

Economic Commentaries

Times are changing and so are payment patterns

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There is currently a lively debate on the rapid decline in the use of cash, a change which has also led to some international publicity. This development has also drawn the attention of politicians, who have given the current parliamentary inquiry into the Riksbank's mandate the task of investigating the seriousness of the matter and the potential need for measures to be taken.² Voices of authority in the debate say that this development is being hastened by the banks, which are choosing to limit the supply of cash services. Is this a true picture? Is it the supply side that is the driver, or is the supply of services adapting to reduced demand? Which is the chicken and which is the egg? On the basis of the available statistics, demand would appear to be the strongest driving force behind the decline in the use of cash. The increased digitalisation is essentially a positive development, but it is important that the groups that find it difficult to use the new technology receive the support and help that they need.

Money is a social agreement that can change over time

Money comprises the foundation of all financial transactions. Nevertheless, it becomes difficult when one starts to consider what money actually is. Put simply, one can say that money is what we all agree that money should be. It is nothing more than a social convention. But for this agreement to work, that which we have defined as money must fulfil three important functions: Firstly, all prices of goods and services must be expressed in the *unit* we define as money. This means we can easily compare what things cost. Secondly, what we have chosen as money shall function as a *store of value*, that is, the value of money shall remain stable over time. This is an important function, as it makes it possible for us to save money and consume at a later date. Thirdly, money needs to function as a *means of payment*, which means that everyone we want to have transactions with shall accept it as payment. This could mean that the definition of money applies to a particular region, a country or an area covering several countries.

What has been defined as money has changed apace with technological advances. Those who have produced and delivered payment services have constantly adapted the supply to innovations and new technology. On the demand side, there have also been factors that have affected the development of new payment services – economic growth, increased trade within increasingly

In this Economic Commentary we analyse changes in the supply of and demand for cash. It is, of course, difficult to clearly distinguish various drivers here, but with the aid of data we can obtain a better picture of what lies behind developments. One cautious conclusion is that lower demand appears to be the strongest driving force. We also argue that what we are seeing here is a natural result of technological advances – digitalisation – that affect society as a whole, and not just payment patterns. Technological advances often entail changes in our ways of making transactions with one another and thereby also forms of payment. This development is essentially positive. On the other hand, there are groups that are negatively affected by the rapid developments and for whom reasonable solutions should be found.

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² The Committee shall, according to its directives, analyse and assess and propose the legislative amendments it considers necessary with regard to the Riksbank's responsibility for cash management, cash supply, access to cash and emergency preparedness in the payment system.

<http://www.regeringen.se/rattsdokument/kommittedirektiv/2016/12/dir.-2016114/>

larger areas, new consumption patterns and changing preferences with regard to what works best as means of payment.

Before money existed, we used a barter system, which meant that the exchange of one product or service for another had to occur simultaneously.³ It required that a person wanting something in exchange for something else was forced to find a person who had this and at the same time wanted what was offered in exchange. What was needed here was what economists refer to as a coincidence of wants, which is not easily achieved. In this way, the barter system significantly limited the opportunities for trade and consumption and also for economic growth.

In order to facilitate trade and consumption, we have through history used different objects as money: shells, gold objects, metal coins, to name just a few, and when printing technology developed we also used pieces of paper, or banknotes. Over the past 60-80 years our funds in bank accounts have to an increasing extent begun to be used for payments, that is, as money. To begin with, we used cheques, bills of exchange or paper forms to transfer our account-based money, but technological advances contributed to money becoming digital.

The technological advances in the payment market are essentially positive, as they mean that production, distribution and the use of money require fewer resources and they make it easier for us to trade with one another. The resources that are freed up can instead be spent on other economic activity.

Digitalisation means that cash declines in significance

Sweden, like the other Nordic countries, is currently a pioneer with regard to these digital developments.⁴ The transformation concerns many parts of society and also includes payments. From this perspective, it is perhaps not so strange that Sweden is also in the forefront with regard to making use of innovations in the payment market. However, this development means at the same time that the use of cash is declining rapidly. As mentioned above, this means that the payment market will become increasingly efficient and this is essentially positive. Nevertheless, there is a lively debate on the use of cash.

One common element in the debate appears to be that it is the access to cash that is declining too quickly, that is, the supply of cash is insufficient. They say that the banks are reducing the general public's opportunities to withdraw cash and therefore they are using cash to a lesser extent.⁵ But are the banks reducing the opportunities to withdraw cash because they want to, or could it be the case that the banks are reducing the supply as a consequence of a decline in the demand for cash services? Which is the chicken and which is the egg here?

