

## Lars Nyberg: Time to change cash to cards?

Speech by Mr Lars Nyberg, Deputy Governor of the Sveriges Riksbank, at the 9th annual Nordic Card Markets conference, Stockholm, 20 January 2010.

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More often than not, the Riksbank is associated with the objective of maintaining price stability, which is usually interpreted as attaining a low and stable level of inflation. However, we also have another objective, namely *promoting a safe and efficient payment system*. What this means in practice is less obvious, but our entire responsibility for financial stability, which has undoubtedly been in focus over the last 12 months, in fact rests on this wording in the current legislation. This task includes *promoting the development of safe and efficient payments*. This is why we take an interest in cards and cash and it is also why I am here today.

The Riksbank's responsibility for the payment system also includes having the sole right to issue notes and coins. This may seem self-evident today, but it has not always been the case. Up until the early 1900s, the private banks were entitled to issue notes under the supervision of the Riksbank. The view of what the Riksbank should do and what private market players are expected to be responsible for has thus developed over time. Up until only a few years ago, the Riksbank was also responsible for the storage and, partly, the distribution of notes and coins throughout the country. This phase has now been taken over by the banks in line with the model in other countries and the Riksbank is only responsible for the wholesale phase.

Developments in the field of payments can be viewed in a similar way. As long as payments are made using notes and coins it is the Riksbank that guarantees the confidence of the means of payment. However, as an increasing number of payments are made using cards, this role is increasingly becoming the responsibility of the banks and card companies. It is against this background that I intend today to speak about the Riksbank's view of the development of safe and efficient payments, what we are doing in our area of responsibility and what we hope various private players will do.

### The payment behaviour of the Swedes

Swedes increasingly use cards to make payments. Over the last ten years, the *value* of the card payments made has increased fivefold, while the *number* of card payments made has increased eightfold. For couple of years now, the value of the card payments made has also exceeded the value of all cash payments. The value of all card payments is almost twice that of all cash withdrawals.

In comparison with our Nordic neighbours, we previously used cards to a lesser extent in Sweden. This is no longer the case; cards are now used to more or less the same extent in Sweden, Denmark and Finland. In Sweden's case this means that we have really caught up since the beginning of the millennium when we used cards only half as much as these Nordic neighbours.<sup>1</sup> Cards are still used to a greater extent in Norway than in the other Nordic countries.

All-in-all, this development means that the use of cards has now reached such a level throughout the Nordic region that a serious disruption that affects the entire card system, or large parts of the system, would have serious consequences for the ability of people to make

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<sup>1</sup> Speech by Lars Nyberg (2008): "Paying is expensive – are we using too much cash?".

payments. Cash could no longer replace cards if the card systems were to break down. If card payments do not work, then the entire payment system will not work satisfactorily either. The Riksbank's responsibility for a safe and efficient payment system therefore means that we also have an interest in ensuring that card payments work safely and efficiently.

To get more up-to-date information and to learn more about how the Swedes pay, the Riksbank conducted a survey towards the end of last year. The aim of the survey was to determine how people choose between different means of payment and the factors that affect these choices. As similar surveys were conducted in 2006, we also wanted to see whether the payment patterns had changed over the three years between the surveys.

According to the surveys conducted in 2006, approximately half of the interviewees used cards as the means of payment for at least 80 per cent of all purchases.<sup>2</sup> Today, almost two-thirds of the interviewees use cards as the means of payment for all purchases.

The great majority of the interviewees in the autumn survey, 95 per cent, had a debit card. A much smaller percentage, 40 per cent, had a credit card. Debit cards were used in 96 per cent of all card payments. This is an increase since the survey in 2006, when debit cards were used for 80 per cent of all card payments. Credit cards thus seem to have become relatively less important – at least in terms of the *number* of payments.

