Sound risk analyses are crucial. They provide a guide to risk-mitigation.

Internet solutions have led to new criminal activities. Resource use to combat cybercrime is steadily increasing. This is a price we have to pay to be able to exploit the benefits of the new technology.

Existing payment solutions cannot be phased out until we are certain that they will be replaced by other solutions that satisfy customer needs and enjoy customer confidence. This is important in normal times, and not least in terms of crisis preparedness. That has a cost, but a situation where payments cannot be executed would entail a much greater cost to society. As such, there can be no compromise with regard to contingency requirements.

Conclusion

Norway has an efficient payment system. This is positive, but there is room for improvement. In some respects, other countries are now ahead of us, for example Denmark and Sweden, particularly in terms of instant payments.

Payments should be faster than is the case today – both for end users and between banks. We must develop new infrastructure linked to instant payments and render payments faster through today's infrastructure.

Mobile payments can best be organised based on common underlying solutions. They should be cheaper and faster, and various apps must be able to communicate between banks and use the same shop payment terminal. Banks and the wider business sector do not have a choice in the long run. If the new solutions are to be viable over time, standards and common solutions for mobile payments must be developed. We may have started in this direction, but time is pressing.

Common solutions and standards are not an obstacle to effective competition. To the contrary – the competition in the market should develop on the foundation of a common, efficient infrastructure. In the long run, this is of common interest to all the parties concerned, whether they are public institutions, private companies, banks or our nation. This should provide a good basis for finding sound and future-oriented solutions.

Thank you for your attention.