In actual fact, it is often difficult to determine whether it is supply or demand that is driving the change. Often it is both in co-operation. However, there are indicators that developments have been largely demand-driven. These indications can be seen, for instance, in the payments statistics the Riksbank gathers. The statistics include both data on payment flows with different types of means of payment as well as interview responses from the general public on how they choose to pay.⁶

Having said this, there are some arguments in the debate that it is important to consider, regardless of what are cause and effect here. One is that digitalisation is making it difficult for some groups in society to manage their payments. Everyone in Sweden should be able to

³ Money arose several thousand years ago and there is some uncertainty over how common the barter system was in early primitive economies. See Humphrey (1985) for an in-depth discussion.

⁴ See, for instance, the EU's Digital Economy and Society Index (DESI). In 2017, Sweden was in third place behind Denmark and Finland.

⁵ See, for instance, the article in Svenska Dagbladet newspaper on 18 February 2015 <https://www.svd.se/forre-rikspolischefen-startar-kontantuppror> or the one in Dagens Nyheter on 27 August 2017 <https://www.dn.se/arkiv/ekonomi/kontanter-kan-bli-valfraga-nar-missnojet-vaxer/>

⁶ Data was collected from BIS Red Book, ECB Blue Book, Sveriges Riksbank (2018).

make payments and if necessary the state and the market should implement support measures to help people facing difficulties. However, the problem is greater than how these people can manage their payments. It is more a question of how they can manage all types of day-to-day errands in an increasingly digital world.

How serious are the problems regarding access to cash?

Access to cash services over the counter at bank offices has declined significantly in recent years. Between 2011 and 2017 the number of bank offices with traditional cashiers has more than halved.⁷ This development creates problems for the percentage of the population that has been used to managing all of their banking services, including withdrawals and deposits of cash in bank offices.⁸ However, it is reasonable to assume that the majority of the population withdraws cash from the ATMs that have been broadly available in Sweden since the late 1960s.

How has access to ATMs changed over time? In 2016, there were as many ATMs as in 2006, just over 2,800 around the country. There have been variations from one year to the next, the number increased for instance by 15 per cent between 2008 and 2009 and declined by 15 per cent between 2015 and 2016, but otherwise the number has remained largely unchanged over a long period of time.⁹

The fact that access to ATMs has been more or less stable does not necessarily mean that the number is well-dimensioned in relation to the needs of the general public. There are no data showing how the general public's demand for withdrawals has developed in this period. On the other hand, we have data showing that the number of withdrawals per year has more than halved during the same period. Once again, one can ask the question of whether it is supply or demand that is the driver? Have withdrawals declined because the need for cash has declined, or is the decline due to access to ATMs being inadequate? If the latter were the case, it would mean that the general public instead withdrew larger amounts on the occasions they had access to an ATM or through checkouts in shops to compensate for fewer withdrawals. But this is not the case. On the contrary, statistics show that the average amount withdrawn declined by 56 per cent during this period. In the Riksbank's most recent interview survey in 2018, almost 70 per cent of respondents state that cash withdrawals via banks and retail trade are adequate to their requirements.¹⁰ In addition, the Riksbank's survey on payment patterns in Sweden shows that withdrawals of cash at checkouts in shops is declining. 65 per cent of respondents in the 2018 survey say that they never withdraw cash in shops. The corresponding figure for 2012 was around 50 per cent. This does not support the idea that access to cash withdrawal services is under dimensioned in relation to the needs of the general public.

However, one problem with the statistics is that they show the situation for Sweden as a whole, and do not pick up on regional differences. It is possible that the picture of a well-dimensioned infrastructure for cash withdrawals for Sweden as a whole conceals problems in, for instance, sparsely-populated areas. And this appears to be the case if one looks at other sources. The agents that supply ATMs and service boxes perceive that it is becoming increasingly difficult to maintain cash services in sparsely-populated areas. In northern Sweden and the county of Småland it is a particularly large challenge, but according to the Swedish Post and Telecom Authority (PTS)¹¹, it is a growing problem that is also becoming

⁷ From around 1,400 to 580 offices. See the Swedish Agency for Economic and Regional Growth, Pupos payment analysis (2017).

⁸ The legislation on money laundering may also have contributed to the decline in cash withdrawals and deposits at bank offices.

⁹ Data were collected from BIS Red Book.

¹⁰ On the other hand, access to cash services for deposits over the counter were perceived as somewhat less satisfactory. Around 40 per cent of the respondents consider that the cash service for deposits over the counter in banks or retail trade meets their needs.

¹¹ PTS (2017).