Despite the fact that card payments predominate in terms of both the number and value of payments, the Swedish public still prefers cash to cards for purchases of less than SEK 100. Our survey shows that as many as 22 per cent choose cash for purchases between SEK 100 and SEK 500. For amounts under SEK 100, cash is preferred by 63 per cent. There are no fully-comparable figures from any of the surveys carried out in 2006, but in 2006 the “average consumer”<sup>3</sup> did not choose to pay by card until the purchase sum exceeded SEK 123.<sup>4</sup>

So what governs the choice between cash and cards? The most important factor, according to our survey, is that the means of payment is perceived as being convenient. Those who prefer cash also say that to a certain extent it may be a case of old habits dying hard, or that they happened to have cash on them and therefore used it. Those who prefer cards say instead that one of the reasons is that they do not like to walk around with cash. A comparison of the interviewees' attitudes to cash and cards also reveals that cash is perceived as being more secure, while cards are seen as being somewhat less secure.

There is also a clear generational aspect to the choice of means of payment. The youngest age group, those under 25, feel a greater sense of security when using cards than the other age groups and are more than willing to use their cards to pay small sums. Those who are 45 or older pay with cash to a greater extent. The oldest age group, those who are 65 or older, prefer to pay with cash, even when they buy something that costs over SEK 500. This tendency is the same now as it was in the previous survey.

### **What does it cost to pay?**

Should the trend towards increasing card payments and decreasing cash payments be regarded as positive or negative? One way of attempting to answer this question is to consider the cost to society of various payments. If the payment system is to be efficient, these payments should reasonably cost as little as possible.

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<sup>2</sup> “Allmänhetens syn på bankerna” (The Swedish public's opinion of banks), Temo survey, March 2006, The Swedish Bankers' Association.

<sup>3</sup> The average consumer was defined as a 41-year old man with upper-secondary school education and an annual income of SEK 350,000–400,000 and who lived in a two-person household.

<sup>4</sup> Synovate Temo, 2006. “Survey of banknotes, coins and use of cash and cards”, December 2006.

A study of data from 2002 conducted by the Riksbank revealed that each cash payment cost society an average of SEK 4.6, while each card payment cost SEK 3.0. The costs associated with the use of cash included not only the handling and transport costs of the banks and shops but also an estimate of the time consumers spent on fetching and taking care of the cash. The variable costs are considerable, that is it costs more to handle a large sum than a small sum. Cash has to be counted, transported and stored. This is not the case with cards. There are major fixed costs in the form of an infrastructure that includes terminals and communication lines, but the variable costs are small. It is not more expensive to handle a card payment of SEK 50 000 than a payment of SEK 50.

From this it was possible to calculate that, in 2002, it cost society less when payments were made using cash providing that the sum involved was less than approximately SEK 70. For sums higher than this it was cheaper to use cards.

If we now compare this with the choices that the consumers actually made, the conclusion is that in 2002 it would have been better from the point of view of the Swedish economy if the consumers had made more payments by card and fewer payments in cash. From society's point of view, it was profitable to pay by card when the sums were higher than SEK 70, but, as was the investigation from 2006 made evident, the "average consumer" nevertheless chose to wait until the sums were higher than SEK 123.

Eight years have now passed since the study was conducted and it is much more likely that the costs of using cash have increased rather than decreased. For example, the costs for increasing the security of transportation and ATMs have been substantial. On the other hand, available evidence suggests that a card payment costs somewhat less today. One reason for this is that the shops' costs for getting a card payment redeemed seem to have fallen due to increased competition between the card acquirers. The level at which it becomes more advantageous to the economy to use cards rather than cash has therefore probably fallen below SEK 70.

The survey we conducted last year shows that we use cards to an increasing extent and for smaller and smaller payments. It is not unlikely that today's "average consumer" would choose to pay by card for an amount below SEK 123. At the same time, the level at which card payments become more efficient for society has probably fallen below SEK 70. But which of these figures has fallen furthest? This is something that we do not know. It is thus difficult to say whether consumers are still using more cash than is economically efficient. The Riksbank will follow up the previous studies to get a more exact picture of the use of cards and cash and of the economic costs of producing the different payments.

### **Highlight the charges!**

It would not be so strange if consumers were to choose to make more cash payments than is economically efficient. In general, consumers have no idea of how much it costs to produce payments. Our survey shows that knowledge concerning what the different means of payment actually cost is limited. Some 20 per cent of the interviewees were unable to say whether it costs them more to use cards or cash. Some 45 per cent of interviewees believe that cash is most expensive for the retail sector and the banks.

We already know that it is difficult to assess the costs of various types of payment.<sup>5</sup> They are never clearly disclosed. But the costs are there even if they are not apparent. The retail trade pays charges to the banks for cash and for card payment services, but does not usually price these services directly to its own customers. The costs the retail trade has to bear in connection with payments are instead transferred to the consumers by means of general

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<sup>5</sup> Bergman, M., Guibourg, G., Segendorf, B., (2007), "The Cost of Paying – Private and Social Cost of Cash and Card Payments". Sveriges Riksbank Working Paper Series No. 212.

price increases on goods. If the customers were also asked to pay the costs of the payment itself when they pay for the goods they have bought, they would probably choose to pay more by debit card and less in cash or by credit card.

Previous experience in both Sweden and Norway shows that the choice of means of payment is price-sensitive. In Norway, electronic payments, including card payments, increased very quickly after the banks introduced charges better reflecting the actual cost of the various means of payment. Among other charges, there exists in Norway a small charge for cash withdrawals from ATMs. In Sweden, we virtually stopped using cheques when the banks began to charge for them. These two examples show that consumers' choices between the various means of payment change significantly when they become aware of the costs.<sup>6</sup>

In the autumn survey, we asked the interviewees how they would react to a charge being levied in connection with purchases using cards or cash. Their responses revealed that there is certain degree of tolerance for those retailers charging for card payments. A third of the interviewees said that they used their cards despite a charge being levied. On the other hand, there was a lot of opposition to the idea of levying a charge in connection with cash purchases or cash withdrawals. A majority of the interviewees said that in this case they would make more payments by card and reduce the number of cash withdrawals. Common to all types of charge is that they arouse strongly negative reactions.

It is not up to the Riksbank to decide how the retail trade or the banks should distribute the costs for different forms of payment. But there are considerable gains to be made from a pricing model that better reflects the underlying costs – both for society and the companies. Consumers do not realise that they always pay the costs of their payments. Other countries have begun to charge for expensive cards in the retail sector and for the use of cash in the form of charges for ATM withdrawals. This has affected payment patterns. The introduction of a similar system in Sweden would, in all likelihood, also affect the choice of payments made in this country.

### **Secure card payments**

However, it is not only the cost that is important for payments, but also security. And this is where card payments have a technical disadvantage in relation to cash payments. Security is important to all types of card transaction, not least when private individuals use cards for payments to different types of webshop, which is becoming increasingly common. Despite the fact that the card industry has developed new, secure ways of making card payments over the web, the survey we have conducted shows that the majority of people still reveal sensitive card information in connection with purchases. According to the survey, only 18 per cent of web purchases were made using the safe solutions for card payments that are available. In as many as 71 per cent of the transactions over the Internet, the customers revealed their card numbers without using any additional safety measures. This is a major source of the card fraud that occurs over the Internet.

The Ministry of Justice is currently considering a new proposal on the regulation of unauthorised transactions. This aims to clarify how responsibility for a loss should be divided between the customer and the bank in the event of fraud. New limits for the customers' deductibles and right to compensation are also proposed. In order to determine how large a part of the loss the customer should be responsible for, it will be necessary to assess how negligent the customer has been. The customers must therefore be informed of the definitions of the different degrees of negligence. If the customers are unclear about the

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<sup>6</sup> Speech by Lars Nyberg (2008): "Paying is expensive – are we using too much cash?".

rights and obligations they have, this will probably lead to fewer of them wanting to use cards in the future.