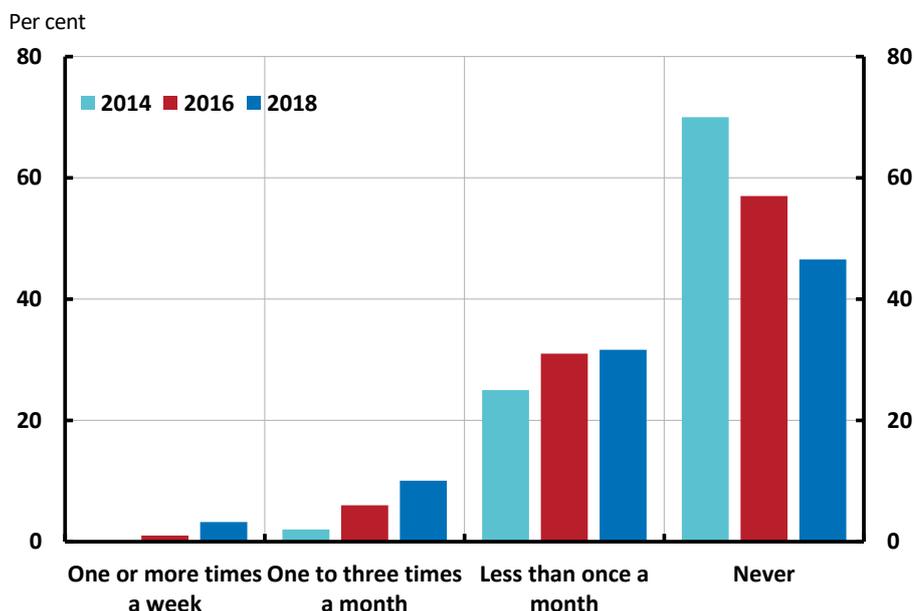
noticeable in larger towns. To gain a better picture of the regional differences, the Riksbank supplemented this year's interview survey with a separate sample for rural areas. We will return to the results of the survey below.

To what extent is cash not accepted as a means of payment?

As explained above, the statistics indicate that access to cash withdrawals is not a problem for the country as a whole. It is more a question of supply remaining stable while demand for the service is declining rapidly. But is the need for cash declining because people no longer want to use them or could it be the case that we are withdrawing less cash because we perceive that it is no longer accepted as a means of payment? Is it acceptance that is the problem?

At least in some cities we are increasingly seeing small signs stating that cash is not accepted, but how widespread is this phenomenon? According to a study commissioned by HUI Research, cash is still accepted by 97 per cent of shops.¹² This picture is supported by the interview surveys carried out by the Riksbank every other year. A total of 80 per cent of respondents state that they have experienced that cash is not accepted in a shop less often than once a month. Only a few per cent state that this has happened once or more often a week (see Figure 1). In rural areas it is even more rare that cash is not accepted in a shop. But acceptance has certainly declined.

Figure 1. How often do you experience that the shop where you are making a purchase does not accept cash?



Source: The Riksbank

The overall picture at present is that acceptance does not appear to be the widespread problem implied in the general debate. On the other hand, if the trend shown in Figure 1 continues, acceptance will become a problem in a few years' time. The Swedish Retail and Wholesale Council's study also supports this conclusion: According to the study, half of Swedish traders state that they will probably not accept cash after 2025.¹³ This development

¹² See the Swedish Retail and Wholesale Council (2018).

¹³ See footnote 12.

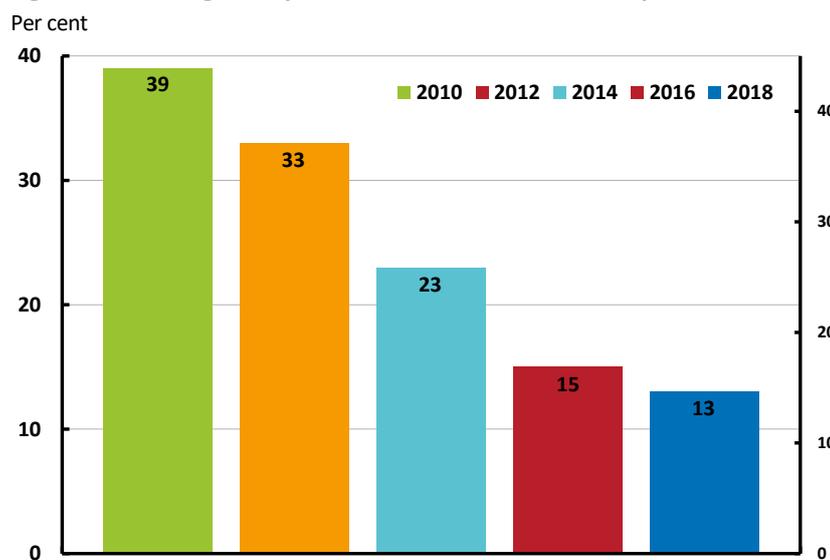
is not very surprising. Cash is linked to costs for traders and as fewer consumers pay in cash it quite simply becomes less profitable to continue to accept cash payments.