The new regulation will increase the cardholders' responsibility. The banks and the card industry can help by intensifying their efforts to protect customers against unauthorised transactions. One element of this may be to accelerate the phase-out of magnetic strips and replace them with chips or similar technology. The requirement that all card terminals and ATMs should use chips is a good first step as skimming and the use of stolen cards constitute more than half of all the cases of card fraud in Sweden today.<sup>7</sup>

It is important that the customers feel that paying with cards that contain chips is simple and convenient. A uniform standard for how cards should be placed in card terminals can save time and reduce the risk of customers leaving cards behind after purchases have been made. The principle should be the same as for cars: Irrespective of the make of car, we know where the accelerator and the brake pedals are placed!

Better reporting of the number of frauds and how much they cost the card industry would also be desirable. It is after all the cardholders that ultimately have to foot the bill and it is reasonable to expect that all the relevant information should be available to them. Such an approach would also increase the cardholders' confidence in the cards. In France there is a forum for representatives of the authorities and the card industry. They work to inform customers, shop owners, card issuers and other authorities about the security levels in the various card systems. They also provide information about the extent of card fraud in France.<sup>8</sup> Wouldn't it be a good idea to introduce this in Sweden too?

### **The Riksbank and cash**

But what, as the issuer of banknotes and coins, is the Riksbank doing to improve the efficiency of cash management? Quite a lot has actually happened in recent years.

The Riksbank began five years ago to offer the commercial banks the opportunity to establish private depots for receiving and distributing cash. Behind this move lay the conviction that private participants would be able to handle the distribution of cash from the Riksbank to the banks in a more flexible and thus more efficient manner. On the whole, the new organisation has functioned excellently. It is, naturally, very important that the depot owners really ensure that access is satisfactory for all participants requiring cash and that the conditions for access to the depots are applied fairly. The Riksbank regularly evaluates the security and efficiency of the new system.

In the autumn, as a further part of the effort to improve the efficiency of cash management, the Riksbank began planning a new cash management facility near Arlanda. When the new facility comes into operation in 2013, the present cash management facilities in Mölndal and Tumba will be closed down. The new facility, which will thus be the Riksbank's only cash management facility, will be equipped with a lot of modern technology, including a fully-automatic warehouse, and will be well adapted to the operations and security requirements of the future.

Like the privatisation of the distribution system, the facility at Arlanda is a part of the Riksbank's efforts to streamline cash handling. The 19 Riksbank offices that conducted these operations 10 years ago will have been reduced to one by 2013. In the same period, the number of personnel will have been reduced from around 300 to approximately 10 people.

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<sup>7</sup> Payment Security Report Sweden 2008, VISA Europe.

<sup>8</sup> I am talking about the Observatory for Payment Card Security (Observatoire de la sécurité des cartes de paiement) which since 2004 produces an annual report that gives an objective account of the state of the card industry in France.

The Riksbank also recently evaluated the use of cash in Sweden and concluded that the current Swedish banknote and coin series is becoming outdated. There is a need to further develop the security details. It may also be sensible to make the relatively heavy Swedish coins lighter.

Another problem is that the level of coin circulation is low. A few years ago, every Swedish household had an average of SEK 850 in coins stored in a bowl, jar or money box. It is hardly likely that this figure is lower today.

Partly on the basis of this evaluation, the Riksbank has decided that the 50-öre coin is no longer needed. It will therefore be withdrawn during the autumn and öre will thereafter only exist as a virtual arithmetical unit. I think it feels rather strange to imagine this virtual öre. Some of us may still remember being able to buy a 2-öre or 5-öre toffee at the sweetshop. There were also 25-öre comics and the 25-öre coin was very real. But times change. The proposal for the new banknote and coin series is that we should introduce a new 200-krona banknote and reintroduce the 2-kronor coin. Whether the 20-kronor banknote should be retained or be converted into a coin is also a matter that is being discussed. The final decision on the new banknote and coin series has not yet been made.

### **New means of payment**

So far, I have mainly spoken about cards and cash. But technology is also developing rapidly as regards other means of payment.

In Stockholm and a number of other Swedish cities, the SMS function of a mobile phone can be used, for example, to pay for bus tickets. This is an interesting example of the manner in which technology can also create new means of payment. We are, as you know, not alone in using mobile payments, these are already available in highly-developed countries like Japan and in less-developed countries like Kenya. In Kenya, mobile payments have already taken over large parts of the payment market.