Which means of payment do Swedes want to use?

Statistics on how we in Sweden use different means of payment are useful for those who want to follow various trends in the payment market and make comparisons between Sweden and other countries.

The Riksbank's interview survey helps us to gain a clearer picture of the demand side, that is, how Swedish households choose to pay. The trend of a rapid decline in the use of cash is clear (see Figure 2). Over eight years, the percentage of respondents paying for their most recent purchase in cash has declined from around 40 per cent to 13 per cent. As we showed above, acceptance cannot have been a major obstacle, nor access to cash services. The survey shows that four out of ten people in Sweden have not used cash as a means of payment in the last month. Just two years earlier, the corresponding figure was two out of ten, which shows that households are increasingly avoiding cash as a means of payment and this development is rapid. The use of cash is also declining in rural areas, albeit at a slower pace.

Figure 2. Percentage who paid in cash for their most recent purchase¹⁴



Source: The Riksbank

At the same time, seven out of ten state that they would be able to cope without cash in society as it is at present.¹⁵ In rural areas, almost six out of ten say they would cope without cash. The difference between Sweden as a whole and rural areas is thus less than one might have expected.

Here the introduction of the Swish mobile payment service, which enables instant digital transfers from one person to another and from a person to a company, may contribute to the continued decline in the use of cash. When individuals use Swish, the payment is made instantly, as in cash payments. Moreover, Swish can be used for transactions that were earlier made in cash, such as collections for colleagues who are retiring, and so on. The use of Swish

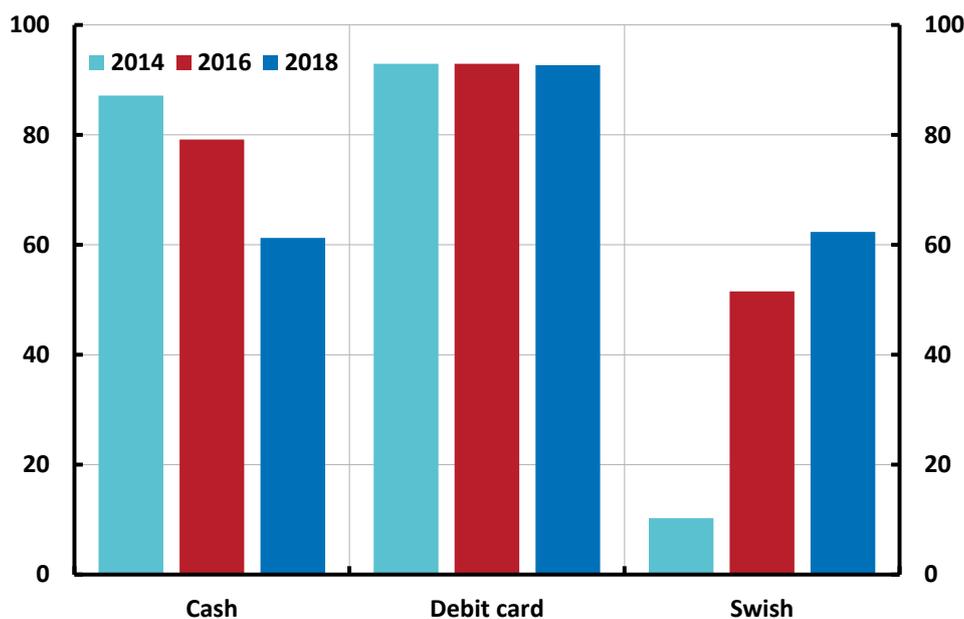
¹⁴ 2018 the question refers to purchases in shops and prior to that to most recent payment.

¹⁵ Sveriges Riksbank (2018).

has increased rapidly in recent years. In 2014, two out of ten had used Swish during the past month. Four years later, this had increased to six out of ten (see Figure 3 below). The percentage of respondents who have used Swish in the past month is now as great as the percentage that has used cash. This is a remarkably rapid expansion for a relatively new means of payment. Even in more sparsely-populated areas there is widespread use of Swish and usage is around 50 per cent.

Figure 3. Which means of payment have you used in the past month?

Per cent



Source: The Riksbank

Despite the Swish mobile service being used increasingly often, debit cards are still the predominant means of payment for Swedish households. 80 per cent used a debit card to pay for their most recent purchase, and debit cards are also used to a great extent for smaller-value purchases. Card payments with debit cards are also preferred in rural areas. On the other hand, a somewhat larger percentage paid in cash – 20 per cent, compared with 13 per cent for the country as a whole.

There are demographic differences in the choice of means of payment. Younger people use cash less than older people, but Swish is used frequently by all age groups up to the age of 64. According to the Riksbank's survey, 45 per cent in the age range 18-24 have used cash in the past month, while almost 80 per cent have used Swish. If we look at the age group 65-84, almost 70 per cent have used cash in the past month and the corresponding figure for Swish is 26 per cent. These demographic differences in the choice of means of payment mean that we can expect a continued decline in the use of cash.

Why is cash being abandoned so quickly in Sweden?

The fact that cash is used less as a means of payment is neither a new phenomenon nor one that is unique to Sweden. The trend is long-term and covers the other Nordic countries, among others. This is scarcely surprising as the Nordic countries have long been in the forefront when it comes to innovations in the payments market and digitalisation of society. The Nordic countries have a relatively highly-educated and IT-friendly population that quickly

adopts technological innovations. At the same time, the population shows a high degree of confidence in public authorities, institutions and the private sector, which also promotes the acceptance of change.¹⁶

We have already mentioned some of the driving forces behind this development in Sweden: The continued decline in the use of cash is partly due to the rapid expansion and growth popularity of Swish. The digital identification introduced by the banks, BankID, at the same time created the conditions for innovations such as Swish. Other innovations, such as Izettle, make it possible to pay with a card in transactions where one could previously only use cash. Now the hot dog stand on the corner and the flower seller in the market square can accept card payments. The digitalisation of society also means that our consumption patterns change. Online retail is growing and in this area only digital payments apply. Demographics also play a role: The generations that have grown up with the internet are used to managing a large share of their day-to-day errands online, which contributes to the digitalisation of both services and payments growing even more. New legislation has also meant that cash is used less. The Act (2007:592) on Cash Registers, etc. and government subsidies have contributed to reducing the number of cash transactions in the black economy.¹⁷

Digitalisation entails problems for special groups

Although developments are on the whole positive, the increased digitalisation has an impact on special groups. According to the Swedish Post and Telecom Authority (PTS), at least half a million Swedes are in what is known as a digital exclusion. As this group does not have access to, or is able to use, the technology required to make digital payments, they are not assessed as having access to basic payment services to a sufficient degree.¹⁸ The problems increase apace with the decline in the use of cash and the county administrative boards are working on trying to identify the people who are in this digital exclusion so they can find solutions for them. According to the county administrative boards, education is needed to make digital payment services more accessible and usable for all.¹⁹ PTS also points to the importance of reinforcing the current measures so that developments do not have even greater negative consequences for those who are in a digital exclusion. Payments are a part of this, but the problems for those outside of the digital society are of course much greater than this and here both the state and the private sector need to take some responsibility.

Conclusions – a development that is positive, but not without problems

Cash is used less and less as a means of payment. An analysis of the statistics shows that with the exception of cash services mediated via a bank office, the access to cash withdrawals does not appear to be the driver behind developments. Acceptance of cash does not currently appear to be a sufficiently broad problem, although it may become so within a few years. Instead, it appears to be the demand for cash that is declining the fastest. However, there are regional differences, and according to the Swedish Post and Telecom Authority (PTS), it is becoming increasingly difficult to maintain cash services in more sparsely-populated areas.

¹⁶ A high tech society is a necessary condition, but not the only one, for these developments. How well the network effects characterising the payment system are used also contributes to the speed at which innovations can be introduced into the payment market. There are also cultural aspects that play a role here. Germany and Japan are examples of technologically advanced countries where cash still holds a strong position.

¹⁷ For an in-depth discussion, see for instance Segendorf and Wretman (2015).

¹⁸ See PTS (2017).

¹⁹ See County administrative boards (2017).

The general public is abandoning cash in favour of different types of electronic payments that are better suited as means of payment in an increasingly digitalised society. Innovations on the payment market in recent years have further hastened this process. What we are seeing is quite simply a changeover to an increasingly digitalised and efficient payment system. It is hardly the first time in history that we are witnessing a technological shift in our way of making payments. This development is essentially beneficial to society. However, the people who face difficulties in connection with this changeover need support from both the state and the market. In a well-functioning society all individuals shall be able to make their payments in a satisfactory manner.

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