Sweden is a highly-developed country with a lot of expertise regarding the Internet and mobile telephony. We should be able to be at the cutting edge of the development of mobile payments. It will be interesting to follow whether Swedish banks, card issuers and telecom operators will further develop this payment method, for example by means of real-time payments<sup>9</sup> initiated from a mobile phone.

Real-time payments are already available in the UK. The British company VocaLink has introduced Faster Payments, a service that processes payments in real time. VocaLink has also been commissioned by the Swedish payment system BGC to take over the operation and development of its system. As part of this work, BGC and VocaLink have also examined the possibility of introducing Faster Payments in Sweden. The banks are already able to make larger payments in real time via the Riksbank's RIX system, which is an RTGS<sup>10</sup> system. In order to enable real-time payments for smaller amounts, discussions are currently being held between the Riksbank and BGC concerning the provision of special BGC accounts in the RIX system, which can be used even when the system is closed. The advantage of this solution is that it would make real-time settlement in central bank money possible. This in turn would make it possible for private individuals and companies to make payments to be effected immediately around the clock, seven days a week, using the Internet banks and, perhaps within a few years, even their mobile phones.

Although it is common today to use mobile phones for many other things than just making phone calls, our survey shows that private individuals in general are not familiar with the

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<sup>9</sup> A payment effected directly and which can be confirmed for both issuer and recipient, without delay.

<sup>10</sup> Real Time Gross Settlement.

concept of using their mobile phones to make payments. However, they value convenience highly and if a new payment method emerges that is more convenient than those that already exist it may have a major impact. We only have to look at payments through Internet banks, which almost 80 per cent of the interviewees in our survey use today.

Another new development concerns the return of the Cash Card following its lamentable disappearance a few years ago. The new Cash Card has been developed by ICA Banken under commission of the Swedish National Debt Office and will primarily be used to make those payments that public authorities previously made in cash. There are, of course, individuals who lack access to cards and, occasionally, even to bank accounts and who are, consequently, entirely dependent upon cash. This new card differs from the previous Cash Card in that it cannot be topped up by the holder, only by the issuing party. Otherwise, it can be used like a normal debit card and will be equipped with a PIN code. The Migration Board, the Swedish Prison and Probation Service and the Social Insurance Office are a few of the authorities expressing an interest in the new card, although there will certainly be other users. It will be interesting to follow the development of this new means of payment.

## Summary

Let me round off.

- We use our cards more and more; we use them more often and for smaller and smaller transactions. The importance of cards to the safe and efficient functioning of the payment system has increased significantly. As one of the tasks of the Riksbank is to promote a safe and efficient payment system, there has been a corresponding increase in our interest in card payments.
- It is hardly likely that the costs of using cash have fallen; it is more likely that they have increased. On the other hand, most of the indications are that a card payment costs somewhat less today. From an economic point of view the use of cards should have become increasingly favourable.
- Few people know what payments actually cost. There are increasingly strong reasons for the banks and the retail sector to consider how payments should be priced for customers. Experiences from Sweden and other countries indicate that consumers are price-sensitive when it comes to the use of means of payment. Consumers would use less cash if they had to bear a larger portion of cash-handling costs.
- The increasing use of cards places increasingly high demands on safety and on the reliability of the technical infrastructure that supports the cards. Banknotes retain their value as a means of payment even if the technical infrastructure is off line. Cards only work when the infrastructure does.
- Private individuals feel a greater sense of security with cash than with cards. If card usage is to increase, it must become safer to use cards in shops as well as on the Internet. Clear information on the frauds that are committed can also serve to reduce uncertainty among consumers.
- Good technical conditions exist for the continued rapid development of both existing and new means of payment.
- The Riksbank's task is to guarantee confidence for cash in society. Confidence in the cards must be guaranteed by the banks and the card companies. Consequently, increasing responsibility for this rests with the market participants.